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## Original Articles.

### ARTERIAL SCLEROSIS AS A CAUSE OF NERVOUS DISEASE.

BY M. ALLEN STARR, M.D., LL.D.,

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I. THE rôle that is played in the etiology of nervous diseases by endarteritis is becoming more and more widely recognized. It has, of course, long been known that disease of the arteries is the primary affection in the ordinary type of hemiplegia; whether due to a rupture of the vessel and hemorrhage, or to a stoppage of the blood current by thrombosis or embolism. Ever since the classical studies of Heubner upon syphilitic endarteritis this cause has been recognized in those cases of apoplexy which are so common among syphilitics in early life. It is not, however, a matter of general knowledge that a very large number of the cases of hemiplegia occurring in childhood and in infancy are also to be traced to vascular disease. It is true that the infantile hemiplegias are, in many cases, of traumatic origin; injuries at birth producing a rupture of the blood vessels and consequent destruction of the brain tissue, which subsequently prevents its proper development. But there are a large number of cases of infantile hemiplegia that are not traceable to this cause, in which the attack has developed during the first or second year of life, possibly as a sequel to some reflex convulsion and possibly without apparent ascertainable cause. Recent investigations have proven that obliterating endarteritis may be the result of inherited syphilis, and hence it becomes evident that disease of the blood vessels is a factor in the causation of infantile cerebral palsies.

A careful study of two hundred consecutive cases of apoplexy in private practice of which I have records has shown that in 80 per cent. of these cases there have been distinct prodromata of the apoplectic attack. For months, or even years, before the occurrence of the rupture or occlusion of the blood vessel the patients have complained of various symptoms which have usually been designated as neurasthenic. These symptoms all point to a disturbance of function in the brain, chiefly in the cortical activity. The symptoms are very numerous and variable. Those that are the most commonly observed are a disturbance of mental action which the patients complain of as a dulness and hebetude, difficulty of clear thinking, difficulty in remembering events of recent occurrence, a sense of perplexity in regard to matters which should be clear; a sense of difficulty in the management of affairs which should be easy; and an irritability of temper and lack of control over emotions, that become a source of annoyance both to themselves and to the members of their family. Other patients complain of temporary sensations of numbness in one limb, or in one side of the body; of irregular darting pains through the head; of ringing in the ears, or of sounds in the head; of slight uncertainties of vision, occasional sudden dimness being not uncommon, and of vertigo. These symptoms occur with such uniformity as a preliminary to apoplectic attacks that they cannot be considered as merely of neurasthenic origin but must be traced to the malnutrition of the neurones consequent upon the original arterial disease. As all the processes of nutrition in brain cells and fibers must be carried on primarily by a process of osmosis through the vessel walls, it stands to reason that the earliest evidence of disease in these walls will be imperfect function consequent upon malnutrition.

The practical outcome of these observations is to warn the practitioner against dismissing a middle-aged person who complains of these symptoms with the mere diagnosis of neurasthenia. In every such case the condition of the blood vessels should be investigated, attention being paid not merely to the nervous manifestations, but also to the condition of the heart, the possible existence of an accentuated second sound of the heart, the tension of the arteries, not merely in one wrist but in various parts of the body, especially in the temple, and the condition of the kidneys. If these factors be recognized and the condition of arterial sclerosis be made the object of treatment, the so-called neurasthenia will be much more likely to yield to treatment than if attention be merely concentrated upon remedies directed to the nervous system. I do not wish to have it supposed that all cases of neurasthenia have this origin. The large majority of such cases are due to malnutrition and auto-intoxication.[1] But in persons in middle life or beginning old age arterial disease may be a cause.

II. The facts hitherto mentioned are a matter of common knowledge and will be recognized by every physician. It is not as commonly known that the majority of diseases of the spinal cord are equally traceable to disease in the vessel wall. Williamson of Manchester[2] was the first to call attention to this fact; and here and there articles have appeared confirmatory of his position. But even in recent textbooks there is a lack of clear statement of the rôle which arterial sclerosis plays in the production of spinal paralysis. I may mention a few of the diseases in which it enters as an important etiological factor:

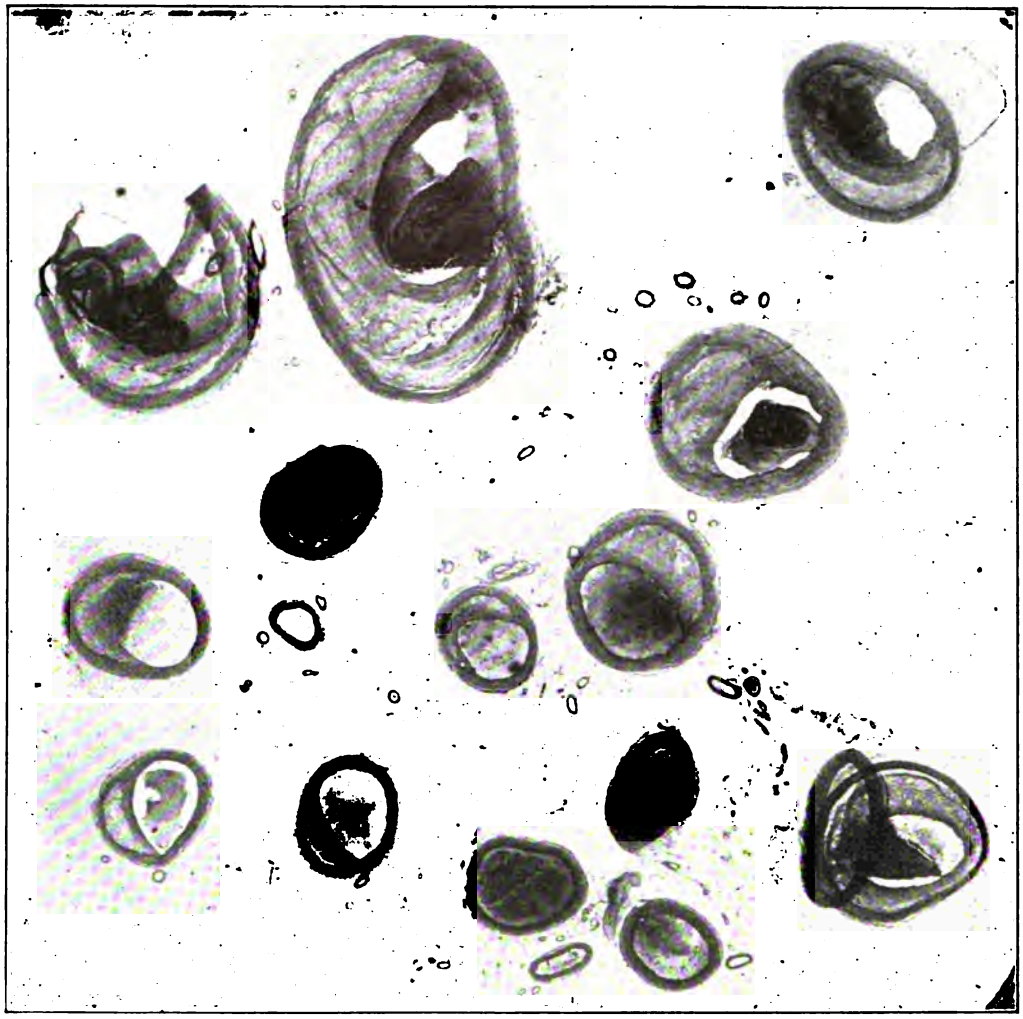
First: Anterior poliomyelitis, bulbar paralysis and ophthalmoplegia, that are diseases of homologous motor neurones of the cord and cerebral axis, are now known to fall into two categories, according to their origin. The majority of the cases are clearly infectious. This is proven in the case of anterior poliomyelitis by the occurrence of the disease in epidemics. But there is quite a proportion of the cases of anterior poliomyelitis which occur without the febrile movement characteristic of infectious disease. Recent pathological observations, especially of Mott,[3] have demonstrated the lesion to be a rupture in some cases, a thrombosis in other cases, of some branch of the anterior spinal artery supplying the anterior gray horns of the spinal cord. And what is true of anterior poliomyelitis has also been found true of bulbar palsy and ophthalmoplegia, for in a number of cases of this affection Siemerling

and others have found vascular disease as the basis of the lesion.

Second: Myelitis whether of disseminated or transverse variety is also traceable either to infection or to a rupture of a blood vessel, in the latter case occurring as does cerebral hemiplegia without febrile symptoms. Investigation of Savage[4] and of Allan have proven the existence of arterial changes in many cases of this disease.

Third: The condition of spastic paralysis commonly known as Erb's syphilitic paraplegia is now recognized as due to malnutrition of the dorsal region of the spinal cord with consequent descending degeneration in the lateral columns.[5] The origin of the malnutrition of the dorsal region of the cord is the syphilitic endarteritis which obliterates the spinal blood vessels, especially on the posterior and lateral surfaces of the cord, and hence produces a state of malnutrition in the white columns. The endarteritis is of the ordinary obliterating type and is clearly of syphilitic origin, though it must be stated that there is no pathological distinction to be made between obliterating endarteritis which is specific and one which is non-specific.

Fourth: There are numerous cases that have been hitherto classed together as senile paraplegia, in which a gradually advancing weakness culminates in a slowly progressing paralysis of the legs with imperfect control of the bladder, and of the rectum, with atrophy of the muscles, and with irregular and indefinite sensory disturbances, chiefly of the nature of numbness and not attended by pain. This condition appearing as a rule after the age of sixty is prone to advance slowly, and finally becomes a complete paraplegia. It has been classed as the feebleness of old age and has been thought to be due to senile atrophy of the neurones, but, as a matter of fact, Dana showed some time ago and recent autopsies have proven that the disease of the nervous system in these cases is traceable to the obliteration of the blood vessels, to the thickening of their walls, and to the consequent malnutrition of the part.



Group of atheromatous arteries (cerebral) seen under a low power. The walls are thickened (endarteritis) and degeneration is present in the thickened areas.

Fifth: Combined sclerosis, which is a comparatively rare but easily recognized form of paraplegia, presenting a combination of the symptoms of spastic paralysis with the unsteady gait of locomotor ataxia, and which was named by Gowers ataxic paraplegia, has been recently shown by Marie[6] to be due to malnutrition of the posterior and lateral columns of the cord consequent upon arterial disease. Marie's specimens show a thickening of the arteries and a degeneration in the cord that follows the distribution of the spinal blood vessels.

Thus we see that many forms of spinal-cord disease can be traced to arterial degeneration.

III. Diseases of the peripheral nerves are also occasionally due to endarteritis in the small vessels which accompany them. It is well known that in cases of chronic alcoholism sudden severe attacks of brachial or sciatic neuritis are observed. These differ from the ordinary alcoholic neuritis in being localized on one side. Some years ago Klumpke saw in one such case an extensive hemorrhage in the posterior cord of the brachial plexus, and described the condition as an apoplectic type of neuritis. Since that observation many others have been published of the same character, and hence we must regard it as probable that in a few cases in which a very sudden onset of either sciatic or brachial neuritis occurs without the ordinary cause of cold, or strain, to explain them, we have to deal with a rupture of a vessel in the nerve trunk. These cases are slow in their course, the symptoms are very intense and last for several weeks, and the case not infrequently becomes a chronic one, owing probably to the formation of a connective tissue scar within the nerve sheath, which constantly produces pressure.

IV. The facts already cited with regard to the occurrence of prodromata in cases of apoplexy traceable to malnutrition in the brain due to arterial disease and mistaken for cerebral neurasthenia, awakens the suspicion that some minor nervous symptoms, both of spinal cord and of nerve disease, may also be due to this same factor. We have a spinal type of neurasthenia characterized by pain in the back, by irregular sensations of numbness and tingling, by irregular pains in the body, twitching of the muscles and feelings of weakness in the limbs, and possibly irregular action of the bladder, and chronic constipation. In these cases it is not sufficient to make the diagnosis of a spinal neurasthenia. Attention must be paid to a possible underlying cause, namely, endarteritis.

V. Various forms of neuralgia may be brought into the same etiological category. It is now well recognized, from the lesions found in the Gasserian ganglion after extirpation for the relief of trigeminal neuralgia, that the origin of neuralgia may be a hemorrhage into the ganglion. Years ago Kaposi showed that hemorrhage into the posterior spinal ganglia was capable of producing both herpes and intercostal neuralgia. Such hemorrhages, of course, imply an affection of the vessel-wall as a predisposing cause, and therefore we are justified in tracing some cases of neuralgia, especially a neuralgia occurring in old age, to arterial degeneration. Dana showed that neuralgia in old persons is often due to sclerosis in the small arteries accompanying the nerve, and applied this fact in the treatment by using nitroglycerin in such cases with success.

I do not wish to be understood as laying too much stress upon this factor in nervous disease. I have no desire to trace *all* nervous affections, including both neurasthenia and serious types of paralysis, to arterial disease, yet I cannot but feel that it is a factor in the production of many forms of nervous disease, and that it should receive more attention in the management of these cases.

And when we consider the forms of treatment which appear to be of most benefit both in neurasthenia, in neuralgias, in spinal paralysis, and in hemiplegia, we find that they include methods which have as a result the establishment of an equable circulation. Thus life in the open air without exposure to great changes of climate; the use of tepid baths of considerable duration, or alternate douches of hot water, long continued, followed by a quick cool douche of short duration; a diet free from alcohol and rich forms of food; moderate exercise, sufficient to produce a mild perspiration, but not sufficient to cause exhaustion and not attended by any great degree of effort; and massage, —are of considerable service.

It has not seemed to me that the ordinary treatment of arterial sclerosis by drugs was very satisfactory. From unknown causes of internal origin a very great variation in the tension of the pulse is commonly observed. Thus a patient with marked degeneration of the arteries will at one time have a very high tension pulse and at another time a soft pulse without high tension. It is, of course, possible by the use of iodide of potassium in 5 or 10-grain doses 3 times a day, or of chloral in 5-grain doses every three hours, of nitroglycerin in varying doses from $\frac{1}{100}$ up to $\frac{1}{50}$ of a grain every three hours, and of nitrite of sodium 1 to 4 grains every three hours, to produce immediate softening in a hard pulse. Yet in a condition in which spontaneous changes in the pulse tension are possible, it is manifestly improper to keep up such remedies constantly. It has seemed to me that there must be some agent within the body which regulates the pulse tension. If that agent is in excess the tension is abnormally low; if that agent is wanting the tension is abnormally high. It has been my observation in the treatment of Basedow's disease that a patient suffering from this condition never has a high-tension pulse. In fact, a low tension is noticeable in this condition.

We cannot but believe that many of the symptoms of Basedow's disease are due to an excess of thyroid secretion in the blood, and it is undoubtedly owing to the presence of this secretion in excess that the low tension of the pulse is due in this affection. This is proven by the therapeutic effects of thyroid extract when administered in myxœdema, or for obesity, or in acromegaly. In all of these diseases I have watched the effect of thyroid extract very carefully, and have uniformly found that it reduced the arterial tension very markedly. It has seemed to me probable, therefore, that in some cases of arterial sclerosis, and in many cases of temporary high-tension pulse, there may be a permanent or temporary defect or arrest of secretion of the thyroid gland. Thus in migraine, in which the sudden attack of sick headache is almost always attended by a very great increase in the arterial tension, there is, as a rule, during the attack a remarkable dryness of the skin, pallor, and coldness of the skin, not unlike that observed in myxœdema. And this is quite suggestive of a sudden arrest of secretion of the thyroid gland as a partial cause of the attack of migraine. But aside from theoretical considerations, which may or may not be correct, the practical effect of the administriation of thyroid extract in conditions of arterial disease is decided. Thus in conditions of temporary high-tension pulse I have found the administration of thyroid extract of very great benefit. And whatever the underlying cause of the increase of arterial tension may be, it is markedly relaxed by the administration of this remedy. Thus in migraine, which has just been mentioned, it is quite capable in many cases of arresting the attack, and in those conditions of vertigo, headache, and confusion of mind which attend a high-tension pulse, and which are associated very often with a lithæmic state, the addition of thyroid extract to other remedies will give marked relief. In conditions of chronic or permanent arterial sclerosis when the pulse tension is constantly high, I have also seen a certain amount

of benefit from its use, and for this reason I much prefer it to the continued use of nitroglycerin.

In this class of patients, especially in those who have suffered organic nervous changes from the effects of the arterial sclerosis, constant, skilful observation appears to be absolutely essential. It is not a difficult matter to instruct a nurse, or some member of the family, in detecting variations in the pulse tension, and even patients themselves soon come to appreciate this with a considerable degree of accuracy. Considering the great normal variations in tension, this is manifestly of importance. For it is useless to give a remedy six days in the week if a high-tension pulse only occurs on the seventh day. In these conditions, therefore, it seems unwise to keep up remedies constantly. It is far better to keep up the skilled observation of the patient and apply the remedy when it is particularly needed. Thus I have one patient who for ten years has had very extensive arterial sclerosis, and who has, about once in eight to ten weeks, without any apparent ascertainable cause, a sudden, quick rise in the arterial tension attended by pressure in the head and a sense of great alarm, and followed in the course of two hours by a general epileptiform convulsion. If in this patient at the time of the beginning of the symptoms nitroglycerin is used freely hypodermically, and chloroform is used by inhalation in moderation, the pulse tension is found to relax and the attack passes off without the onset of the convulsion. There is no object in giving this man a remedy for the relief of tension in the intervals, as at that time his pulse is as soft as possible.

It should never be overlooked that many patients who have extensive arterial disease, atheromatous arteries, and abnormally high-tension pulse, and who show symptoms traceable to these conditions, frequently live to extreme old age, and do not die from the effects of their arterial disease. It should also be remarked that many persons who present evidence of extreme arterial sclerosis live their lives without any symptoms at all. These two facts should be recollected in giving the prognosis in this condition, for however serious the condition may appear during the attack, either of functional or organic nervous disease, we must admit that the underlying condition is one which may spontaneously subside or disappear under treatment.

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**A Note on Melanoma.**—C. R. Keyser states that formerly melanomata were always classified as belonging to the sarcomata or connective tissue type of tumors, and microscopically the cells often present a spindle or fusiform shape, and are arranged as in sarcomata; the pigment appears both in and between the cells. But recently it has become more and more patent that all melanotic tumors are not sarcomata, but carcinomata, for the following reasons: (1) An alveolar arrangement of the cells is not at all uncommon. (2) The cells are of an epithelioid type. (3) The tumor originates in the skin, usually in a mole. (4) The lymphatic glands are early affected.—*Medical Times and Hospital Gazette.*

# THE ANATOMY OF PORTAL ANASTOMOSIS.*

By ROLFE FLOYD, M.D.,
NEW YORK.

THIS paper briefly describes: (1) The liver circulation in the fœtus at term; (2) the changes in the liver circulation at birth; (3) the sites of anastomosis between the portal and systemic veins in the adult.

I. The liver circulation in the fœtus at term.—In the fœtus at term the venous capillaries, although already arranged about and in the lobules, as in the adult, do not yet serve to isolate the portal from the systemic veins.

At this time the ***umbilical vein*** (Fig. 1, UM. V.), coursing from the navel in the lower edge of the suspensory ligament, enters the median groove on the under surface of the liver and there gives off small left branches (Fig. 1, L[1]), to the anterior part

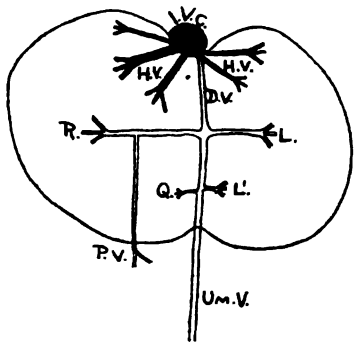


Fig. 1.—Liver circulation prenatal condition. In this and Fig. 2 the liver is viewed from above, the vessels being seen through its substance.

of the left lobe, and small right branches to the quadrate lobe (Fig. 1, Q.). Reaching the left end of the transverse fissure, it ends by dividing into three branches. One, the largest, traverses the transverse fissure and enters the right lobe (Fig. 1, R.), a second passes into the left lobe (Fig. 1, L.) while a third, continuing the direction of the parent stem for about one inch, enters the inferior vena cava, or one of the hepatic veins just before its junction with the cava (Fig. 1, D. V.). This vessel is the ductus venosus, and lies deeply buried in the ductus venosus fissure on the posterior aspect of the liver.

All the branches of the umbilical vein, except the ductus venosus, break up into smaller vessels, which finally end in the capillaries which penetrate the liver lobules.

The *portal vein*, bringing blood from the stomach, intestines, spleen, and pancreas, appears at this time as a comparatively small tributary, which joins the right branch of the umbilical vein where that vessel lies in the transverse fissure of the liver (Fig. 1, P. V.).

The *hepatic veins* (Fig. 1, H. V.) are two or three large vessels on each side, which take origin in the central veins of the lobules, and enter the inferior vena cava just before it perforates the diaphragm.

It is interesting in dissecting these vessels to note that, while the hepatic veins can be exposed by simply rubbing off the friable liver tissue, the branches of the umbilical vein are incased in a firm, connective tissue sheath. In portal obstruction the throttling may quite as well occur in these venules of the portal canals as in the intralobular capillaries.

II. Changes in the liver circulation at birth.—At

*A contribution from the Anatomical Laboratory of the College of Physicians and Surgeons.

birth when the umbilical vein is occluded at the navel, its lumen is obliterated throughout the whole of its extra-hepatic segment, through the proliferation of its inner coat and the formation of a thrombus in the narrowed lumen, which promptly becomes organized. This obliterated segment, from the navel to the liver, now takes the name of the round ligament (Fig. 2, R. L.).

A similar obliteration involves one of its branches, the ductus venosus, although this vessel is still connected with open blood channels at either end (Fig. 2, O. D. V.). It is by the occlusion of this vessel that the portal and systemic veins loose their only large and direct communication and become functionally distinct.

The branches of the umbilical vein, except the ductus venosus, now appear as branches of the portal vein within the liver. The portal vein enlarges considerably with the establishment of digestive processes (Fig. 2, P. V.).

The hepatic veins are in no way altered (Fig. 2, H. V.).

I have found no record of a case of failure of complete closure of the ductus venosus with a secondary

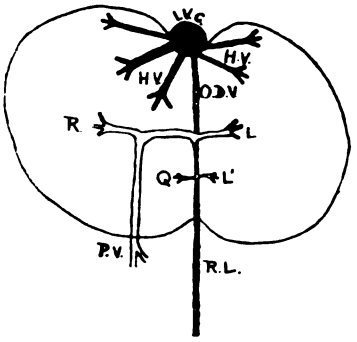


Fig. 2.—Liver circulation, postnatal condition.

enlargement of this vessel in portal obstruction, and, so far as I know, this vessel never supplies a channel of portal anastomosis in the adult.

Concerning the complete obliteration of the lumen of the umbilical vein, there has, however, been some dispute. Sappey, '83, stated that all cases reported as patent umbilical veins, secondarily enlarged and furnishing an anastomotic channel in portal obstruction, were, in truth, not such, but enlarged veins running parallel with the round ligament, and that the latter structure could always be demonstrated in such cases, in its usual adult condition. Baumgarten, '77, however, had stated that with the microscope he had found a

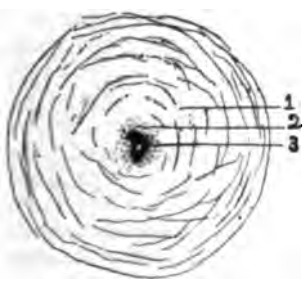


Fig. 3.—Cross section of the round ligament: 1. wall of the original vessel; 2. thickened endothelium of the original vessel; 3. organised thrombus penetrated by vessels.

minute central venous canal in the round ligament in fifty-four cases out of sixty, and that this canal became dilated in portal obstruction. Wertheimer, '86, looking into the matter somewhat more deeply, found that the narrowed lumen of the vein was completely occluded shortly after birth by a plug of connective tissue, and that subsequently, within a year or two, in the majority of his cases, nine out of sixteen, a venule appeared in this central plug (Fig. 3), which communicated with the small veins coursing on the surface of the round ligament. This central venule penetrated the round ligament from its attachment to the abdominal wall to its junction with the still patent region within the liver. This venule was occasionally double, or broken into a fine, venous net. At the same time he reported three cases of portal obstruction, in one of which the

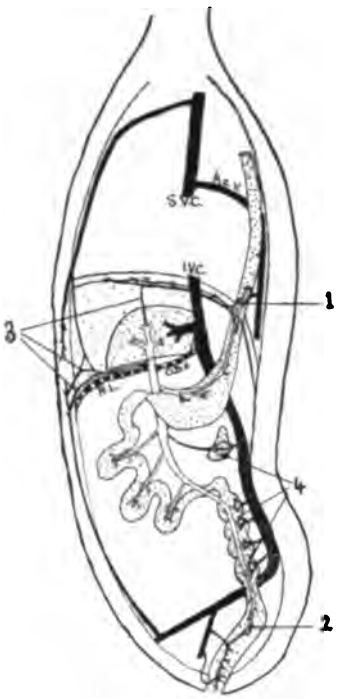


Fig. 4.—Diagram to show the sites of portal anastomosis in the adult; the portal system of veins is shown in outline, the systemic veins in black, the round ligament and ductus venosus in broken line; the viscera are indicated by thick dotting, the suspensory ligament by sparse dotting.

round ligament was not enlarged, and contained no central venule, while in the other two there was a distinct enlargement of the round ligament as a whole, and an increase of the central channel to eight times its usual diameter.

Thus it appears that in some cases, at least, the umbilical vein may be reclaimed, in this roundabout fashion, to its function as a blood vessel, and form a channel of communication between the portal and systemic veins.

III. Normal sites of anastomosis between portal and systemic veins in the adult.—These may be divided into four well-marked groups:

1. Anastomoses at the lower end of the œsophagus. The coronary vein of the stomach receives radicles from the lower end of the œsophagus, which lie chiefly between the mucous and muscular layers of its wall. The same region is also drained by veins which pass to the phrenic veins, and so to the inferior cava, and by veins which unite to form the inferior œsophageal tributaries of the azygos veins and so enter the superior cava (Fig. 4, 1). In the body which I dissected in connection with this paper, the two most evident veins in this region were the coronary vein, and a lower œsophageal vein which passed to the vena azygos major.

2. Rectal anastomosis. The hemorrhoidal venous plexus lies between the muscular and mucous coats

of the rectum. It is drained above by tributaries of the inferior mesenteric vein of the portal system, laterally, by rectal veins which enter the internal iliacs and, below, by the inferior hemorrhoidal veins which pass to the internal pudic veins, and so again to the internal iliacs (Fig. 4, 2). This plexus thus constitutes a pretty free anastomosis between the portal and systemic veins. In the body which I examined, injection mass, thrown into the internal iliac, passed into the inferior mesenteric vein, establishing the fact of the anastomosis in that case beyond question.

3. The accessory portal veins of Sappey. These are veins in the suspensory ligament of the liver, which establish anastomoses between the portal system of the one hand, and the veins of the anterior abdominal wall and of the diaphragm on the other (Fig. 4, 3). Those which pass up to the phrenic veins take origin within the liver substance from small portal branches, not from the portal trunk, and

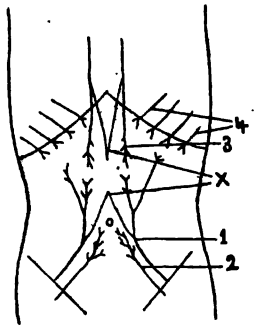


Fig. 5.—Diagram of the veins of the anterior abdominal wall; 1, deep epigastric; 2, superficial epigastric; 3, superior epigastric; 4, intercostal; X, branches from the internal mammary and deep epigastric veins which pass into the suspensory ligament.

emerge from the upper surface of the organ to enter the suspensory ligament. Those which pass forward, on the other hand, root in the portal vein in the transverse fissure. Some of these course along the surface of the round ligament, while others lie higher up in the suspensory ligament. These veins regularly connect with the veins of the anterior abdominal wall. The situation of one of these veins in the center of the round ligament has already been referred to. In the body which I examined they united, while still in the suspensory ligament with vessels derived from the internal mammary, and deep epigastric veins.

In this connection it is worth while enumerating the veins which drain the upper part of the anterior abdominal wall. They are: (1) Deep epigastrics, tributaries of the external iliac; (2) superficial epigastrics, tributaries of the femorals through the saphenous; (3) superior epigastrics, tributaries of the internal mammaries; (4) intercostal veins of the sixth to the ninth spaces, tributaries of the azygos veins (See Fig. 5.). All or any of these channels may be enlarged in portal obstruction. Sappey calls attention to the fact that when the deep epigastric vein is enlarged no varices form, while if the superficial epigastric forms the main channel of anastomosis subcutaneous varices form which may even grow so large as to merit the name of "caput medusæ." He explains this by the angle of confluence in the two cases—the deep epigastric entering the iliac vein at a right angle, while the superficial vessel enters the saphenous vein from above almost directly against the current of blood in that vessel. Perhaps a simpler reason for this difference is that the subcutaneous veins are less supported by pressure from surrounding structures, and so are more liable to become varicose, as is illustrated in the leg so often.

4. The retroperitoneal veins. The duodenum, the pancreas, and part of the colon lie immediately against the posterior abdominal parieties, and, just as in any other continuous mass of tissue in the body, the veins of these viscera, belonging to the portal system, become more or less continuous with the systemic veins of the parieties (Fig. 4, 4.)

In the liver at term, although the capillary system is complete. the portal and systemic veins are not distinct, but become so after birth by the obliteration of the umbilical vein and ductus venosus. The adult anastomoses are the œsophageal, the rectal, the accessory portal veins in the suspensory ligament and the retroperitoneal veins.

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## SYNOPSIS OF EXPERIMENTS ON THE TRANSFORMATION OF CIRCULATING URIC ACID IN THE ORGANISM OF MAN AND ANIMALS.*

FROM THE HULL PHYSIOLOGICAL LABORATORY OF THE UNIVERSITY OF CHICAGO.

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A COMPLETE report of these experiments will be found in one of the next issues of *Pflüger's Archiv für die gesammte Physiologie, etc.* (Bonn, Germany). In this synopsis I limit myself to reporting the main results of those experiments only that can form the basis of certain clinical conclusions.

*Introductory.*—The general considerations that led up to the experiments to be reported are the following: In a certain congeries of morbid phenomena, variously grouped under the names of gout and goutiness, lithæmia, the uratic diathesis, etc., we find as a constant abnormality the accumulation of uric acid in the blood and tissues. This proposition may fitly be reversed to read that whenever we find a chronic accumulation of uric acid in the blood and tissue juices, and only then, are we justified in speaking of the uratic diathesis. Of the primary cause of goutiness, however, we know absolutely nothing; the uric-acid accumulation is merely one of many symptoms, and that the uric acid *per se* is not the cause of the diathesis I have had occasion repeatedly to emphasize.

The second typical and fairly constant tendency in this diathesis is the formation of concretions of crystalline urates in certain places of predilection. We never find urate concretions unless the uric-acid (urate) content of the blood is previously increased, although we do inversely encounter cases with abnormally large amounts of circulating uric acid in which no urate deposits occur. The factors that determine the formation of these concretions are complicated, only partially understood, and not germane to the subject proper of this article.

As the formation of urate concretions is, however, always secondary to the accumulation of uric acid in the blood, it is clear that any attempt to understand the genesis of these two leading symptoms of the diathesis must be directed primarily toward understanding the factors that produce the accumulation of uric acid; and that any endeavor to treat these symptoms must be concerned with preventing this accumulation or reducing it after it has once occurred.

The accumulation of uric acid in the blood may be imagined to be due to one of three causes, viz., (1) there may be excessive formation of uric acid; (2) there may be retention, scil. deficient elimination of uric acid; (3) there may be deficient de-

*Read before the Chicago Academy of Medicine, February 7, 1903, and the Chicago Pathological Society, March 9, 1903.

struction of uric acid. For it is apparent that uric acid must accumulate (1) if more than normal is formed; (2) if less than normal is eliminated; (3) if less than normal is destroyed. Several of these factors may, of course, be combined.

In this article I treat only of the third possibility. The question to be answered is whether or not uric acid is normally destroyed in the human body. This inquiry settled in the affirmative, we may be justified in postulating that a perversion of this function, *i. e.* deficient destruction, may lead to the accumulation of uric acid in the blood and tissues and hence produce the most characteristic symptoms of goutiness.

It has been known for a long time that uric acid (or urates) administered by mouth to certain animals (dogs, cats, rabbits) appears only in small part in the urine. This by no means signifies, however, that uric acid is destroyed in transit through the animal body proper; for, we may imagine (1) that it is retained in the tissues; (2) that the uric acid is not at all absorbed from the intestine; (3) that it is transformed into other products in the stomach or bowel and that these latter are absorbed. Intravenous injection has furnished more positive results—but here, too, retention, as far as I can read, has never been excluded; nor has it ever been shown that uric acid is not excreted into the bowel (*e. g.* via the liver), thus leaving the body in the fæces instead of the urine.

I have, however, been able to show by the following experiments in rabbits that 80 to 90 per cent. of uric acid that is injected intravenously (*i. e.* of the "circulating" uric acid) actually undergoes intracellular disassimilation; that none of it is retained; and that it is not excreted into the bowel. . .

The method adopted was to inject uric acid in alkaline solution directly into the veins of a rabbit, and to determine the uric acid subsequently voided in the urine. In addition the whole gastrointestinal with its contents and the organs of the animal were examined for any retained uric acid.

As a rabbit excretes only about 5 to 10 c.c. of thick, viscid urine in an hour, and as it is impossible to gather such urine quantitatively by catheterization or in urine cages, it is necessary to stimulate a more abundant flow of urine and to adopt a particular technique in collecting the urine if serious errors are to be avoided.

A very active diuresis may be stimulated by the following solution of salts (S. A. Matthews) injected directly into the veins of the animal:

*m/8 sodium chloride, 50 c.c.; m/24 sodium citrate, 25 c.c.; m/4 sodium sulphate, 23 c.c.; m/8 calcium chloride, 2 c.c.

The urine was collected quantitatively by performing a suprapubic cystotomy and tying a syphon-cannula into the bladder. At the termination of the experiment the bladder (after ligation of ureters and urethra) was dissected out and repeatedly washed with water and the washings united with the urine.

100 c.c. of the salt-solution were first allowed to flow into the vein (at the rate of about 2 c.c. a minute); this stimulates active diuresis (see Table I). In a second portion of 100 c.c. salt-solution, a weighed quantity of uric acid (sodium urate) was dissolved and this mixture allowed to flow into the vein in the same tempo; finally 200 c.c. more of the salt-solution were passed through. The urine was gathered in four portions; portion I consisted of the urine voided during infusion of the first 100 c.c.; portion II of the second 100 c.c.; portion III of the third, and portion IV of the fourth 100 c.c. plus the bladder- and cannula-washings. In each portion the uric acid was determined. Theoretically, nitrogen determinations should have furnished valuable information. As a matter of fact, it was found, however, that much more nitrogen was excreted than corresponded to the uric-acid nitrogen injected. The salt infusion presumably washed out nitrogenous waste products. No conclusions could therefore be drawn from the nitrogen figures, and they are omitted from the table. (See Table I.)

TABLE I.

| Rabbit No. | Uric acid infused | Urine | | | | | | | | Total urine voided | Total uric acid excreted | Loss of uric acid | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Portion I. | | Portion II. | | Portion III. | | Portion IV. | | | | | |
| | | Qty. | U. A. | Qty. | U. A. | Qty. | U. A. | Qty. | U. A. | | | in gr. | in per cent. |
| 1 | 0.26 | 130 c.c. | 0 | 120 | 0.034 | 97 | 0.003 | 104 | 0 | 460 c.c. | 0.037 g. | 0.223 | 83.9 |
| 2 | 0.37 | 127 | 0 | 112 | 0.040 | 102 | 0.001 | 114 | 0 | 455 c.c. | 0.041 g. | 0.329 | 85.8 |
| 3 | 0.52 | 117 | trace | 138 | 0.079 | 88 | 0.011 | 98 | 0 | 441 c.c. | 0.090 g. | 0.430 | 88.9 |
| 4 | 0.46 | 135 | 0 | 109 | 0.069 | 112 | 0.004 | 142 | 0 | 498 c.c. | 0.073 g. | 0.387 | 82.7 |

Some of the animals died during the infusion of the uric acid; this occurs regularly if the uric acid or the urate precipitates from the solution in crystalline form. It is necessary, therefore, to add enough alkali to hold the uric acid in solution.

In animals two and four the blood, organs, and gastrointestinal contents were examined for uric acid according to the method of Stadthagen. The animals were killed by bleeding from the carotid. A ligature was placed around the rectum low down, the œsophagus high up, the bile duct, and the pancreatic duct. The whole gastrointestinal tract with contents was then examined in one portion; in another portion the blood, liver, spleen, kidneys, heart, lungs, brain, shreds of pancreas, the bulk of the muscles and skin were examined. In neither portion could a trace of uric acid be found.

It is demonstrated, therefore, that from 82.7 to 89 per cent. of uric acid infused intravenously to rabbits are actually destroyed (transformed)

*m stands for molecular weight.

within a very short time (one to two hours) in transit through the body of the animal. . . . In human subjects it is more difficult to prove that uric acid is transformed. It has been positively shown† that only a small portion of the uric acid given by mouth is absorbed. Feeding experiments are consequently useless. The intravenous infusion of uric acid and urates cannot be performed for experimental purposes; and subcutaneous injection is hardly a practical procedure, because it is painful and not quite devoid of danger and, chiefly, because retention of the injected uric acid or its elimination through the bowel and subsequent destruction there can never be excluded. Only very small quantities of uric acid could, moreover, be employed for such a test. In man, finally, we know of no characteristic urinary end-products of uric-acid catabolism, as in the case of dogs (allantoin) or rabbits (hippuric acid scil. glycocol). Even the quantitative analysis of the urine would therefore give us little information in regard to the fate of the circulating uric acid.

We are nevertheless justified in assuming, *a priori*, from analogy with animal experiments, that in man the circulating uric acid is actually transformed into other bodies. The only experimental path that is open to us, however, is the investigation of the uric-acid-destroying power of isolated human organs, and this leads us to three inquiries, viz.: (1) Where (in what organs) is uric acid destroyed? (2) How is uric acid destroyed? (3) What becomes of uric acid?

I. *Where (in what organ) Is Uric Acid Destroyed?* A considerable number of investigations have been published on the power of certain animal organs to destroy uric acid.‡

No experiments are recorded with human organs.

The organs were desanguinated, ground to a fine pulp, and allowed to stand under 5 vol. of 95 per cent. alcohol for 24 hours. The alcohol was removed by filtration, the residue washed with ether, spread on filter paper, and allowed to dry in the air; the dry residue was powdered in a mortar and the strands of connective tissue removed by sieving; the powder was finally extracted for twenty-four hours at 37.5° with water containing 2 pro mille of sodium fluoride. Twenty g. of the dry coagulate were extracted with 150 c.c. of water.

These extracts were mixed with uric-acid solutions prepared as follows: One g. of uric acid was suspended in 1,000 c.c. of boiling water, and so much of powdered sodium carbonate added that the uric acid was all dissolved, and remained in solution after cooling. Of this urate solution exactly 300 c.c. (containing approximately 0.33 g. of uric acid) were poured into three flasks, and 100 c.c. of the above extract added to each. In flask I the uric acid was determined at once. The contents of flask II was rapidly carried to the boiling point; the contents of flask III was not boiled. Flasks II and III were kept for forty-eight hours at 38° C. and frequently agitated during this time. At the end of forty-eight hours the uric acid was determined in flasks II and III, according to the method of Ludwig, after removal of all proteids by boiling with sodium chloride and acetic acid.

This technique is the only reliable method for determining the actual loss of uric acid; it eliminates all the sources of error pointed out above and whatever loss may occur by bacterial action, oxidation by the air in alkaline solution, prevention of uric-acid precipitation, etc., occurs in all the flasks (if at all) to the same degree. We have, therefore, an absolute control throughout. (See Table II.)

TABLE II

| Class | Animal | Organ. 20 g.+150 c.c. water =100 c.c. extract | Flask I Uric acid determined at once | Flask II Boiled 48 h. at 38° C. Uric acid | Flask II Loss in g. | Flask III Not boiled, 48 h. at 38° C. Uric acid | Flask III Loss in g | Flask III Loss in % |
|---|---|---|---|---|---|---|---|---|
| Carnivora | Dog | Liver... | 0.327 | 0.325 | 0.002 | 0.225 | 0.102 | 31.1 |
| | | Kidney.. | 0.319 | 0.319 | 0.000 | 0.312 | 0.007 | 2.4 |
| | | Muscle.. | 0.330 | 0.326 | 0.004 | 0.303 | 0.027 | 8.2 |
| | | Blood.. | 0.321 | 0.317 | 0.004 | 0.313 | 0.008 | 2.5 |
| | | Spleen.. | 0.327 | 0.320 | 0.007 | 0.319 | 0.008 | 2.4 |
| | Cat | Liver... | 0.331 | 0.326 | 0.005 | 0.239 | 0.092 | 28.0 |
| | | Kidney.. | 0.327 | 0.326 | 0.001 | 0.318 | 0.009 | 2.6 |
| | | Muscle.. | 0.316 | 0.310 | 0.006 | 0.291 | 0.025 | 7.8 |
| | | Blood... | 0.316 | 0.314 | 0.002 | 0.305 | 0.011 | 2.6 |
| | | Spleen.. | 0.332 | 0.328 | 0.004 | 0.326 | 0.006 | 1.9 |
| Herbivora | Cow | Liver... | 0.331 | 0.327 | 0.004 | 0.322 | 0.009 | 2.7 |
| | | Kidney.. | 0.321 | 0.316 | 0.005 | 0.236 | 0.085 | 26.4 |
| | | Muscle.. | 0.327 | 0.321 | 0.006 | 0.305 | 0.022 | 6.8 |
| | | Spleen.. | 0.313 | 0.309 | 0.004 | .306 | 0.007 | 2.1 |
| | Rabbit | Liver.. | 0.314 | 0.309 | 0.005 | 0.306 | 0.008 | 2.6 |
| | | Kidney.. | 0.316 | 0.314 | 0.002 | 0.239 | 0.077 | 24.3 |
| | | Muscle . | 0.331 | 0.324 | 0.007 | 0.311 | 0.020 | 6.0 |
| | | Blood... | 0.324 | 0.322 | 0.002 | 0.317 | 0.007 | 2.2 |
| | | Spleen. | 0.321 | 0.317 | 0.004 | 0.314 | 0.007 | 2.2 |
| Omnivora. | Hog | Liver... | 0.332 | 0.326 | 0.006 | 0.238 | 0.094 | 28.2 |
| | | Kidney.. | 0.326 | 0.321 | 0.005 | 0.247 | 0.079 | 24.2 |
| | | Muscle.. | 0.318 | 0.317 | 0.001 | 0.299 | 0.019 | 6.2 |
| | | Spleen.. | 0.331 | 0.324 | 0.007 | 0.325 | 0.008 | 2.4 |
| | Man | Liver... | 0.319 | 0.314 | 0.005 | 0.200 | 0.119 | 37.4 |
| | | Kidney.. | 0.327 | 0.325 | 0.002 | 0.188 | 0.139 | 42.61 |
| | | Muscle.. | 0.322 | 0.319 | 0.003 | 0.299 | 0.023 | 7.2 |
| | | Spleen. | 0.332 | 0.324 | 0.006 | 0.325 | 0.007 | 2.2 |
| | | Blood... | 0.326 | 0.320 | 0.006 | 0.318 | 0.008 | 2.6 |

As will be seen from the table the organs of herbivorous, carnivorous, and omnivorous animals, including man, were subjected to examination. Boiling reduces the uric-acid-destroying powers of these extracts to a minimum. It is shown that in carnivora the uric-acid-destroying power of the liver is very great, that of the kidneys very small, and that in herbivora the reverse is the case. In omnivora, including man, both the liver and the kidneys can destroy much uric acid; whereas, however, in the hog the power of the liver is greater than that of the kidneys, in human subjects the kidneys possess greater power than the liver. In all species the muscles destroy considerable uric acid. The results obtained with spleen and blood are ambiguous; for while both these organs destroy small quantities of uric acid, approximately the same destruction occurs after boiling the extracts made from these organs; as boiled liver, kidney, and muscle-extracts also destroy some uric acid (as compared to the controls) we must either assume that all the organs contain a uric-acid-destroying agent whose power is not inhibited by boiling (in addition to one whose power is so destroyed), or that the small loss is due to technical errors that are unavoidably committed in all the determinations; in the latter case we would have to deny any uric-acid-destroying power to the blood and the spleen of all species. I am inclined to favor the former supposition.

Wiener (*l. c.*) and Jacoby† were the first to call attention to the peculiar differences existing in regard to uric-acid-destroying power between the liver and the kidneys of herbivorous and carnivorous animals; as these investigators worked with fresh watery extracts throughout, the correspondence between their results and mine demonstrates that the extracts prepared by me by the alcohol method contain the active agent sought; this is an important demonstration, as I will show below, when discussing the finer mechanism of uric-acid transformation.

Philogenetically these differences between herbivora and carnivora may be easily explained as follows: A carnivorous animal eats a large quantity

†Ibrahim und Soetbeer, *Zeitschrift f. phys. Chem.* Vol. XXXV, Heft 1.

‡A complete review of this literature will be found in Burian and Schur. (*Pflüger Archiv.*, Vol. LXXXVII.)

†Jacoby, *Virchow's Archiv*, vol. CLVII.

of food containing much uric-acid-forming material, at long intervals, while an herbivorous animal eats small quantities of food, containing very little uric-acid-forming material, at short intervals. In the former species there is consequently danger of flooding the organism with uric acid and its poisonous congeners at each feeding; this tendency the liver counteracts by its great uric-acid-destroying power. In herbivora no such disintoxicating organ is required to stand between the intestine and the systemic circulation; consequently the chief uric-acid-transforming power is relegated to other organs. The total uric-acid-destroying power of both species may nevertheless be assumed to be the same; there is merely a difference in the distribution of this labor. In omnivorous animals, in accordance with the mixed character of the diet and, in man, in accordance with the regularity of feeding, the uric-acid-destroying function is fairly evenly distributed between liver and kidneys (whenever, however, an excess of uric-acid-forming pabulum is ingested we can imagine that the protective action of the liver becomes inadequate and the system is flooded with abnormal uric acid and the other products of nuclein catabolism that should normally undergo disassimilation in the liver). These differences between the species may possibly be utilized to solve certain mooted problems in the evolution of species.

In interpreting the results chronicled in Table III one must remember that the figures indicate merely the relative uric-acid-destroying powers of the same mass of different organs in the different animals. In order to gain a clear insight into the relative uric-acid-destroying powers of the different organs in each animal it is necessary to compute the relative mass of the different organs as compared to the mass of the animal. Thus we may find, *e. g.* that in a dog a certain weight of muscle-coagulate destroys 8.2 per cent. of uric acid, whereas the same weight of liver-coagulate destroys 31.1 per cent., we may say, therefore, that bulk for bulk the liver of a dog possesses greater uric-acid-destroying powers than the muscles; but when we compute how much more muscle tissue is contained in a dog than liver tissue we will find that in their totality the muscles destroy as much if not more uric acid than the whole liver. The same applies to all the other animals; and while we can only estimate the total muscle weight, I am inclined to attribute to the muscles of all animals and of man the greatest total uric-acid power of all.

The clinical conclusions that can be drawn from these results in human subjects will be summarized in the last paragraphs of this article.

2. *How Is Uric Acid Destroyed?* As all the specific end-products of uric-acid metabolism that have so far been identified are higher oxidation products it seemed probable that the process of uric-acid destruction constituted a process of oxidation. It would lead us too far were we to enter into the theories of intracellular oxidation in this article and I content myself therefore with briefly chronicling the main experimental results obtained in support of the view that uric acid is normally destroyed by oxidation.

The watery extracts of all the organs examined possess the power to a very marked degree of dissociating peroxide of hydrogen and liberating oxygen. If the watery extracts are treated with 5 vol. of 95 per cent. alcohol a white flocculent precipitate forms that in its turn possesses this power. This precipitate is insoluble in water, but readily soluble in a fresh portion of extract; it is also soluble in dilute alkalies. All the solutions possessed marked catalytic power. From the alkaline solution the precipitate could be reclaimed by precipitation with dilute acids; the precipitate contained phosphorus and iron. All these properties rendered it probable that it was a nucleo-proteid, probably identical with the nucleo-proteid discovered by Spitzer in many organs. (See *Pflüger's Archiv*, Vol. LXVII).

In order to determine whether this nucleo-proteid was the uric-acid-destroying agent, a large quantity was prepared from the original extract by precipitation with dilute ($\frac{1}{10}$ normal) acid, according to the method recommended by Spitzer. The precipitate was filtered off, redissolved in dilute ($\frac{1}{10}$ normal) alkali and mixed with a urate solution. Not a trace of uric acid was destroyed after forty-eight hours at 38° C.

In the belief that possibly the solution was too alkaline, a new portion of the nucleo-proteid was dissolved in a fresh portion of the original extract that had been rendered inactive by boiling; this solution, while highly catalytic, could destroy no uric acid. *The nucleo-proteid was not therefore the active agent.*

The "ferment" was next sought for in the solution from which the nucleo-proteid had been removed by filtration. This filtrate was neutralized and mixed with urate solution. No loss of uric acid occurred after forty-eight hours at 38° C. The filtrate contained an albuminoid body that could be precipitated by 5 vol. of 95 per cent. alcohol and that was readily soluble in water; it was not catalytic; it contained neither phosphorus nor iron and was characterized chemically as an albumose; it was present in very much smaller quantities in the extract than the nucleo-proteid.

As neither the nucleo-proteid nor the albumose singly possessed the power to destroy uric acid, and as the original extract that contained these two bodies in solution did possess this power, I attempted to reconstruct the original extract by dissolving the nucleo-proteid and the albumose separately in the (inert) salt-solution prepared from a fresh quantity of the extract as described above. This mixture, it was found, destroyed uric acid in approximately the same proportion as the organ extract from which it had originally been prepared.

The uric-acid-destroying agent in the watery extracts prepared from alcohol coagulates of different organs must therefore be imagined to consist of three substances, viz., (1) a nucleo-proteid with the power to disassociate peroxide of hydrogen, (2) an albumose that does not possess this power, (3) certain salts to hold the nucleo-proteid in solution. The specific agent is apparently the albumose, for the nucleo-proteid is universally present even in those organs that do not possess the power to destroy uric acid. That the salts in the extract are needed to dissolve the nucleo-proteid can be shown by first extracting some of the coagulate with water; a certain amount of nucleo-proteid will go into solution; it is impossible to extract more of the latter by plain water; if the first extract is, however, boiled (to destroy the catalytic action of the extract), and this boiled solution is used to extract the residue of the coagulate, more nucleo-proteid can be extracted without difficulty, the resulting solution again becoming highly catalytic.

Without recurring to extended speculation, I venture the hypothesis that the albumose-like body loosens the affinities of the uric-acid molecule, and that the nucleo-proteid acting as an oxygen-carrier facilitates the subsequent oxidation. (For the experimental basis of this view I refer to a paper on "Intracellular Oxidations" that I will soon publish, and in which the rôle of the oxidases,

peroxidases, and catalases of human organs will be elucidated).

One other point of clinical importance and of direct bearing on the subject under discussion may be mentioned in this place. In studying the effect of various salt-solutions on the catalytic action of the nucleo-proteid and of the watery extracts it was found that certain salts (*e. g.* nitrates and cyanates) greatly diminished the power of the nucleo-proteid to liberate oxygen from a given quantity of peroxide, whereas certain other salts (*e. g.* dilute alkalies and salicylates) greatly increased this power. It is interesting to note this peculiar action of the latter salts in particular. As salicylates and alkalies are the most popular empiric drugs employed in the treatment of the uric-acid diathesis, we are possibly justified, on the bases of these experiments, in postulating that the good effects of these remedies can be attributed to their power to stimulate intracellular oxidation and hence to promote the destruction of accumulating uric acid.

3. *What Becomes of Uric Acid?* This part of the problem I have not been able to solve to my complete satisfaction. As it is probable that uric acid undergoes destruction by oxidation, those products in particular had to be sought for that could be generated from uric acid by oxidation outside of the organism. Such products are urea, oxalic acid, with allantoin as an intermediary product. In dogs, in fact, oxalic acid and allantoin have repeatedly been found after the infusion of urates. I therefore examined the human organ extracts after they had been in contact with uric-acid solutions for varying periods of time for allantoin, urea, and oxalic acid.

Here, again, it was necessary to work with controls throughout; for all organs contain some urea, and some of them can form more urea on standing at blood temperature; it was also possible that some of the organ extracts could form oxalic acid from other ingredients than uric acid (*e. g.* glycuronic acid, P. Meyer).

Allantoin I never discovered even in traces (Method of Loewi). A slight increase of the urea could be discovered in the case of human liver and a slight increase of oxalic acid and of urea in the case of the human kidney. Human muscle generated neither urea nor oxalic acid. The small quantities of these bodies found did not correspond to the amount of uric acid lost. We must assume, therefore, either that uric acid is partially converted into still other bodies or that the urea and the oxalic acid that are formed are oxidized further and thus escape detection. The same applies to allantoin, for it, too, may be formed as an intermediary product that at once undergoes further conversion. I am inclined to the latter view; for there is no valid reason why oxidation should stop at any particular stage.

The experimental reply to the query: "What becomes of uric acid?" is not free from ambiguity. The question is highly complex and calls for further investigation with very large quantities of uric-acid solution and very large quantities of organ extract. I content myself with noting the fact that urea and oxalic acid can be formed from uric acid by certain human organs. For the quantitative details and the analytic technique employed I refer to my German article.

*Clinical Conclusions.*—The experimental results obtained in the case of human organs justify the following conclusions:

1. The fact that watery extracts prepared from liver, kidney, muscle, blood, and spleen can all destroy uric acid to varying degrees, and the fact that this power is largely destroyed by boiling, makes it probable that these organs assume a similar function during life, and that this function is carried on by the aid of unorganized soluble "ferments" that the organs secrete.

One might object that these ferments are present in such minute quantities that they cannot be credited with such an important function; but this objection is invalid; the ferments are present in minimal quantities, because they are not intended to be present in large quantities in the organs at any time. When we prepare the extracts we destroy the cells and *force* the ferments into solution. In studying the action of such an extract, moreover, we see only a small portion of the power that would have been expended had the organs remained alive, had the cells remained intact. I can best illustrate my meaning by comparing the action of the ferment extracted from a kilo of yeast cells and the action of a kilo of living yeast cells. The ferment solution will develop less power by far than the living cells, as in the latter new ferment is continuously being formed; in other words, the action of the ferment accumulating during one hour is only a small proportion of the hourly action of the cells. The ferment solutions made from human organs therefore contain only the *remnant of ferment that is not utilized during life.*

2. The proposition that uric acid is normally destroyed in the human organism may, therefore, be considered answered in the affirmative by these experiments, and from analogy with certain animal experiments that have been described. Inadequacy of this function, other things being equal, may well be imagined to be a cause of uric-acid accumulation in the blood and tissues, and secondarily of some of the most typic symptoms of goutiness.

3. Bulk for bulk, the human kidney destroys more uric acid than the liver, the liver more than the muscles, the muscles more than the spleen and the blood. If one includes the relative bulk of these organs, as compared with the bulk of the whole body, in the calculation, it will be found that the muscles destroy most uric acid, next the kidneys, and then the liver, the spleen, and the blood.

4. The fact that the kidneys normally destroy uric acid teaches that great care should be exercised in drawing conclusions from the plus or minus of the urinary uric-acid excretion; the urinary uric acid can no longer be considered an index of the circulating uric acid; it merely represents the algebraic sum of the circulating uric acid and the uric acid destroyed in the kidneys. There is, therefore, always more of circulating uric acid than is indicated by the urinary uric-acid excretion.

As the majority of cases of goutiness begin with renal insufficiency ("latent" nephritis), and as nearly all advanced cases show typical kidney lesions (granular atrophy), the connection between perversions of the uric-acid-destroying powers of the kidneys as the primary event, and the subsequent development of uratic symptoms is apparent—the fact, moreover, that in lead poisoning granular nephritis precedes the development of gouty symptoms (Ebstein, Levison) lends support to this view. My experiments therefore favor the renal theory of gout.

5. Derangement of the liver function has always been considered a prolific cause of the uratic diathesis; the common interpretation being that more uric acid than normal is formed. It seems more probable that the derangement consists in an inability of the liver to destroy either the normal

amount of circulating uric acid or the excess that is so frequently ingested (in the form of uric-acid-forming pabulum) by sufferers from gout.

6. The power of human muscles to destroy uric acid may explain, as Wiener suggests, why exercise often relieves uratic symptoms; the increased flow of blood-carrying uric acid through the muscles leads to greater uric-acid destruction, and must hence act beneficially.

7. The accelerating effect of salicylates and dilute alkalies on the power of one of the uric-acid destroying bodies (the nucleo-proteid) to liberate oxygen aids in explaining the empiric fact that these remedies act beneficially in the uric-acid diathesis.

8. The formation of oxalic acid from uric acid in the human kidney may explain the clinical fact that in gout oxaluria is not infrequent, and that occasionally the appearance of much oxalic acid in the urine is accompanied by a corresponding decrease in the uric acid of the urine.

9. The formation of urea from uric acid demonstrates that uric acid is not a terminal product, but an intermediary product between certain albumins (nucleins) and urea; the old view, slightly modified, is therefore rehabilitated. It is also clear that much that has been written on the so-called urea-uric acid ratio is sheer nonsense.

10. There is much experimental evidence to show that the function of certain organs that destroy uric acid is also to destroy fats and sugars. Inadequacy of this triple function would lead to the accumulation of fat, of sugar, of uric acid. These considerations point to a pathogenetic relationship between a trinity of diseases that we already know to be clinically related, and that are all three characterized by the accumulation in the blood and tissues of certain bodies (fat, dextrose, uric acid) that should normally be destroyed. I refer to obesity, diabetes and the uratic diathesis.

In conclusion, I wish to thank Prof. Jaques Loeb and Prof. Albert P. Mathews for their courtesy in placing the facilities of the Hull Physiological Laboratory of the University of Chicago at my disposal for this research. I also wish to thank Prof. Ludvig Hektoen and Dr. H. Gideon Wells for supplying me with fresh human organs, and Dr. S. A. Matthews for valuable assistance in performing some of the animal experiments.

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## HOW MAY WE CURE POSTERIOR DISPLACEMENT OF THE UTERUS?*

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There is no doubt that a great deal of harm results from improper treatment of posterior displacements of the uterus, and that many needless and unsuccessful operations have been done for the same conditions. It is therefore quite evident that their exact nature and cause are not generally appreciated for errors of treatment and unsuitable operations are too numerous to warrant the belief that they are clearly understood by all who attempt to deal with them. Most frequently error arises from a misconception of the causes operating to produce these displacements and a faulty diagnosis of the exact condition which is the maintaining cause. Before they can be intelligently dealt with, a clear appreciation of the true state of things in and about the uterus is essential.

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What supports the uterus normally must first be considered. Which of the supports are most at fault when the organ is displaced must then be determined. The condition of the endometrium and the uterine walls must be ascertained, and finally, the condition of the appendages and of the peritoneal surface of the uterus must be known; as to whether there is or has been a periuterine inflammation resulting in impairment of the function of the appendages or adhesion to the different structures with which the organ comes into contact.

We will take up first the uterine supports. They are:

The *broad ligaments* which stretch across from side to side of the pelvis and include the uterus between them, affording in their normal state very efficient support. They hold the uterus in the center of the pelvis, prevent lateral displacement, and to a moderate degree its descent, and limit the movement of the body of the organ backward or forward.

The *round ligaments* in their normal state maintain a moderate anterior inclination of the body of the uterus and limit its movement in a backward direction to a certain extent.

The *uterosacral ligaments*, more particularly with the vesico-uterine ligaments to a limited extent, maintain a more or less fixed position of the lower segment of the uterus, whereby the neck of the organ is made to retain a position at right angle to the superior plane or brim of the pelvis. They exert also a very decided influence in preventing descent of the organ.

The integrity of the pelvic floor and of the vaginal walls is also very essential to a correct position of the uterus; hence these structures are likewise to be regarded as supports of that organ.

There is but one set of these supports that maintain anything like a fixed position of that part of the sacral ligaments. Hence a deviation from their organ to which they are attached, viz., the utero-normal state is most important in dealing with displacements of the uterus, posterior displacements in particular.

Both in the non-surgical and in the surgical treatment of these displacements the importance of the uterosacral ligaments is constantly lost sight of. For instance, when the ordinary retroversion pessary is introduced into the vagina to rectify a retroversion of the uterus, if it corrects the displacement it stretches and still further lengthens these ligaments, and therefore tends to retard rather than facilitate a cure. For retroversion of the uterus is possible only when there is relaxation with lengthening of these ligaments. Also when the round ligaments are shortened with the intention of curing a retroversion it fails because the loss of support of the uterosacral ligaments is not taken into account and is not remedied, and the uterus sags down in the pelvis though its fundus may be held forward by the shortened round ligaments.

Very often also the treatment of these posterior displacements is undertaken and the condition of the endometrium and uterine walls is disregarded and injuries to the pelvic floor are not repaired. For instance, it is by no means unusual that a pessary is inserted, and no other treatment is instituted except, perhaps, tampons with glycerin, which is practically useless under such circumstances.

The misconception of the adaptability of certain operative procedures is not an infrequent error. For instance, shortening of the round ligaments when the fundus is attached by adhesions or bands to the rectum, which is pulled forward with it, or when the appendages are enveloped in adhesions—a condition that is more certainly the cause of discomfort than the malposition of the uterus.

A limited number of these posterior displacements of the uterus, both versions and flexions, may be cured without resort to such operations as shortening the round ligaments or ventral suspension, but that they are ever cured by strictly non-operative treatment I am fully prepared to dispute. For in every case there will be found sufficient reason for dilatation of the canal of the cervix with curettage of the endometrium or for inserting a drainage stem to rectify the condition of the uterine walls, and it is not possible otherwise to effect a cure.

Just what procedure should be adopted in individual cases is largely a matter of experience, and it is difficult to outline, except in a general way, what particular class of cases require one method of treatment and which another.

Retroflexions not of too long standing and not adherent may sometimes be cured by instituting as an initial step dilatation of the canal with curettage of the uterus, and then introducing a drainage stem to straighten and change the condition of the uterine walls, which maintain the posterior inclination of the fundus. It is essential, however, that the stem be retained in the canal long enough to bring about a softening of the uterine walls, and during this time the fundus must be thrown forward by a properly adjusted tampon in the vagina. This tampon of absorbent gauze to promote drainage should be repeatedly renewed and readjusted, and the stem must be removed and cleansed from time to time to maintain drainage from the uterine cavity. The cavity should also be cleansed by irrigation when the stem is removed. It will be sufficient in most cases if this stem is retained for a week, and during this time the patient must be confined to bed. When it is removed a pessary is adjusted to hold the fundus in an exaggerated anterior position, and this is retained until there is no longer any tendency of the uterus to bend backward. The pessary and vagina should, of course, be kept clean by frequent irrigation with some alkaline antiseptic, but astringent solutions should not be used, because they favor the formation of encrustation upon the pessary. I use, for this purpose, the liquid synol soap. Should pregnancy occur, permanent cure of the displacement is, as a rule, assured if the patient is properly cared for during puerperal convalescence.

The proportion of cases that are amenable to this method of treatment is very limited. Success more often results in recent cases when involution of the organ is incomplete, and when there is no relaxation of the uterosacral ligaments with complicating retroversion, because when the flexion has been overcome the organ with its cervix occupies a normal position in the pelvis.

When the retroflexed uterus is also retroverted, the best plan is, after overcoming the flexion as described above, to shorten the uterosacral ligaments. In some of these cases, however, a ventral suspension will be required.

In a definite number of movable retroflexions of the uterus uncomplicated by retroversion, a cure is more certainly brought about by shortening the round ligaments, and I prefer to shorten these ligaments in the inguinal canal by the plan described by Kellogg. This procedure is appropriate, however, only in uncomplicated retroflexion. Much discredit has been brought upon this operation by misapplying it and by executing it improperly. As done by its originator, and those who have followed him accurately, it is an ideal operation in appropriate cases. I cannot approve of opening the abdomen to shorten the round ligaments. When that is necessary it is better to do a ventral suspension.

Retroversion of the uterus is a very different problem. Here we have relaxation, with lengthening of the uterosacral ligaments permitting the cervix to occupy a position under the pubes with the uterus at right angle to the vulva orifice, its fundus resting in the hollow of the sacrum. As a rule, the organ is enlarged from metritis and endometritis, which must be overcome before we can hope to effect a cure by any method adapted to hold the uterus in position. It is manifestly unreasonable in such a case to expect a cure to result from the introduction of a pessary, even if it holds the uterus in an anterior position. It is also a mistake to expect a cure from shortening the round ligaments, even if measures are adopted at the same time to overcome the associated metritis and endometritis.

If the uterosacral ligaments have not entirely lost their tonicity and power to retract, a cure may sometimes be effected in these cases by instituting, as an initial step, curettage, with, when necessary, gauze packing of the uterus, to overcome the metritis and endometritis, and afterward supporting the uterus in position by carefully adjusted tampons rather than by a pessary. There is but one form of pessary that is suitable in these cases, viz., a long pessary of the Albert Smith pattern, with its upper part bent over forward so it will rest in front of the cervix instead of behind it. Such a pessary will hold the cervix backward in position, without pressing upon or stretching the uterosacral ligaments. Stimulating applications of faradic electricity are of material benefit in these cases by restoring the tone and aiding retraction of the uterosacral ligaments. This plan of treatment is necessarily tedious, and must extend over a long period. It is applicable to only a limited number of these cases of retroversion of the uterus.

A short time since it occurred to me that the cervix could be retained in a posterior position in these cases by denuding a small area on the posterior surface of the vaginal portion of the cervix and a corresponding place on the vaginal wall in the posterior cul-de-sac of the vagina, and uniting these two denuded surfaces by suture. When the vagina is firmly attached to the rectum, and there is not too much relaxation of the wall, this simple procedure may suffice to hold the cervix backward in position and the fundus would then be thrown forward. As yet, however, I have not given it sufficient test to prove its practical utility.

In a large number of cases of retroversion, a cure is accomplished more satisfactorily by shortening the uterosacral ligaments by the plan advocated by Bovée. In suitable cases it is successful when properly carried out.

If the retroverted uterus is also prolapsed to a considerable degree, and there is a cystocele, I believe a cure is more certainly obtained by ventral suspension. This not only holds the fundus forward, but also draws up the anterior vaginal wall, which is prolapsed. In some cases, however, an anterior colporrhaphy will be necessary also to overcome the cystocele.

When the posteriorly displaced uterus is fixed by adhesion to the rectum, or its movement is limited by adhesive bands so it cannot be replaced, or when the displacement is further complicated by disease of the appendages, there is, to my mind, no more certain means of cure than to open the abdomen, free the fundus, and bring it forward and attach it to the anterior abdominal wall by the method known as ventral suspension (not ventral fixation, a procedure which should be condemned). At the same time, any work found necessary on the appendages is done before the attachment is made. This can

all be done through a small median incision of not more than two inches in length, and in the hands of a careful, painstaking surgeon the operation has no mortality. With care in closing the wound, there is positively no risk of hernia and no disfiguring scar.

It has not been my experience that this operation proves a barrier to pregnancy or labor. When properly done, the result is not a uterus fixed immovably to the abdominal wall, but it swings in an easy, anterior position, and occupies very much the same position as when the round ligaments have been shortened. I have had several cases complete labor at term within a year after operation without complication.

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## TENT LIFE FOR CONSUMPTIVES.

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THE results attained from the climatic treatment of pulmonary tuberculosis have been most encouraging to the medical profession, but not sufficiently so for them to be satisfied with ordering a few weeks' residence for the patient at some popular health resort, accompanied by instructions to remain out of doors several hours a day in favorable weather. The march of progress in the world of medicine is a constant and irresistible movement. Old ideas and theories, based on supposition and belief, must give way to the new and more scientific knowledge founded on pathological study and experimental research. This is illustrated in one way by the history of the evolution in the treatment of tuberculosis. In ancient times it was highly improper to expose a tuberculous patient, especially one beyond the first stage, to a breath of fresh air except on the mildest days in summer, while the night air was dreaded and avoided as the plague. Then the more observant and thoughtful man noticed that those who lived more in the open air did not die as quickly as the hot-house patients, and they began to urge an outdoor life and moderate exercise as a prophylactic as well as a cure for those in the early stages of consumption. Those in the more advanced stages were allowed fresh air only when it was at summer temperature, but even this was better than being kept in-doors in warm, ill-ventilated rooms the whole year. That it was a step in the right direction is shown by the growing tendency among phthisiotherapeutists to have their patients remain out-of-doors the entire twenty-four hours.

I have often had patients tell me, in explaining a rapid disappearance of medicine, "if a teaspoonful is good, a little more must be better, so I took two teaspoonfuls at a dose." I think fresh air the only remedy which would be efficacious in following such logical reasoning. The larger the dose, the better for the patients, but it is often difficult to persuade them to take this view.

There are several plans by which the victim of tuberculosis may continuously breathe pure, fresh air by night as well as by day. Sleeping out in the open air is not harmful to a large majority of tuberculous people, and I have known surprising improvement in all the symptoms as well as a remarkable increase in weight to follow its adoption. I recall the case of a physician, who had consolidation of the right apex with a tendency to hæmoptysis. Tubercle bacilli were present in the sputum. A residence of a few months at Liberty, N. Y., improved his condition slightly, and hæmoptysis was much less frequent until, without warning, he had a chill and a hemorrhage, followed by an afternoon temperature of 101° to 102.5°, which continued with morning remissions for a week. The physical signs during this period indicated an exacerbation of the tuberculous disease, which involved nearly the entire upper lobe. Microscopical examination at this date revealed a greater number of tubercle bacilli than before. At the end of ten days he was prevailed upon to sleep out of doors at night as well as to remain out all day. It was in the fall and the weather moderate when he began this practice, continuing it until February, when he left Liberty apparently cured. A year later, when I examined this patient at my New York office, his condition was even better than when he left Liberty, and I informed him that he might live wherever he desired. He has lived and practised medicine in Virginia for nearly a year and a half.

Millet of Brockton, Mass. (*Maryland Medical Journal*, February, 1901), reports the cases of five patients, whom he recommended to sleep out of doors at night. They were socially of the poorer class and could not incur the expense of a change of climate. They were allowed no roof over their heads except in rainy weather. They wore soft felt hats and cotton night shirts, sleeping under ordinary bedclothes in beds arranged on the roofs of their houses. Remarkable results were observed. Improvement was noted in two weeks. Coughs disappeared, temperatures became normal, respirations were easier, and weight increased rapidly. No attention was paid to dampness and draughts, and heavy dews were regarded as inconvenient simply because of the necessity of drying the bed-clothes. It may be contended that sleeping out of doors in the winter season is not practicable, and that a bedroom with an open window will answer the purpose as well. Experience has taught that such an argument will not stand if put to the test.

Sleeping in a small room with an open window does not appear to be nearly as beneficial to the patient as when the nights are passed on a veranda or in a tent where there is a free circulation of air on all sides. The case of the physician before referred to is only one illustration of this fact. He at first occupied a small, steam-heated room with but one window, and it was never properly ventilated. Improvement in his case was not marked until after his acute exacerbation, when he began sleeping outdoors as well as remaining out all day. If a patient is fortunate enough to have a large room with a southern exposure and containing one or two open fire-places in addition to large windows on three sides, which might be opened widely at night, he might derive approximately the benefit incident to tent life. But comparatively few people can command such a room, and it is the poor people and those in moderate circumstances, living in close, poorly ventilated rooms and apartments, who contribute most heavily to the tuberculous army that we aim to reach. These are the ones, too, who show so markedly the benefit by the great change to open-air sleeping.

There have been reports from widely separated sections of the United States where tent life has been on trial, and the general trend of opinion is decidedly in favor of it. Thus, Stone (*Philadelphia Medical Journal*, October 18, 1902) believes it much better than living in a house in town. He advises using for one patient a tent large enough to accommodate four men. Craig (*Journal of the American Medical Association*, October 4, 1902), as well as Stone, dwells on the climatic conditions which exist in the region of Phoenix, Ariz.; namely, a maximum amount of sunshine, a low degree of humidity, and an equable temperature as most favorable to a continuous outdoor life.

In Pennsylvania the Forestry Commission made

experiments on a State reservation to determine the efficacy of the out-door treatment, and have issued a circular letter in which it is stated that any reputable citizen of the State, who is seeking health, may establish himself on any of the State reservations so long as he violates no law. The Henry Phipps Institute, which is to be erected near Philadelphia, is to be so constructed that every bed can be moved out on a balcony and the patient kept in the open air day and night, if necessary. In the State Institution for Consumptives at Rutland, Mass., the beds are arranged with an extension so that the head of the patient may be projected at night. For this purpose a curtain is dropped from the lower sash of the window about the neck of the patient, ensuring warmth for the body, while with a cap on his head the patient takes the "cure" during his sleep. In case of rain he can raise the curtain, and, without leaving it, roll the bed into the room or ward. This latter method does not seem to be a wise one. It is similar to an arrangement in vogue some time ago whereby the patient was confined to his room, and directed to breathe the fresh air out doors through a tube inserted in the window pane. This foolish plan was soon discarded. It hardly seems any more reasonable to confine the patient's body in one temperature while his head is in another. Guthrie Rankin of London (*British Medical Journal*, January 18, 1902), suggests the possibilities of the open-air treatment in large hospitals, and advocates the establishment of open-air wards in connection with them. He points out that the open-air treatment has not only lowered the mortality, but has convinced him of its curative efficacy.

McGraham of South Carolina suggests placing the patient's bed on a balcony or roof in town, while in the country an arbor or tent is most practicable. He prefers the circular to the army tent, and thinks it better to place it on a platform two feet from the ground, and to do without carpets and draperies.

Tent life should be made as comfortable as possible. Draperies are not necessary, but rugs add greatly to the comfort and convenience of those in ill health, and their use can be made perfectly safe by exposing them to the sunlight for a few hours daily. Fortunately for the patients, the days of cold, cheerless rooms, without a suggestion of home, have passed. No longer is the already forlorn patient denied even the photographs of friends on the wall, nor is he obliged to dress balancing himself on one foot on a bedside rug about the size of a lady's handkerchief.

F. E. Waxham (*Journal of the American Medical Association*, November 29, 1902) points out that tent life should be under medical supervision; and that, in addition to the air, the patient should have food, rest, and comfort; that the strenuous life of a healthy camper should form no part of the invalid life. A. M. Holmes (*New York Medical Journal*, November 29, 1902) is convinced of the greater efficacy of continuous out-of-door life, and urges tent life the year round when the climate permits. C. L. Wheaton (*Indiana Medical Journal*, December, 1902) also testifies to the usefulness of tent life. The majority of trials of tent life have been made in the southwest, where there is the maximum amount of sunshine with the lowest degree of humidity and an equable climate conducive to continuous out-door life. New Mexico, Arizona, and Colorado are most frequently spoken of in this connection. One writer prefers New Mexico and Arizona for the cold months and the region about Denver for the summer season.

A tent sanatorium is soon to be established in Denver, Col., while at Liberty, N. Y., two tent colonies will be open during the summer months under the supervision of the writer and a local physician. One for the richer patients is located on the side of a mountain, which is the highest point between the Great Lakes and New York, and arranged in camps. These camps consist of a living tent that can be made any size desired with as many subdivisions as may be necessary. In the larger room of the tent is located a large stone chimney with an open fireplace to be used in damp weather. One of the smaller compartments is used as a bath and toilet, the sanitary plumbing of which is made perfectly feasible by a main drainage pipe into which all the waste pipes from the different camps lead, and which in turn empties into a meadow at the foot of the mountain. A shanty kitchen is also attached to each camp, and a telephone system connects with the town of Liberty, some two miles distant. These camps are rented by their owner, completely furnished. Being protected on the north by dense forests and flooded by sunshine from the other points of the compass makes the locality an ideal one for camp life. The patients derive all the benefits of a forest without the dampness and exclusion of sunshine.

The other camp is an extension of a boarding house, the proprietor of which rents individual tents for sleeping and living purposes, while all the boarders eat in the common mess-hall of the inn. These tents are intended for patients in moderate circumstances, who desire privacy and yet cannot afford to pay more than $10 per week.

The selection of the style of tent to be used must be governed by the condition and circumstances of the patient. The ideal arrangement would be to have for the summer a wall tent, the sides of which could be elevated day and night, and lowered only to protect the occupant from a driving rain. This forms scarcely more than a sheltering roof and is quite sufficient for the summer months. For the winter, in a cold region, something more substantial is needed, and the conical tent of Gardiner or the wall tent or tent-house of Holmes will answer. Both are constructed with the idea of obtaining the most perfect ventilation in all kinds of weather, it being possible, at the same time, to heat them to 60° or 65° when necessary. This method will ensure the maximum amount of out-door life at all seasons of the year. Tent life in winter, with the temperature hovering about zero or lower, may seem an extremity; and it probably is for advanced or anæmic cases, although even these are made more comfortable and their lives prolonged by such treatment if with it they can have careful nursing and a warm room convenient for toilet purposes. To my mind, lack of proper facilities for toilet and bathing purposes is the only drawback to this treatment for nearly all cases of pulmonary tuberculosis, no matter how far advanced the disease. But the point I wish to emphasize is this, the lives of many persons in the incipient or moderately advanced stages of the disease can be saved by a continuous open-air life the year round. It is true, as has been stated, that such a life is more desirable in a climate like that of Arizona, New Mexico, Colorado, or Southern California, but there are many who must remain at home and, perhaps, even work while receiving treatment. To those who still retain a fair degree of strength, good appetite and digestion, and are possessed of courage and a dauntless determination to get well, the winter tent life, or a necessary home modification of it to fit the purse, is not only possible but desirable. How often do we see the pamphlets of summer hotels at the mountainous resorts frequented by consumptives, stating that those suffering from pulmonary tuberculosis will not be received? Nevertheless, it is not difficult to find them among

the boarders. There is a feeling against the consumptive, and he is not considered a desirable guest. How much better, then, for one to adopt the tent life and receive all of its benefits than to seek hotel hospitality under unfavorable conditions? The foremost of these conditions is the inability to secure a properly ventilated room with easily accessible porches or balconies, where one may remain throughout the day. The self-consciousness of the patient forces him to neglect much of a prescribed treatment rather than attract attention to his condition. The changing, restless life of a hotel is apt to have a depressing effect upon the patient, who is compelled to forego for long periods the pleasures enjoyed by those in health about him. Then, too, certain sanitary precautions cannot be so well observed by the patient. I have patients located in hotels and boarding-houses, as well as isolated in cottages, and I must say that I much prefer those situated as the latter, where the predominating influence of the physician is free from the disconcerting and even harmful suggestions and influences of acquaintances of a day or week. This may seem a small matter, but too frequently have I seen disastrous results follow such hotel life. We should, therefore advocate the erection of tents in connection with hotels in health resorts. This would obviate the refusal to receive consumptive guests by the hotel authorities, and also render it possible for the families of patients to reside near them.

Now, what can we do for the poor people of the cities, who cannot go to the country and hire tents, who can go to very little or no extra expense, and must continue working to maintain their families? For those without domestic responsibilities, who can give up work, there should be provision made by the City or State, and in connection with institutions for this purpose, open-air wards, or some modification by which the patient can obtain sleep out of doors at night, must not be forgotten. For the poor man whose family depends upon his meager earnings, the lot is a hard one. There is sore need of charitable work among the tuberculars of this class. Even while they are often compelled to work under unfavorable conditions, much can be done for them. They can be instructed in hygienic matters, they can be taught the value of fresh air, the other members of the family can be better protected and the earning capacity of the afflicted prolonged. No matter in what climate these sick poor people are found, they need fresh air, and if it cannot be obtained during the day, it should be obtained at night. It occurred to me, even as it did to Millet, that these patients should sleep outdoors at night. In the crowded tenement districts of New York City the roofs of the buildings should be utilized as far as possible. Tents or awnings could be erected, and the patients sleep out not only during the hot summer nights, but far into the cold weather. It is often difficult to persuade the ignorant class that this is a proper proceeding. Indeed, I have sometimes heard professional men object to it, but once the habit is formed and the patient made cognizant of its value by his rapid improvement, it would be easy enough for him to continue it indefinitely and in very cold weather. Example exerts considerable influence among the ignorant classes, and when beneficial results are made apparent to them they are willing to make efforts that will benefit themselves. They may not be able to perceive the benefit of vaccination as a prophylactic of smallpox, but they cannot fail to observe and credit the desirability of the open-air life when they have the example of a sick friend or relative made strong and capable of work by such a course of treatment.

This is a subject worthy of the attention of our wealthy philanthropists, as well as the interests of the members of this society in bringing about a better condition of affairs. If the reporting of pulmonary tuberculosis were compulsory, and it were part of the duty of the sanitary inspectors to see that the sufferers observed certain sanitary measures and were provided with the necessary attention of a physician, who would push the open-air treatment, I believe that it would go a long way toward stamping out the disease. It is a sorrowful fact that New York City to-day is without adequate facilities for the care of the tuberculous poor. Nor, will the building of special hospitals for them be sufficient. Too frequently shall we find it necessary to carry our treatment right into their homes if we are to accomplish our aim.

Finally, a great value of open-air treatment is its cheapness combined with its demonstrated efficacy. It can be arranged for all classes in nearly all climates, with more or less comfort and enjoyment, to the patient, according to his financial standing.

The most desirable site for a camp is not in a forest, but on the edge of woodlands where one can have the full benefit of sunshine and free circulation of air, at the same time being within reach of shade on the hot days or protected from the winds that come with the colder weather. During the summer family relations and home life need not be interfered with in following the open-air treatment, and not only will the patient be greatly benefited, but the entire family will thus be healthier and made less susceptible to the attacks of microorganisms.

25 East Forty-fifth Street.

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**Whitlow and Cellulitis.**—Stephen Paget says that it is almost impossible in a bad case of whitlow to do without an anæsthetic—a general anæsthetic whenever possible. Incisions should be thorough; it is better to cut a finger almost to ribbons than to let the tendons slough in their sheath, and so infect the whole hand. Some of the cases of whitlow will come to amputation sooner or later. The head of the metacarpal bone should, however, be left. No harm comes of leaving the cut ends of the flexor tendons to look after themselves. As to pus in the palm of the hand, we need not be afraid of hemorrhage when we incise the palm. So, also, with cellulitis; the author has never seen any difficulty or danger from primary hemorrhage in any incision made for the relief of cellulitis, and can recall only one case of secondary hemorrhage. In hospital practice nine cases out of ten of cellulitis require incision—when the inflammation is marked, with severe constitutional disturbance it is a waste of time to wait. In bad cases incisions should be about three inches long and three inches apart, and ought to go their whole length down to the deep fascia. Gauze should be lightly laid in the wounds, the limb be wrapped in gauze for a few hours only, and then fomented with hot boracic lint. It then needs rest, and not perpetual bathing and plugging and moving about. The author firmly believes in the administration of quinine in five-grain doses four times a day, and also in the use of antistreptococcic serum, provided that the infection has been proved to be the work of streptococcus and not staphylococcus.—*Clinical Journal.*

**General Massage with the Inunction of Cod-liver Oil.**—E. J. Kempf reports a case of complete recovery from acute tuberculosis by means of general massage with the inunction of cod-liver oil. The second case was that of a girl suffering from spontaneous dislocation of both knees, who was pale, emaciated, weak and loose-jointed. She had a slight hacking cough and there was an exaggerated respiratory murmur over both lungs. There was the history of pulmonary tuberculosis in the family. After six months of systematic treatment by massage

with cod-liver and olive oil, the patient made a perfect recovery. In a third case of a girl suffering from hystero-epileptic attacks following several bites from a dog, recovery ensued after massage with cod-liver oil.—*Medical Standard.*

**Kryoscopy of the Urine and Ascitic Fluid in Diseases of the Liver.**—Ferraninni seeks to extend the applicability of this method of investigation by employing it in diseases of the liver unaccompanied by noteworthy kidney changes. The intimate relationship existing between hepatic and renal activity would lead one to expect radical changes in the molecular concentration of the urine, independently of any actual lesion of the kidney. The results of his observations confirm this theoretical conclusion, and show that in atrophic, venous cirrhosis $\Delta$ remains within the normal range, but with a tendency to the upper limits; insufficiency of the function of the glomeruli and renal epithelium obtains. In hepatic and splenic enlargement accompanying malaria $\Delta$ reaches and exceeds the upper limits, slight insufficiency of the glomeruli is found. In a case of probable biliary hypertrophic cirrhosis $\Delta$ was always large and hyperactivity of the renal epithelia could be determined. One case of syphilis of the liver gave similar results, while in another with cyst of the pancreas and obstructive jaundice $\Delta$ was very low and the function of both glomeruli and epithelium was markedly modified. A case of simple congestive jaundice and one of carcinoma, both showed a normal value for $\Delta$ and slight glomerular and epithelial insufficiency. In a case of sarcoma $\Delta$ was within the normal limits with slight insufficiency of the glomeruli and more marked insufficiency of the epithelium. The kryoscopic index of ascitic fluid in atrophic cirrhosis was found to be between $-0.55^{\circ}$ and $-0.75^{\circ}$.—*Centralblatt für innere Medicin.*

**Iodoform Filling for Bones.**—Mosetig-Moorhof describes a method he finds useful in securing prompt closure of large defects following extensive operations for chronic bone diseases. The underlying principle consists in filling the cavities made in the bone with a mass which temporarily replaces the loss of substance and is then gradually absorbed as the new bone is formed. The technique is somewhat troublesome, but when carefully carried out is said to produce very satisfactory results in a class of cases that, under the ordinary treatment, are exceedingly tedious. The prime requisite is that a perfectly aseptic cavity is made at the operation, and this is to be accomplished only through the most scrupulous removal with chisel and gauge of every particle of diseased bone, as all attempts at chemical disinfection and even with boiling oil are inadequate. The operation should therefore be conducted under hæmostasis with the elastic tourniquet with the greatest thoroughness, and then rendered absolutely dry by sponging and the application of filtered dry cold, or, preferably, heated air. This is an essential step, and requires the same care as is needed in filling the cavity of a tooth. When the entire bony surface is clean, white, and shining the filling is slowly poured in, in such a manner as to exclude all air bubbles. The composition of the mass is as follows: Iodoform, 60 parts; spermaceti, and oil of sesame, each 40 parts. The constituents are placed in a sterile flask and slowly heated in a water bath to 80° C. This temperature is maintained for fifteen minutes, and then the mass is allowed to solidify under constant shaking in order to keep the iodoform emulsified. When cold this forms a solid mass which, before use, is liquified by heating to 60° C. The bony cavity is filled to the brim with this, and after a delay of several minutes, to permit congelation, the soft parts are sutured, leaving one or two small openings for drainage. A sterile dressing is applied, without great pressure, and only then is the tourniquet loosened. The filled cavity does not bleed nor discharge, and *x*-ray pictures taken at intervals bear witness to the gradual absorption and replacement of the iodoform mass. This, of course, is very slow, but is complete, and in one hundred and twenty cases treated in this way no local reaction or disturbance of healing was observed.—*Centralblatt für Chirurgie.*

**Researches on the Etiology of Sleeping Sickness.**—Aldo Castellani says that, as a result of his investigations, he can state that: (1) In 70 per cent. of cases of sleeping sickness, he has found in the cerebrospinal fluid taken by lumbar puncture during life, a trypanosome which may possibly represent a new species. This trypanosome may be found also in the blood of the patients. In both blood and cerebrospinal fluid he has found special bodies which he is inclined to consider developmental stages of the trypanosome. (2) At the post-mortem examination of 8 per cent. of the cases, he has cultivated from the blood of the heart, and the liquid of the lateral ventricles, a variety of streptococcus which frequently shows cultural characters different from the typical streptococcus pyogenes. The question arises, what part have the two organisms in the etiology of the disease. From the whole of his researches, the author is inclined to think that sleeping sickness is due to the trypanosome described. At the same time, in the last stages there is frequently a concomitant streptococcic infection which must play a certain part in the course of the disease.—*The Journal of Tropical Medicine.*

**Exogenous Perforative Ulceration of the Intestines.**—J. G. Adami reports two cases in which the intestines were perforated by ulceration from without inward. The first was a case of appendicitis, with localized abscess formation, the second a primary tuberculosis of the peritoneum of chronic development with a terminal streptococcic infection. In both there was the existence of ulcers associated with the perforated intestine and showing an incomplete destruction of mucosa, so that a portion of this had been left bridging over the loss of substance beneath. The condition of the mucosa itself indicated that the inflammatory process had not been on the mucous surface; had it been so, the whole of the mucosa would surely have been destroyed before the ulceration extended through to the serous surface. From a study of hospital records, the author believes that these cases are more frequent than is generally supposed.—*The Montreal Medical Journal.*

**A Case of Colon Infection Simulating Typhoid Fever.**—Joseph Evans and Joseph Sailer report a case which, though incompletely studied, still indicates that it is not impossible that some obscure cases of continued fever in which the blood does not react either to the typhoid or paracolon bacilli, may be actually due to general colon infection. The numerous tests that were made in this case tend to prove that although typhoid sera will sometimes agglutinate the bacillus coli communis, yet not in as high dilutions as the bacillus typhosus; also, that this case was not one of simple continuous fever, but was really a colon infection; again, that it was not a case of typhoid infection with delayed Widal reaction. The case appears to be one of pure colon infection with the colon bacilius similar to that used in making the tests—the bacillus that was isolated at the Pasteur Institute in Paris. Unfortunately a blood culture could not be made, and it cannot be known positively whether a similar microorganism was present in the blood of the patient or not. Certain sources of error must therefore be considered theoretically possible. The present culture, however, was recognized as colon at the Pasteur Institute. It ferments all sugars; it gives a strong indol reaction, and therefore is identical with the colon bacillus according to all the usual differential tests. It is, however, actively motile. The blood of the patient did not give any reaction with proved cultures of the typhoid bacillus, nor with four varieties of the paracolon bacillus. Hence, the infection was presumably not typical of any of these forms. The most reasonble hypothesis with regard to this case is that it was one of infection with the colon bacillus, and resembled in its clinical course an infection with the typhoid bacillus. Examination of the literature has not so far discovered another case of this nature.—*University of Pennsylvania Medical Bulletin.*

MEDICAL RECORD:

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## GLYCOSURIA AND DIABETES.

A DEBATE on diabetic and non-diabetic glycosuria was held at a recent meeting of the Chelsea Clinical Society. The discussion was opened by Dr. W. Hale White, who began his paper by defining diabetes proper, termed by Dr. Pavy composite diabetes, as a disease in which dextrose is present in the blood and urine; and in which, if the disease be untreated, ultimately lavo-rotary B. hydro-oxybutyric acid appears in the blood and urine, and the output of carbohydrates in the urine is greater than can be accounted for by those in the food. The gist of the author's further remarks was as follows: Although in the early stages excess of sugar in the urine and blood is very largely due to the failure of the body to utilize the sugar, in many cases the power to utilize sugar is not entirely lost, and sometimes in a severe case of diabetes there may be sugar in the blood and urine even if carbohydrates are entirely absent from the food. According to Hesse, such sugar must come either from proteids or fat, and the prevailing opinion is that it comes from the proteids, for, in the first place, diabetics do very well on fat, and in the next place, only a little sugar could be produced even from a large amount of fat.

Dr. White thinks that the next point of interest is not nearly sufficiently grasped—namely, that many diabetics can utilize levulose much better than dextrose. This ability to utilize levulose suggests that experiments might be made to see whether diabetics can utilize other sugars. The extraordinary fact pointed out by Dr. Pavy many years ago that a diabetic patient who is on a strictly carbohydrate free diet, may, if a little carbohydrate be given, excrete far more sugar than that given, is worthy of close attention. Again an explanation is required of the strange disappearance of sugar when coma comes on. In a debate on diabetes much attention must be given to coma. At the present time the prevailing view is that the coma is in some way dependent on the lavo-rotary hydro-oxybutyric acid which is found in the blood of a patient in diabetic coma. From various experiments and investigations made, and especially by Dr. Spriggs, it appears that in diabetes there is a poison which has two effects—namely, the production of coma and the lessening of carbon-dioxide in the tissues, and the view that this poison is in some way closely allied to oxybutyric acid coma is strongly supported by the fact that sometimes coma is benefited by giving alkalies.

With regard to the morbid anatomy of composite diabetes, Dr. White says the points on which information is needed are these: (1) Is alteration in the islands of Langerhans the essential feature of the pancreatic disease which causes diabetes? (2) Can we tell during life which cases have and which have not pancreatic disease? and (3) What is the relationship of the internal pancreatic secretion to diabetes?

The last point which the author puts forward is whether we are not under the word "diabetes" really describing more than one disease, for example, are some cases due to diseases of the pancreas and some not? Are those that have so-called fatty blood different from those that have not? Are those in which glycogen is present in the liver different from those in which it is absent?

In the discussion which followed the reading of Dr. White's paper Dr. Pavy reserved his remarks to a consideration of the distinctive features of diabetic glycosuria and non-diabetic and Dr. Saundby defined these conditions thus: Diabetic glycosuria is a glycosuria in which assimilation failed and non-diabetic glycosuria was that in which assimilation was not at fault.

Dr. J. Rose Bradford said glycosuria might not only be of mixed origin when it was of non-diabetic origin, but even when due to diabetes it was probable that many distinct and separate forms would be recognized in the future. It was worthy of notice that although the presence of glycosuria was so intimately associated with diabetes, yet that disease might exist and be fatal where no sugar was present. From a consideration of the disease itself, and especially from the results of physiological inquiry, it would seem that some five varieties of diabetic glycosuria might perhaps be described, although in the present state of their knowledge it was not possible to separate all of them clinically. Firstly, there was evidence in favor of the existence of glycosuria as a result of disturbed function of the absorptive and other mechanisms of the alimentary canal, so that a definite alimentary variety of glycosuria, characterized mainly by the intimate relationship of the glycosuria with the carbohydrates ingested, might be recognized. Secondly, most authorities would admit that glycosuria might have a hepatic origin, dependent perhaps on the liver not arresting the glycogen brought to it, and possibly in other instances dependent on the liver, forming too much sugar. Thirdly, a pancreatic diabetes might be admitted to exist, both from the experimental standpoint and from that of human morbid anatomy. Fourthly, it was probable that a renal glycosuria existed, especially in the light of experimental results obtained with phloridzin, as it would seem that this glucoside caused glycosuria by an action on the renal cells. That opened up the whole question of the relationship of morbid processes in the kidney to diabetes and might place in a new light the well-known fact that in certain cases of diabetes the kidney was greatly hypertrophied. This, in the author's opinion, could not be associated simply with the increase of urine excreted, as renal hypertrophy was by no means an invariable accompaniment of diabetes. Further, the fact that glycosuria might disappear in a case of diabetes when

an acute renal complication, such as Bright's disease, supervened might also receive a new explanation in the light of these phloridzin results. Fifthly, it had been suggested, and should at any rate be admitted as possible, that a diabetic glycosuria might arise as a result of a primary disintegration of the tissues. In this enumeration—concluded Dr. Bradford—of the possible varieties of diabetes the nervous system had been omitted, as although the fact that the nervous system played a part in the production of the disease, must be admitted. On clinical grounds, there was only evidence from the experimental standpoint that lesions of the nervous system produced glycosuria rather than diabetes.

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## THE NEWER CONCEPTIONS OF "MATTER."

It is now some years since Crookes reported on his investigations upon "radiant matter," and since then we have had added a number of phenomena, more or less similar, under the names of Becquerel rays (which were observed to be radiated by uranium), the Röntgen rays, and, last of all, those given off from the newly-discovered metal, radium, and its congeners (polonium, thorium, actinium). The story of the development of this branch of physics-chemistry is in itself one of surpassing interest, but it bids fair to be eclipsed in importance and interest by the new light which has been thrown upon the almost "ultimate" problem of the constitution of matter. By "matter" we mean *substance* in the *atomic* condition. "Substance" is a broader term, and will serve to denote, in addition to "matter," at least one other thing, the ether. As Professor Lodge puts it: "Matter is that which is susceptible of motion. Ether is that which is susceptible of stress. All energy appertains either to matter or to ether, and is continually passing from one to the other." We cannot, of course, go into these fascinating questions *in extenso*, but we think we will do our readers a service if we lay before them some of the results which seem fairly assured, from the work along these lines during the past few years. We are moved to do so by a cablegram in *The Sun* of the 21st instant. From this it would seem that Professors Crookes, Lodge, and Curie (the discoverer of radium) feel it now safe to commit themselves to a definite pronouncement to the effect that what we have hitherto called "atoms" are in reality compounds of almost infinitely smaller parts, or "corpuscles." They further consider that these corpuscles, from whatever kind of atom derived, are all alike. The apparent properties of each "atom," then, would be due to the number and arrangement of the component corpuscles. The internal composition or structure of the atoms, may be regarded as analogous to that of a solar system, the numerous corpuscles revolving within orbits in accordance with laws which prescribe more or less closely their intra-atomic paths. Under some circumstances it is now known that at least some of these corpuscles can leave the atom, and without destroying it. It further seems probable that under certain other circumstances the process may involve destruction of the atom—perhaps its resolution back into the unorganized ether from which it would seem that the atoms originally came. At least we know this much, that under the conditions of evolution of the "*x*- (or Röntgen) rays," the atoms are broken up into two parts—a very large part which is immobile and is positively electrified, and a very minute part which is negatively electrified and which by its rapid flight produces the phenomena of the "*x*-rays." These latter corpuscles, as Lodge has explained, cannot be atoms because, for two reasons, they move too fast and too far. By means which Lodge describes at length, it has been found possible to measure these negatively charged atom-fragments with the result that their mass is about 0.002 that of the atom of hydrogen; while, on the contrary, the magnitude of their electric charge represents that of the whole atom. These negatively charged particles do not differ *inter se* from whatever kind of atom they were derived; and accordingly they can fit themselves on to any kind of positively charged atom-residue with which they come into contact, whether that residue is of the same kind of atom as that from which they emanated or not. Further the evidence seems to indicate that all the other corpuscles which go to make up the positively charged atom-residue are of the same kind as the negatively charged one which we have been considering one, though no individual positively charged corpuscles have as yet been actually observed. Supposing these results to be, as they now seem, well founded, Mencdeleeff's Periodic Law would presumably find its explanation in an ability of the corpuscles to form (approximately) stable combinations in those proportionate multiples which constitute the atomic weights of the several "elementary" substances; the presumption being, as Professor Lodge points out, that other and intermediate proportions probably did not involve stability. Though we are now rather far in the region of hypothesis, still the phenomena exhibited by radium seem to indicate that under certain conditions corpuscles can fly off from the atom somewhat as meteors leave a solar system. At least this hypothesis seems to be the only one which would harmonize the observed facts with the law of the conservation of energy, for radium continuously gives off heat, and light (rays of the class of the "*x*-ray"—that is, rays penetrating substances ordinarily called "opaque"). Whether this energy is produced at the expense of the weight of the radium is, of course, the crucial question, and one which cannot be said to have been settled so far, Becquerel and Thomson affirming that the loss of weight is almost infinitesimal, while Heydweiller asserts that it amounts to 0.02 milligram per day. Whatever the fact may be as regards this question, it is certain that the amount of energy given off is enormous, a radium salt emitting sufficient heat to melt its own weight of ice every hour, and maintaining itself constantly at a temperature of 1.5° C. above that of the surrounding medium. And Professor Curie said that he would not care to stay in a room with a kilogram of radium as it would burn all the skin off, destroy the eyesight, and probably kill. Thanks to the researches of Rutherford, the Curies, Becquerel, and others, we now know that radium emits three distinct classes of rays, designated in the order of their penetrating power, *a*, *b*, and *c*. The first class forms the largest and most important section of the rays, and there are reasons

for believing that perhaps these may represent corpuscles *positively* electrified, as the "*x*-ray," represent corpuscles negatively electrified. That the phenomena of all these radiations are, at the least, similar to electrical manifestations, is shown by the deflection of these rays from the straight line by a magnet. But into the question of the nature of electricity and its relation to "matter," we cannot go. Suffice it to say that it seems at present to be as close as was formerly that of husband and wife, in the days when they were "one."

## CAUSES OF CANCER

In the May issue of the *London Polyclinic*, of which Mr. Jonathan Hutchinson is editor, is an article on the causes of cancer. The question is discussed from the point of view of a study of the disease as it is met with among the native population of India, which would seem—declares the writer—to give emphatic support to old opinions, foremost among these being the doctrines of origin in the individual from local irritation, and of perpetuation in the community by the transmission of inherited tendency.

In India there are, in comparison with Europe, but few new growths of malignant origin, and this is especially so in the case of those of the epithelial or carcinomatous variety as contrasted with the sarcomatous forms. The trend of the argument of the article in the *Polyclinic*, is as follows: Phymosis has long been recognized as a condition which powerfully predisposes to epithelioma of the penis, and it has been often urged by the advocates of circumcision that this rite tends to prevent cancer. Jews are pointed to as striking examples of the accuracy of the statement, it being extremely rare for an individual of this race to suffer from epithelioma of the penis. In India, too, this teaching receives confirmation on a large scale. There is an immense Musulman population, all of whom are circumcised, while the penis is rarely affected with the above form of the disease. The Hindoos, however, who have long foreskins, and are careless as to personal cleanliness, suffer frequently. Among the inhabitants of India the next most common part of the body to be attacked by cancer is that of the inside of the mouth. The tongue, the mucous membrane of the cheeks and of the floor of the mouth are affected in a fair number of cases, but cancer of the lips is seldom met with. These facts are easily explained. Smoking is not a frequent custom, and the short clay pipe is never used by the native of India. Although smoking is seldom indulged in, chewing is a universal habit. The substance, too, which is chewed—the betel leaf admixed with lime and other ingredients—causes a constant irritation of the mouth.

In certain parts of India, there is another kind of epithelial cancer to which the inhabitants are prone. The disease in such cases attacks the abdomen, and can be plainly traced to local irritation. Dr. Elmslie who first drew attention to its prevalence, attributed the disease and its uncommon location to the local habit of carrying what is called a kangri—a portable earthen brazier—under the clothes. This article is protected by wickerwork, but is often placed close to the skin under a loose woolen gown. In the erect posture it hangs on the abdomen, but when sitting it is placed between the thighs. Other medical men practising in those parts where the kangri is worn have fully confirmed Dr. Elsmlie's observations.

The writer then sums up in these words: "When it is realized that the three groups of cancer cases which have been mentioned—of the penis in the uncircumcised, of the mouth in the betel chewers, and of the skin of the abdomen in the kangri wearers—constitute the great bulk of the cancers met with in India, the importance of local irritation as a cause of the cancerous process stands out very definitely. We do not wish to be premature, nor in any sense to throw cold water on the zealous efforts of those who are seeking for the cause of cancer in the laboratory, but it is difficult to avoid a strong *primâ facie* impression that such facts do not favor the theory of parasitic origin. On the other hand they appear to point with steady finger to the means of prevention, and in the early stages to those of cure. How can a process which may result from the irritation of retained smegma, or the heat of a pocket brazier be supposed to be due to parasitic contagion? Let the microscope show what it may, how can cancer ever be remediable by any other means than by avoidance of its exciting causes and prompt removal of the result at the earliest possible opportunity"

## SOIL NITRIFICATION AS A PREVENTIVE OF MALARIA.

In the *Lancet* for June 6, Dr. Arthur Waddel writes on the effectiveness of ammonia as a means of destroying the larva of mosquitos. In the course of experiments that he carried out last summer, he found that attenuated solutions of ammonia had a deadly effect upon mosquito larvæ. From this fact he draws the conclusion that here we have a force of enormous potentiality in the crusade against malaria, and one, moreover, which is capable of practical application. This force consists in the effective nitrification of the surface waters and vegetation through the medium of the soil, the former checking the existence of the larva, and the latter being inimical to the adult mosquitos. The writer explains that nitrification of the soil may be brought about in two ways: First, by the direct application of nitrogenous manures, and, secondly, by fostering the growth of certain plants belonging to the leguminosæ, which are known by their peculiar root action to add to the nitrogen in the soil. The growth of these plants may be encouraged and stimulated by the use of phosphatic manures and also by inoculating the ground and the seed to be sown on it with cultures of those earth bacteria, which are sold commercially under the name of "nitrogen." The bacterial organisms themselves are, however, the real nitrifiers, the leguminosæ being dependent upon their presence at the roots for healthy growth. These organisms abound in all good cultivated soils in which there is a sufficiency of phosphates, potash, and lime, the last especially being of vital necessity to them, and they are most active at a temperature of about 99°F., cold and absence of moisture inhibiting them. Good cultivation assists them. Dr. Waddell points to Great Britain as a most striking example of the beneficial effects of nitrification of the soil in extirpating malaria. Although, of course, he allows that improved drainage has had much to do with

bringing about this state of affairs, yet he contends that other factors have helped toward this consummation, and amongst these the nitrogenization of the soil by the widened use of phosphatic manures, the extended growth of clovers and the enormously increased use of nitrogenous manures have played an important part. Dr. Waddell, therefore, suggests that no time should be lost in making practical tests to establish the most effective way of employing soil nitrification against the distribution of malaria. He thinks that the irrigation areas of India and parts of the Roman Campagna would be suitable districts in which to undertake experiments of such a nature. An area of the cultivable portion might be taken in hand, one part of which might be nitrogenized directly, and another part dressed with phosphatic manures and heavily planted with leguminosæ. Ammonia is well known to have a strong inhibitory effect upon low forms of animal life, the nematode worms, for instance, which live parasitically in the alimentary tracts of horses, cattle and sheep, and which in the two last-named animals set up a wasting disease characterized by scouring diarrhœa. These ammonia destroys with great celerity. That ammonia is equally effective in destroying mosquito larvæ, there would seem to be no reason to doubt. Consequently the suggestion of Dr. Waddell that nitrification of the soil will prevent the existence of mosquitos and therefore of malaria is one based upon sound reasoning.

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### Education and Birth Rate.

It has been asserted often, and especially during the past few months, that a decrease in birth rate goes hand in hand with an increase of education. At first sight this view of the question does not seem to be an unreasonable one, judging from the experience of the past. Rome and Greece were, perhaps, never more highly educated and cultured than when in their decadence and when the birth rate of their native-born inhabitants was at its lowest. In modern times France is the most cultured, if not the most highly educated and learned of nations, and in that country the birth rate is the lowest of any land.

A distinction must doubtless, however, be drawn between culture and education, for that education does not necessarily imply a decreased birth rate is shown by the case of Germany, in which country mental training has been carried to the highest possible pitch, and where, too, the birth rate is large and increasing. Dr. George J. Engelmann has—so far as the United States is concerned—been investigating into the causes of the undoubted great falling off in the birth rate of native-born Americans, and writes on the subject in the *Popular Science Monthly*, for June,

He is not of the opinion that education is a potent cause of the small families of Americans of native stock, but rather takes the opposite view. Dr. Engelmann sums up the matter, from his point of view, as follows: "The data now available indicate that the highly educated male element does more toward reproducing itself than any other large group of our native population. The marriage rate is the same, and the number of surviving children to the family is greater than it is for the native population at large, so that we can no longer accuse the college graduate, or, if I may say, 'the highly educated male portion of our population,' of having an exceptionally small family, and of doing less than other groups toward reproducing the population; nor must we lay the blame for the low fecundity of the native American family on higher education. Shortening the term of college study will effect no change. Wealth, luxury, and social ambition are the cause of the diminishing size of the family and of race decline. The factors are the same as those which have been active in earlier civilizations; increasing wealth and the introduction of foreign manners are pointed out as causing, in ancient Rome, the lessening fertility among the better classes which preceded political disruption. Cause and effect were the same and even the methods employed to thwart the tendencies of nature were the same." In a few words Dr. Engelmann brings forward the charge that among Americans of all classes criminal measures are resorted to in order to prevent conception or to produce abortion, and that to these methods are due the diminishing birth rate of the native-born race. The writer, indeed, goes so far as to declare that the birth rate of the New England States is less even than that of France, but he absolves the educated class from being to blame for this condition of affairs.

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### Study of Snake Venom.

Drs. Simon Flexner and Hideyo Noguchi, during the past two years, have been studying, at the University of Pennsylvania, the venom of poisonous snakes. The investigations thus far have brought out facts of a valuable nature, and it is believed that antidotes for all kinds of venom in course of time may be discovered. The venom is extracted after the snakes have been chloroformed, and, in experiments with live animals, is injected hypodermically. The reason for this procedure is that on occasions the snake does not strike so as to inject venom sufficient to do any harm, while, at the same time, to an onlooker, the bite may appear to have been a terrible one, and may cause an antidote administered to be wrongfully regarded as effective. By injecting the venom hypodermically no mistake can be made, and a correct judgment can be formed as to the value of the antidote used.

The experiments generally have demonstrated the uselessness of the popular antidotes. Alcohol has been shown to be of great service—as a stimulant, however, and not as an antidote. That individuals who have been bitten by particularly venomous snakes are able to imbibe very large quantities of alcohol with beneficial results and without exhibiting signs of drunkenness,has been known almost from time immemorial. Experiments conducted upon snake-bitten animals, of dosing them with alcohol, have been attended with like results. The effect has been to keep up the action of the heart, whilst the excessive prostration produced by the presence of the venom in the system is continued. If this object can be accomplished sufficiently long for the effects of the poison to pass off the victim will recover.

The intermittent ligature was found to be the most valuable mode of treatment of snake-poisoning. This method, in conjunction with alcohol given each time the ligature is loosened, had an excellent effect in counteracting the prostrating influence of the venom entering at intervals in small quantities. Other experiments of an interesting and valuable character have been carried out by Drs. Flexner and Noguchi. The Carnegie Institute has recently granted $1,000 to aid in the investigation of snake poison at the University of Pennsylvania.

### Health of the British Army.

A blue-book has recently been issued containing the statistical report of the health of the British troops at home and abroad for 1901. It is stated that the average strength of European troops serving at home and abroad, exclusive of South Africa in that year, was 196,796. The total number of admissions to hospital was 172,908, and the total number of deaths 1,762. The admissions represent a ratio of 878.6 per 1,000 of strength; the deaths one of 7.70 per 1,000, or a strength of 228,816, which includes detached men not shown in the returns received. Amongst the troops serving in the United Kingdom the admission and constantly sick rates were higher and the mortality rate lower than in 1900. At Gibraltar the admission, death, and constantly sick rates were lower than in 1900. In the Malta command, which included Crete, the admission, mortality, and constantly sick rates were slightly higher than in the previous year. Malarial fevers furnished a higher admission rate than in the year preceding, the large increase in the number of cases being due to the prevalence of ague in Crete. The medical officers attribute the cause of the outbreak to the bite of infected mosquitos. In Canada the health of the troops was good, there being a decrease in the admission rate, but an increase in the mortality and constantly sick ratios as compared with 1900. Yellow fever caused five admissions and four deaths at St. Lucia, the disease having been probably imported into the colony by shipping from South America. In Western Africa malarial fevers, not so prevalent as in previous years, furnished, as usual, the majority of the admissions. As regards South Africa, no annual returns of sick have been submitted, and statistics for comparative purposes cannot, for the present, be prepared. In India there was a decrease in the admission, mortality, and constantly sick rates, but an increase in the invaliding ratio. As regards typhoid fever, it is noted that not since 1887 has there been a lower admission rate while the death rate is less than in any year since 1884. In Egypt the admission, death, and constantly sick ratios were higher than in 1900, open-air treatment for tuberculous diseases was introduced at the Station Hospital, Cairo.

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**"The Journal of Infectious Diseases,"** a new magazine to be established at the University of Chicago, has been endowed by Mr. and Mrs. Arnold F. McCormick, the parents of John D. Rockefeller's favorite grandson, whose death from scarlet fever three years ago inspired the establishment of the Rockefeller Institute for Medical Research. The magazine is to be distributed free of charge to libraries and to sanitary experts of various cities. Dr. Ludvig Hektoen, head of the department of pathology and bacteriology at the university, and Dr. Edwin O. Jordan, associate professor of bacteriology, are to be the editors. The first number will appear from the University of Chicago press on January 1.

**A Surgeon Operated upon by His Wife.**—A correspondent of the New York *Times* relates a remarkable story of wifely devotion. Dr. W. H. Logan, he says, formerly of Bethany, Ill., but for many years a medical missionary in China, was recently attacked by appendicitis. Realizing that recovery lay in an operation involving the removal of the appendix, he called his wife and imparted a diagnosis of his own case. Mrs. Logan, unassisted, but guided by the instructious given before her husband's relapse into unconsciousness under anæsthetics, performed the operation. Under skilful ministration of the wife-nurse, such favorable progress was made toward recovery in short time that Mrs. Logan determined to remove him where he could have the benefit of skilled surgeons.

## News of the Week.

**Registration of Births and Deaths in Illinois.**—Under the provisions of a law enacted by the last General Assembly of Illinois, which went into force on July 1, physicians and midwives in the State are required to report births to the county clerks, except in the cities of Chicago and Peoria, in which reports will be made to the Commissioner of Health. A fee of twenty-five cents will be paid for each birth reported, either to the county or city official. The State burial permit law of 1901 has been repealed, to take effect the first of July. Under the new law, physicians, midwives, and coroners are required to report deaths direct to the State Board of Health, except in cities which have burial permit ordinances. In these the local authorities are required to send monthly, to the State Board of Health, all certificates of death presented to them. A fee of twenty-five cents will be paid physicians and midwives for each report of death made to the State Board of Health. It is made the duty of the State Board of Health to forward all certificates of deaths to the county clerks for final record. It is believed that this law will be more satisfactory than that now in force. Under its provisions the State Board of Health will be promptly advised of the number and causes of deaths in each locality, and will be in a position to investigate immediately any undue prevalence of disease, and take the necessary action to protect the public health.

**The work of the Milk Commission of the Medical Society of the County of New York.**—The warm season is at hand when food is preserved with difficulty, and when deaths from summer diarrhœa in infancy become numerous. Since many of these deaths are due to unwholesome milk which is produced in dirty dairies, is never efficiently cooled and is very old when delivered to the consumer, such milk, on account of chemical changes and its myriads of bacteria, being unfit for infant feeding, the Milk Commission of the Medical Society of the County of New York has called attention to the inspection and certification of milk under its supervision, the general use of which should tend to diminish materially this great factor in our death rate. The inspected milk is produced at dairies which are inspected at regular intervals by the inspector of the commission. The stables are clean and are provided with facilities for cleaning the hands of the milkmen. The water supply, the milkers, the utensils, the cattle and the transportation are all subject to requirements necessary for producing a clean and safe milk. This inspected milk may be bought in bulk for institutions or in bottles for families at or about the same price as ordinary milk. Each bottle contains a cap marked "Inspected by the Milk Commission of the Medical Society of the County of New York." Certified milk is a still higher grade of milk produced under very stringent rules. Thus among other things it is required that the dairies producing this milk should sterilize all bottles and other utensils and seal and date every bottle of certified milk. Certified milk is sold at a somewhat higher price than inspected milk. The members of the Milk Commission are Drs. E. K. Dunham, chairman; Rowland G. Freeman, secretary; W. L. Carr, H. D. Chapin, A. Jacobi, A. Lambert, W. P. Northrup, W. H. Park, G. M. Swift, and J. E. Winters.

**A Kishineff Physician Punished.**—A despatch from a press correspondent at St. Petersburg states that Dr. Dorosbevsky, who was equally indefatigable in his attentions to the victims of the Kishineff massacre and in his fearless pub-

lication of the truth concerning the massacre, has been forced to resign his place in the Bessarabian Provincial Hospital at Kishineff. A Russian paper declares the reason for this to be that he published facts, figures, and names which certain persons wanted kept secret.

**Sir Frederick Treves to Retire.**—A despatch to *The Sun* says it is reported that Sir Frederick Treves of London, who performed the operation upon the King for intestinal trouble, will retire from practice at the end of July. He will retain the honorary post of surgeon to the King and adviser to the Army Medical Board. As he is only fifty years old and is full of energy, it is suggested that he closes his surgical career for the purpose of entering Parliament.

**A Victory for the Advocates of Sanitary Tenements.**—The Tenement-house Commission has won an important legal victory in its fight for healthy tenement-houses. Suit was brought against the owner of a tenement house who had violated Section 100 of the amended tenement-house law by maintaining the old-fashioned "school sinks" on the premises. The case was contested chiefly on the ground that the law requiring this removal was unconstitutional because unreasonable, in view of the expense involved, as well as because the school sinks, if properly taken care of, were sanitary. It was shown by the prosecution, however, that these school sinks are practically yard privies with a sewer connection, and they have proved to be dangerous sources of disease and are under the ban of most intelligent sanitary opinion. The expense of substituting waterclosets, either in the house or in the yard, was also shown to have been very grossly exaggerated, and it was asserted that many owners of tenement-houses had made the change voluntarily, finding that the value of their property as an investment was greatly increased thereby.

**The New Jersey State Medical Society** held its annual meeting at Asbury Park last week. Dr. Henry Mitchell of Asbury Park was elected President. The next annual meeting will be held in Atlantic City.

**A Versatile Physician.**—A physician in a Texas town probably holds the palm among his confrères for the number of irons he has in the fire and presumably strikes when they are hot. He is the proprietor of a hotel in his town, and also, according to the statement on his letter-heads, of a drug store, a livery stable, a blacksmith shop, a harness store, a buggy store, and a newspaper.

**The Beginning of a Great Sanitary Undertaking in New Orleans.**—On June 25 Mayor Capdevielle of New Orleans turned the first spadeful of earth in the work of constructing the vast system of sewerage, water and drainage, which is to cost $18,000,000. It is hoped that the undertaking will be completed within the next five years.

**A Nurses' Home on Blackwell's Island.**—Plans were filed a few days ago with the Manhattan Bureau of Buildings for a four-story brick nurses' home, to be built on Blackwell's Island at a point opposite Fifty-first street. The building, which is being erected by the city, will occupy a plot 107x 35.2 feet, and will cost $65,000.

**Smallpox at Bordentown.**—A number of cases of smallpox have been discovered at Bordentown, five miles from Trenton, N. J. Seventeen persons are down with the disease, and the principal hotel in the town, the public schools, the churches, and the telephone exchange have been closed.

**Enforcement of the Pure Food Law.**—The Treasury Department has sent a circular to the customs officials instructing them how to act, under the pure food law which went into effect July 1, in the matter of holding up imports which are suspected of being adulterated or injurious to human health. The customs authorities are required to draw samples from such goods and forward them to the Bureau of Chemistry in the Department of Agriculture for chemical analysis. The importer whose goods are challenged is to be given a notice of the fact, and is to have the right within two days to be heard in defence of the quality of the articles imported. When the chemist has made his report, the goods, if found to be adulterated, can be exported or destroyed according to the decision of the consignee.

**The Annual Tetanus Outbreak** may be looked for in the next few days or weeks as a result of our Chinese fashion of celebrating Independence Day. As prevention is better, and more easy of attainment, than cure, all wounds made by explosives, especially if in the hands, should be freely opened and washed out with large quantities of sterilized salt-solution, and as a further precaution an injection of tetanus antitoxin should be given. This is urgently recommended by the New York State Board of Health in a recently issued bulletin. According to the rules published by the Jenner Institute of Preventive Medicine in London, 10 c.c. of tetanus antitoxin should be injected every fortnight for six weeks. The dose for curative treatment is much larger, according to this authority, as much as 10 to 20 c.c. being injected every six to twelve hours, according to the urgency of the symptoms and the duration of the incubation period. As a rule, the shorter the incubation period is, the more severe is the disease and the larger and more frequently repeated should be the dose.

**Knock-out Drops Administered to a Health Officer.**—An assistant surgeon in the Marine Hospital Service, acting as quarantine officer at San Juan, P. R., and his wife were drugged with chloral put in lemonade and robbed at the Hotel Inglaterra in that city one night last week. While they were under the influence of the drug all their money and jewelry were taken from a bureau in the room. A porter who took the lemonade to the victims has been arrested on suspicion.

**Indiana Grave Robbers Freed.**—Six negroes and two white men, who have been in jail in Indianapolis since November last on charges of grave robbing, were released last Saturday through the failure of the State to secure evidence upon which to convict them. The man on whose evidence they were indicted has been sent to prison and now refuses to testify further in the case. When releasing the prisoners the State prosecutor said he would not try the physicians who are under indictment for receiving stolen bodies, as it would be impossible to convict them without evidence, though more than thirty bodies, he said, were proved to have been stolen and delivered to the medical colleges.

**Health Board Sales of Antitoxin.**—In a letter to the Mayor, Health Commissioner Lederle of this city has recommended stopping the sale of diphtheria antitoxin to persons outside the city. He says that the sale of antitoxin by the city is no longer justifiable, as the antitoxin made by private parties is now of as high grade as that produced by the department. He points out that of the $75,000 worth of antitoxin made annually by the city the greater part has been distributed gratuitously, but says that stopping the sale to persons outside the city will decrease the receipts of the department by about $12,000. To meet this loss he suggests an increase in the appropriation.

**A New St. Elizabeth's Hospital.**—Plans have been filed with the Building Bureau for a new five-story and basement hospital to be built on the north side of Fifty-first street just west of Ninth avenue. The building is to be erected for a new St. Elizabeth's Hospital under the charge of the Sisters of the Third Order of St. Francis. The new hospital is to be known as the "Sisters' Hospital." It will have a fifty-five foot front, with a facade of brick, limestone, and terra cotta, and will cost $70,000.

**Dr. Weir Mitchell on Athletics.**—In a letter written by request to the senior class of the University of Pennsylvania, Dr. S. Weir Mitchell says: "You have lost out of college life that which it were better to have kept. We played hard in my college days, but we talked of our sports less than you do. You, I fear, care too little for your intellectual athletes. Athletic sports are meant, as I see them, to insure that the body shall be made and kept sound."

**The Health of Cuba.**—Señor Quesada, the Cuban Minister at Washington, in reply to a query regarding recently published reports of an outbreak of fever at Puerto Principe and other interior points, has received from the Cuban Secretary of State an emphatic denial of the reports which, he says, are without foundation. The sanitary conditions, he added, left nothing to be desired.

**Dismissal of a Health Officer.**—At a recent meeting of the Rochester, N. Y., Common Council, the recommendation of the public safety committee, which had been investigating the recent smallpox epidemic in that city, that the Health Officer be dismissed was adopted by the council. It was declared that the discharged official had been inefficient during the epidemic.

**A Woman Ambulance Surgeon.**—Dr. Emily Dunning, a member for the past six months of the house staff at Gouverneur Hospital, began on July 1 her term of service on ambulance calls. The work will no doubt be trying, but the plucky young lady has performed her duties as junior surgeon so satisfactorily that there is little question as to the successful outcome of her ambulance service.

**Obituary Notes.**—Dr. JOHN W. F. MOORE of Butler, Pa., died June 14 from injuries received by walking into an unguarded areaway. Dr. Moore was born in Armstrong County, Pennsylvania, thirty-five years ago. He received his education at Indiana State Normal School, and was graduated from Jefferson Medical College in 1894, locating soon after at Butler. He was ex-president of the Butler County Medical Society, member of the Pennsylvania Medical Society and the American Medical Association. He was surgeon to the Butler Hospital, and surgeon for the Bessemer and Lake Erie Railroads. Dr. Moore was a man of unusual talents, whose uniform courtesy, gentleness, and sympathy endeared him to everyone with whom he came in contact.

Dr. NELSON H. HENDERSON of Chicago died of septicæmia on June 24. On May 13 he operated upon a woman suffering from pyæmia, opening an abscess in the arm. He wore rubber gloves, but they were defective and some of the pus entered and came in contact with an abraded surface where there had been a hangnail. Dr. Henderson was a graduate of the College of Physicians and Surgeons, Chicago, and was surgeon to the Lakeside Hospital.

Dr. NATHANIEL P. WASHBURN, formerly of Stamford, Conn., died on June 22 at San Antonio, Tex. He had been a sufferer for several years from tuberculosis and had visited a number of places in all parts of the country in the hope of relief by climatic treatment.

## Correspondence.

### OUR LONDON LETTER.

(From our Special Correspondent.)

ROYAL HELPERS FOR HOSPITALS AND MEDICAL CHARITIES—THE KING AND QUEEN AT ST. PAUL'S CATHEDRAL AND AT THE LONDON HOSPITAL—THE PRINCE OF WALES AT THE ROYAL MEDICAL BENEVOLENT COLLEGE—THE GREAT BALL AND OTHER FESTIVITIES.

LONDON, June 12, 1903.

THE whole week has been practically devoted to begging for hospitals and medical institutions. Of course many of us were begging in advance, but the week has been full of celebrations and entertainments on behalf of the same objects.

The Royal family—always so anxious to promote medical charities—has been to the fore, sparing no trouble, pleading earnestly for the sick and suffering, and testifying gratefully to the value of the generosity and self-denying work of the profession

The King and Queen, accompanied by Princess Victoria and preceded by other royal personages, attended divine service on Sunday afternoon at St. Paul's cathedral on behalf of the London hospitals. Next Sunday is the day fixed for the collection in other places of worship for the Hospital Sunday Fund, but their majesties were unable to go on that day, and the St. Paul's service was therefore held as stated. The offertory amounted to £4,300.

The announcement of the amount was made on Monday by the Lord Mayor in presiding at a meeting he had called at the Mansion House to promote the same object. The Archbishop of Canterbury, Sir Douglas Powell, Sir Frederic Treves, and Sir W. Church addressed this meeting. Sir F. Treves insisted on the increased need of support in consequence of the improved but costly methods of treatment, and pointed out that the hospitals repaid many times over whatever wealthy persons subscribed by the better medical services that scientific progress placed at their disposal. The Lord Mayor is working hard to make this year's collection a record.

On Monday afternoon the Princess of Wales opened a new nurses' home in connection with the British Lying-in Hospital, which was founded in 1749. The new home has cost about £7,000. The same afternoon the Duchess of Albany opened a new building at Kingston-on-Thames acquired for the extension of the Nursing Home, which was opened by His Royal Highness nine years ago.

On Monday night the King and Queen, accompanied by Princess Victoria, attended a special performance at His Majesty's Theater given in aid of Guy's Hospital. At the close Mr. Tree announced that the sum taken for seats amounted to £2,100 and the expenses would be *nil*. This sum will cover the expense of modernizing Luke ward and endowing a bed in perpetuity to be named after this theater and used exclusively for members of the theatrical profession. Guy's is still asking for £80,000.

On Tuesday night the great ball in aid of the London Hospital, organized by some of the most fashionable people, was held in the Albert Hall, which, I am told, was transformed for the occasion into "a palace of flowers." People who spend much of their time in such entertainments speak of this ball as the biggest and smartest thing of the season. It was not merely a social and artistic success, but it was also a financial success.

Wednesday was a great day for the Royal Medical Benevolent College. The Princess of Wales presided at the festival banquet which had been looked forward to with high hopes. Nearly 500 persons sat down to dinner and much enthusiasm prevailed, especially during the Prince's speeches, which were full of appreciation of the profession. In replying to the toast of the Royal family the Prince said he knew, from the Queen and other members of his family, that the medical profession could ever rely on hearty sympathy and ready support. As to the college, the Queen remembered with great pleasure her visit eight years ago. The Prince Consort opened the college fifty years ago, on which occasion he was accompanied by the King, who not many years ago occupied the chair at one of these festivals, and on that occasion he got the largest collection of those days, "but I hope," continued the Prince, "to-night we shall beat that."

In proposing success to the college the Prince said he could hardly imagine a more deserving object, for all owed a debt of gratitude to the doctor who is our confidential friend from the cradle to the grave. We consult him, confide in him, trust him though he may often have disagreeable truths to tell us. There are few who have not reason to be deeply grateful for his knowledge, tender care, and patient watchfulness. His Royal Highness went on to show that it was not only individuals who were indebted to their doctors but the community as a whole reaped untold benefits from the devotion of the

profession. The school supports fifty boys on the foundation, and there are fifty aged necessitous medical men or their widows who receive a pension of £30. This side of the work requires about £8,000 a year to keep up. But the school proper is conducted as our other public schools and is self-supporting. The Prince concluded with regret that the appeal for the benevolent side was not urged by some one more eloquent, and the assurance that no one could speak with more profound conviction of of the worthiness of the claim of the Royal Medical Benevolent College on the sympathy and genorosity of all.

Lord Roseberry, as president of the college, replied and challenged any orator to vie with the pathetic, eloquent, and true terms in which His Royal Highness had spoken of the medical profession.

At the close subscriptions and donations to the amount of £6,526 were announced, including 50 guineas from the King and 100 each from the Prince and Lord Roseberry.

Princess Christian opened a bazaar on Wednesday in aid of the Royal Free Hospital and has been in attendance daily. This afternoon Princess Henry of Battenberg will formally open it, and the two princesses will pass the rest of the day in it.

Yesterday Princess Henry attended the meeting of the Colonial Nursing Association, of which she is a patroness.

On Saturday Princess Christian presided at the annual meeting of the Royal British Nurses Association, at which there was a discussion on the question of a State Registration of trained nurses.

On Thursday afternoon the King and Queen went in semi-state to the London hospital to formally open the new buildings. I say formally as they have actually been in use for about three months. This ceremony has been looked forward to and reckoned on as most important from a financial point of view, as it enables the begging which goes on to be brought to a culminating point. The new out-patient waiting hall which the King was to open was fitted up and decorated, the platform erected for the Royal party being adorned with lovely flowers and palms. Over a thousand friends of the hospital were assembled in this hall where a few days ago as many out-patients were waiting their turn to be attended to in the different departments. Consulting, dressing, and examining rooms for medical and surgical cases are attached. On the first floor are situated the obstetric, dental, aural, and massage departments; on the second floor the ophthalmic, electric, and photographic departments. Of the £80,000 which has been expended, one anonymous donor gave £25,000 on condition that (*a*) letters of admission should be abolished and (*b*) patients who could afford to do so pay something toward the cost of remedies. These conditions have been carried out, though with regard to the letter there is much discontent, and without doubt competition with the poorest general practitioners is in itself not a thing to be encouraged. This may seem a subject to pass by silently in the midst of the triumph of the management, but it forces itself on the attention of thoughtful men, and not a few believe that the money lavished on out-patients is largely wasted and ought to be devoted to in-patients. As much is true of other hospitals, but it is especially the case with this.

The venerable Duke of Cambridge, who has been president of the hospital for over fifty years, was present to welcome their majesties, who expressed their pleasure to meet him there. Addresses were presented on behalf of the committee and the staff, and in his reply the King referred to the visit of Queen Victoria and her interest in the hospital as well as to the pleasure Queen Alexandra had had in introducing the Finsen light. Their majesties then went on a tour of inspection, visiting the ophthalmic, aural, *x*-rays, electric, and Finsen rooms. They saw patients treated by *x*-rays. A demonstration of the properties of radium was also given, in which they displayed much interest. Radiographs of their hands were also taken. In the ophthalmic room the King exhibited considerable interest in a case of tobacco blindness. The Queen formally opened the Finsen department, where every lamp was in full operation and Mr. Holland informed Her Majesty that, unknown to him, the patients had collected among themselves a sum of 60 guineas as a token of their gratitude for the cure of their lupus. The Queen thanked them and afterward distributed badges to a number of the nurses who served in South Africa during the war. At the conclusion of the several ceremonies the King and Queen left the hospital in a drenching rain—such as had poured down all the way on their journey thither. It was the wettest day for a long time, but in spite of it great crowds assembled, especially in the poorer streets, determined to see and cheer for their majesties as the procession passed by.

I have exhausted my space, but not the list of various functions on behalf of the hospitals and medical charities held this week—and the coming week opens with the collection in all churches and chapels for the hospital Sunday Fund.

## LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

THE PLAGUE—REPRESSIVE EFFORTS OF THE BOARD OF HEALTH—RAT CATCHERS—PROPHYLACTIC INOCULATIONS—THE OPIUM TRADE—ALCOHOLIC INDULGENCE—THE FAMILY CIGAR—BETEL-NUT CHEWING.

MANILA, May 15, 1903.

IN the absence of all but a few sporadic cases of cholera in Manila, and with the increase of plague during the past few months, the Board of Health is practically devoting all its energies to the suppression of the latter disease. So far their efforts at control seem to have met with considerable success in holding down the present outbreak. In the epidemic of 1900 there were 271 cases of plague in Manila, with 199 deaths; of which 186 cases and 137 deaths occurred among the Chinese, 82 cases and 61 deaths among the Filipinos, and 3 cases with 1 death among Americans. In 1901 there were 491 cases with 432 deaths, of which 297 cases with 269 deaths occurred among the Chinese, 190 cases with 159 deaths among the Filipinos, and 2 cases were diagnosed among the Spaniards, though autopsy showed its existence in 4 Spanish cases. In the outbreak of 1902 there was a total of but 10 cases and 9 deaths, of which 4 cases and 4 deaths occurred among the Chinese and 6 cases and 5 deaths among the Filipinos. It was thought that the infection had been stamped out by the end of 1902, but either this was not the case, or, what is more probable, the city was re-infected by importation from the endemic plague centers in China. In the outbreak of the present year, up to April 26, there have been 100 cases with 84 deaths, 3 recoveries, and 13 cases, all Chinese, remaining under treatment. Of these 100 cases, 64 cases and 54 deaths occurred among the Chinese, 35 cases with 30 deaths occurred among the Filipinos, and there was 1 fatal case in an American, who died April 24, from the pneumonic form of the disease. The course of the present outbreak is as follows: January, 2 cases with 2 deaths; February, 17 cases with 14 deaths; March, 42 cases with 34 deaths; April 1-25, 39 cases with 35 deaths. Excluding the 13 cases at present under treatment, there have occurred in Manila, during the past four years, 872 cases and 724 deaths, giving a general case mortality of 83.0 per cent. The case mortality for the four years among the Chinese was 82.2 per cent., among the Filipinos 84.1 per cent., and among the few American cases 50 per cent. The greater case mortality of plague among the dark-skinned races was also well shown in the plague epidemic in Australia in 1902, in which the death rate among the Chinese attacked was about 80 per cent., while it was only about 30 per cent. among the cases occurring among whites. This lack of vital resistance to the disease is very marked. In the outbreaks in Manila the Chinese have furnished a disproportionately large number of plague cases as compared with the size of the Chinese population. Adding together the Chinese plague cases for the past four years, and considering the number of Chinese to have averaged, during that period, about 60,000, the total number of plague cases have appeared among the Chinese at the rate of 9.18 per 1,000: while the number of cases occurring during the same time among the Filipino population of Manila, about 200,000, gives a total periodic incidence of the disease of 1.5 per 1,000. The size of the white population in Manila, during these four years, has been very variable, but can probably be placed at about 20,000. At present this number is lower, owing to the recent withdrawal of troops. Figuring on a basis of 20,000, the 8 cases which have occurred in whites give a total periodic average of 0.4 per 1,000. In proportion to their numbers, the Chinese have thus been affected six times as much as the Filipinos and about twenty-three times as much as the whites. This much greater prevalence of the disease among the Chinese may depend in part upon racial susceptibility, but more upon their insanitary habits of herding together in dark, damp, dirty, and unventilated old masonry buildings, in which rats thrive and the plague bacillus finds the conditions favorable to its existence. Further, the Chinese are not cleanly in their persons and the majority wear no protection for the feet, so that bacilli from an infected dirt floor can readily gain entrance to the system through a cut or abrasion of the lower extremities. Post-mortem examinations show that the infection occurs in this manner in the great majority of instances. The lower-class Filipinos also go barefooted; but they do not generally live in the solid masonry buildings preferred by the Chinese, but live in their houses of nipa and bamboo, raised well above the ground and open to light and air. Rats find few congenial lurking places in such houses, particularly when the house

has an iron roof instead of a nipa thatch, and the local conditions are not favorable for the continued existence of the plague bacillus. In many instances in which the disease attacks Filipinos, it is probable that the infection has taken place elsewhere than in the houses of the latter. It is the poorer class, of both the Chinese and Filipinos, that is commonly attacked The type of the disease among the Chinese is usually the bubonic form, and the femoral or inguinal glands are most commonly the ones involved. The glands of the neck or axilla are only rarely affected. But very few cases of the septicæmic type occur. The primary pneumonic form is rare, except toward the end of an outbreak, but post-mortem examination shows secondary infection of the lungs in many cases The primary pneumonic form is the type which is usually present when whites or natives of the better class are attacked. The American who died recently presented this form. The wearing of shoes, stockings, and long trousers, with avoidance of the insanitary and infected districts, does much to protect the white population. The health authorities are inclined to regard the bubonic type of the disease as not highly contagious, and a sick plague rat gives rise to more apprehension than a case of the bubonic form in a human being. The septicæmic form is regarded as more contagious, and the pneumonic form as very dangerous. The disease seems to be readily propagated from rat to rat and from rat to man, but rarely from man to man, except by inoculation. None of the nurses or physicians in charge of plague cases have contracted the disease. Of 206 plague contacts quarantined this year at the detention camp, only 6, or about 3 per cent., subsequently developed the disease; and of these six cases three developed within four days after admission, and were very likely contracted from the same source of infection from which the first sick person contracted his own disease, rather than from that sick person himself. It is the exception for more than one case to occur in a house, as the health authorities are vigorously handling the plague proposition. As a result of past experience, the plague contacts are not regarded at present as such a menace to the public health as they have been considered in previous outbreaks. In the present outbreak, plague has appeared in every district of the city except the Paco district, and sporadic cases have occurred even in the best residential sections. These cases, however, were very probably infected in the less sanitary quarters of the city, where plague is prevalent. There seems to have been no spread of the disease from these sporadic cases. It is in the Chinese quarters of the Binondo and San Nicolas districts that the disease is most prevalent, and it is from these districts that the infection is every little while carried out into other more sanitary parts of the city, where the case develops. San Nicolas lies along the Pasig River, and, like Binondo, is almost solidly built up with old insanitary Spanish buildings, built to withstand time and earthquakes, and without provision for light and ventilation. There are few sanitary conveniences, the floors are largely of dirt, incorporated by naked feet with the filth of three centuries, and no amount of ordinary cleaning will place them in a sanitary condition. They are constantly being repaired and improved, but can never be made satisfactorily sanitary. The city has no funds to pay for their condemnation and destruction, they will not burn down, and after resisting the earthquakes of centuries, nothing less than a charge of dynamite would seem to have an effect on their massive walls. Such houses are a thorn in the side of the Board of Health, and, unfortunately, seem destined to remain such for some time to come. It is in the buildings of this character, occupied by the Chinese, that the disease has so far been able to resist the efforts of the health authorities to stamp it out.

The general efforts of the Board of Health against plague have been directed toward rat destruction and securing cleanliness and improvement of houses, particularly in the infected districts. There are about 100 official rat-catchers employed by the Board of Health, who are paid a salary and also given a bonus for each rat delivered at a health station. There is also a standing bounty on rats to be paid to the general public. The official rat-catchers utilize about 2,000 traps and put out a great deal of poison. They also kill many rats by exploring old drains, etc., with their hands, and driving the rats out of holes, etc., with sulphur blowers. They bring in about 500 rats daily; besides which a number are killed by poison and are not found, and many are trapped and destroyed by the citizens. Recently the Board of Health issued a circular requesting the coöperation of the public in this respect, and has loaned a large number of traps for this purpose. Poison is not found to be very effective, in spite of frequent change of the bates and poison, as the rats soon get educated as to their nature and carefully avoid them. Strychnine, arsenic, and powdered glass are used, mixed with prepared compound baits in which bacon, flour, meal, potatoes, eggs, rice, etc., are among the ingredients. These baits are put out at night and carefully collected in the morning, small dishes being used for that purpose. Each rat-catcher can handle about 30 traps and 100 plates of poisoned bait, besides killing many rats with his hands and sticks. The Board of Health has ordered a number of trained rat-catching ferrets from Australia to assist the rat-catchers in their work, but they have not as yet arrived. The marine hospital surgeons are also greatly aiding the Board of Health in its work of rat destruction, as the quarantine officials have undertaken to destroy the rats by sulphur fumigation, on all the vessels entering the Pasig River, both on arrival and departure. This is to prevent the importation of plague rats from infected ports, or the transportation to other ports in the archipelago of such rats which might get on board while the vessel is lying at Manila. Large vessels which load and unload by lighters in the harbor, except such as are returning to the United States, are not fumigated regularly, as it is thought that, when the cargo is handled in this way, there will be little opportunity for rats to get to and from the shore. The quarantine officials estimate that about thirty-five tons of sulphur will be required to carry out this work of rat destruction on board ship. Large numbers of rats are killed in this way. All rats killed on ship and shore are tagged with the place, or street and number, at which killed, sent to the government laboratory and examined for plague, but only a small proportion are found to be affected; this, however, is what might be expected, as plague is soon fatal to rats, and only a small part of the rodent community, like the human population, is affected at any one time. An unavoidable drawback to the efficiency of the work of rat-catching is that the rats which are sick with plague, and which it is most important to catch, have little desire for food and are not tempted to enter traps or partake of poisoned baits. With the instinct common to dying animals, such rats seek dark holes where it is difficult to secure them, alive or dead. The board of health goes on the principle, however, that the destruction of healthy rats has a positive sanitary value, as it removes a susceptible animal, which may later contract the disease and assist in its further spread.

The special measures carried out by the Board of Health include a system of house-to-house inspection, prompt notification of the district medical inspectors of the existence of any case resembling plague or other infectious disease, and prompt removal of the plague case or suspect to the plague hospital and isolation camp. The dead are sent to the morgue. All persons who have been in contact with the plague case are sent to the detention camp, where they are bathed, their clothing disinfected, and they are given an inoculation of Shiga's antipestic serum. These prophylactic inoculations with antipestic serum are also being generally carried on among the Chinese in the infected districts; all rats in the infected houses are then exterminated. When practicable, the house or group of houses is first enclosed by a portable fence, and all drains or other means of escape are closed. The entire rat-catching gang of the district is then concentrated within the enclosure, and if necessary, this force is supplemented from other districts. All possible retreats for rats, as drains, double walls, cesspools, piles of wood, etc., are then carefully explored, and sulphur dioxide fumes are forced into the rat holes and burrows. Piles of refuse are opened up and removed, floor and side boards, bricks or tiling, are raised when necessary to get at the rats. In one plague house four live, and six dead rats were in this way found under a single floor. After the rat-catchers have performed their work, tightly built houses are sealed up and fumigated with sulphur to kill any remaining rats, and also all fleas and insect vermin. Houses with nipa roofs have sulphur burned in them to drive out any rats which may have taken refuge in the thatch. Nipa houses in poor repair are condemned and burned. When the houses cannot be enclosed by the portable fence, the avenues of escape are blocked as well as possible and the same measures carried out. The rat-catchers then proceed to adjacent houses or buildings to which the rats from the infected house are liable to have resorted, and treat them in the same manner. The house is then disinfected throughout with 5 per cent. carbolic-acid solution; walls, floors, and furniture are sprayed or mopped with this solution. Dirt floors are sprayed with the solution, and then milk of lime is applied in an even coat with a broom over the whole surface. This coating of lime is allowed to remain for at least twelve hours. Fabrics are disinfected by steam, solutions, formaldehyde, or sulphur. After disinfection, the building is cleaned, repaired, and made rat-proof. Cement floors are put in, and rat holes stopped with cement mixed with broken glass or with strips of tin. All drains, cesspools, closets, etc., are put in good sanitary condition. Walls and woodwork are whitewashed or repainted.

After the house has been thus treated, the contacts are allowed to return and resume business, but they are infected by a medical inspector daily, for a period of nine days, dating from their removal to the detention camp. Houses in which plague rats have been captured, but in which no cases of the disease have occurred among human beings are treated in the same way as if a case of human plague had occurred, except that the occupants are not removed to the detention camp. By these measures the disease has, during the past month, been held down and prevented from increasing to the degree which might have been expected from the course of previous epidemics. These strict measures do not meet with the favor of the Chinese and Filipinos, but no serious opposition on their part is expected. There has been some complaint that the Chinese occupants of houses have sprung the rat-traps and thrown away the poisoned baits left on their premises, lest plague rats be killed and their houses be subjected to disinfection, but this tendency has been met by the appointment of Chinese rat-catchers, whose pay depends in large degree upon the number of rats caught, and who would complain to the Chinese head men in case of interference with their work and remuneration.

## LETTER FROM NEW ZEALAND.

(From Our Special Correspondent.)

AUCKLAND, May 20, 1903.

THE arrival of one of your men-of-war, the *Wheeling*, has been one of the principal events to enliven our dull colonial life. She has come in for repairs to her boilers, and also to give the crew a change of climate. They were beginning to suffer in health from a long spell among the South Sea Islands, and looked very anæmic when they arrived. I made the acquaintance of the ship's surgeon, Dr. Raymond Spear, who has, I understand, done very good work in Samoa. He is taking advantage of his stay here to attend the operations at the Auckland Hospital.

There is a very lively discussion going on here about the cost of the hospital, which has increased about 50 per cent. during the last two or three years. The number of in-patients during the year 1902-3 (from April 1, 1902, to March 31, 1903) was 2,098, there having been, in the hospital on April 1, 1902, 203, admitted during the year 1895, and remaining on April 12, 1903, 149. Number discharged, 1,717; deaths, 232. The total cost of maintenance was £15,661 (say, $78,305). Average daily number of patients, 190.2; average days stay of patients, 33; average cost per day 4s. 7¾d. ($1.12). But the gross total includes the cost of medicines and dressings for out-patients. It is evident, from the average stay in hospital, thirty-three days, that a considerable proportion of the patients must be chronic cases, and this is borne out by the appearance of the wards. About a thousand operations were performed last year. Of course these largely increase the expenses, as everything is done under strictly antiseptic or aseptic conditions.

Now, the first thing that a man of the old school remarks is that, with all these wonderful improvements in medicine and surgery, the new school has not lessened the rate of mortality. Eleven point 5 per cent. (11.5) is no better than the average mortality of London hospitals forty or fifty years ago. How is this? Of course, numbers of cases are operated on which would have been allowed to die quickly in the old days, but *cui bono?* I have just examined a lady of forty-six years who has had the abdomen opened three times—once for floating kidney (which is still floating, by the way, and quite perceptible), and twice for uterine or ovarian trouble. On one occasion something went wrong with the stitches, and the wound remained unhealed for five months. Some further operation was then performed, and the stitches, she thinks, were removed. She is now suffering from pain in the cicatrix, and from a much enlarged and nodulated cervix, which, to me, feels highly suspicious. In addition to the laparotomies, she has had the uterus "scraped" and lacerations of the cervix operated on. She wore pessaries for a long time. As she is an American, I trust that the sympathies of your readers will be aroused. This is, I admit, an extreme case, but similar cases are very frequent—much more so than some of the operators would believe.

One of the complaints against the Auckland Hospital is the enormous drug bill, £2,317. This is equal to $222 a week. Another heavy item is that for nurses. How much they cost in salaries the published accounts do not show, as the item salaries (£4,066) does not distinguish between the salaries of nurses, servants, and doctors. There are sixty-one nurses, and the maintenance of their home costs £1,430 a year. Their uniform, in addition, costs £160. All this is in addition to interest on the building they occupy, and the cost of repairs, furniture, ironmongery, bedding, washing, fuel, gas, water supply (£223), and sundries.

I give these particulars because it may interest some of your readers to see what a hospital costs in the most expensive part of the British dominions. We have a unique example of disinterestedness in the Senior Resident Medical Officer, who has actually refused an increase of salary! And he is an Irishman! I have already prepared a short obituary of him, and an inscription for his tombstone, as I feel convinced he cannot live long.

We are undergoing one of our periodical smallpox scares. Two or three passengers have been landed and placed in quarantine. The population refuses to be agitated. We have had so many of such cases, and nothing more comes of them. Is there something antagonistic to smallpox in this climate? The population is not well vaccinated, so that if it did take a footing here we should have a pretty severe epidemic. If it got amongst the Maories it would cause a fearful mortality.

Since writing the above it is announced that scarlatina has broken out in the Auckland Hospital in two patients. No visitors are permitted in the hospital. I expect that there will be no operations except such as are absolutely necessary.

The Public Health Department has set itself in such direct opposition to public opinion by its demand for infectious disease hospitals all over the colony, that, in all probability, the next session of Parliament will see the department deprived of some of its powers. The very energetic and talented chief medical officer of health seems to forget that, with an annual death rate of only ten or eleven per thousand, it is impossible to convince people of the necessity for perfect isolation. They are willing to send cases from overcrowded houses to hospital, but they kick at having to build an entirely new hospital with medical staff, nurses, servants, etc., and all the contingent expenses.

A very useful reform in the diet of the people of the colony will be effected by the enormous increase in the price of meat, which has risen about 100 per cent. in less than a year. Hitherto, it has been the general colonial fashion to have meat three times a day. And when good mutton or beef could be had at from twopence to threepence a pound, it was the cheapest and most satisfying food. But now that prime joints are from sixpence to eightpence, the consumption, I am informed, has greatly diminished.

A great deal of gout and skin disease was caused by this excessive meat eating. A certain class of people are always declaiming about the disease produced by alcohol. My experience in New Zealand is that for one case of disease arising from the consumption of alcohol there are twenty at least caused by excessive tea drinking, meat eating, and tobacco smoking.

In addition, general inoculation of the Chinese population is being carried on with Shiga's antipestic prophylactic serum, the work being done gratuitously by the board-of-health physicians. Some of the Chinese prefer to employ their own private physicians—Americans and Filipinos, who in such case secure the serum from the government laboratories. So far about 2,000 inoculations have been made, and it is hoped that the entire number of inoculations required will be completed in about a month. There has been some disinclination on the part of the Chinese to submit to the inoculation, as rumors circulated among them that the Americans were injecting poison into them. It so happened, however, that several cases occurred in rapid succession, in which the only uninoculated Chinaman in a house was attacked with plague, while those who had been inoculated escaped. The Chinese soon heard of these instances, and their opposition to inoculation has largely disappeared. There have been no untoward effects as a result of the inoculations already made. All the serum is carefully prepared, and each lot is tested on monkeys before being sent out from the laboratory. It has been found that the Shiga prophylactic serum gives somewhat better results than that of Haffkine. It is made by cultivating the plague bacillus on agar, scraping off the colonies, weighing them, mixing them with normal saline solution in such proportion that one cubic centimeter of salt-solution contains 6 milligrams and then sterilizing at 60° C. for half an hour. The dose is one cubic centimeter, which confers an immunity for about a year. The curative serum is employed when a case of plague has actually developed, as the prophylactic serum seems to affect the patient very unfavorably under such conditions, and lowers his powers of vital resistance.

The question of turning over the opium trade of the islands to a single firm, as a concession, is now being considered by the commission, and several Chinese firms are endeavoring to secure the monopoly. It is estimated that about 60 per cent. of the Chinese in the islands habitually use the drug, but the Chinese who are endeavor-

ing to secure the monopoly claim that only about half of 1 per cent. smoke opium to excess. The latter is undoubtedly too small a proportion, though the evils of opium smoking seem to be surprisingly small when the great use of the drug is considered. The Chinese claim that the use of opium is a positive necessity to many, and have the most extravagant ideas as to its value in protecting the user against cholera, plague, and other diseases. After a hard day's work the Chinaman resorts to the opium pipe as naturally as the white seeks tobacco or alcoholic stimulation, and apparently with no worse effects, on the whole. Certainly, as far as order and keeping the peace is concerned, the use of opium is preferable to that of alcohol. The Chinaman who smokes "hop" minds his own business, interferes with no one, creates no disturbance, and commits no breach of the peace. He rarely smokes until after working hours, and, excepting in rare cases, his industry and productiveness seem to be little, if at all, impaired. The Chinese say that with the moderate use of opium more work can be performed with than without its stimulus. Here there seems to be little of that wholesale decay and degeneration which is said to follow its use in many districts in China. It is claimed by some that the Filipinos are beginning to acquire a liking for the use of opium, but this does not seem to be the case. The worst part of the whole matter, from a sanitary standpoint, seems to be found in the insanitary condition of the opium joints, of which there are many in the Chinese districts of Manila. Lately, the health authorities have been giving much attention to this point, with the result that the opium dens have been cleaned up and put in much better sanitary condition.

The Chinese rarely use alcoholics in any form, and the Filipinos are extremely moderate in their use. The latter use the "bino" distilled from the nipa palm; which, in the large quantities used by our soldiers, has such baleful effects. The foreigner attempts to use "bino," however, as he would use whiskey, or even beer, while the native is very absteminous and is quite satisfied with two or three thimblefuls. Cases of drunkenness, except among the Americans and other whites, here are therefore very rare, and our failing in this respect has done much to lower us as a race, in the eyes of the natives. The abolition of the canteen has unquestionably increased drunkenness among the soldiers in the islands, and it remains to be seen how much effect the new law prohibiting the sale of liquors within two miles of a number of military posts will have upon army morals. There would seem to be no doubt but that the too great use of alcoholics in the tropics has effects which are more certain, rapid, and marked than result from similar use in cooler climates. As the climate is hot and enervating, anything which is stimulating, cold, and wet is very grateful, and its use may unconsciously be carried to greater excess than would be the case in a cooler and more bracing climate.

With regard to tobacco, its use is universal, and the native child acquires the tobacco habit as soon as it is able to walk. In the northern provinces especially, it is no uncommon sight to see a child five or six years old puffing vigorously at a big cigar. The women smoke fully as much as the men, and commonly smoke cigars where the men use cigarettes. Pipes are rarely used, and the chewing of tobacco is unheard of. In the northern parts of Luzon, particularly in the great tobacco-growing district of the Cagayan Valley, immense cigars, often a couple of feet long and as thick as the wrist, are used. Such a cigar is rolled by one of the household, suspended from a rafter of the house by a string, and smoked during the day by all the members of the family as desired. Fortunately the tobacco of the Philippines is very mild, but the "rankness" of the last few inches of such a giant cigar can well be imagined. Some have claimed that the universal use of tobacco is a strong factor in determining the small stature of the Filipinos, but there would seem to be little basis for such a claim. The evil effects of nicotine so often seen in the United States as a result of the excessive use of tobacco are not seen here. The Chinese smoke tobacco to a large extent, but by no means as much as the Filipinos. It is said that in China and Japan a tremendous demand has sprung up for American cigarettes during the last few years, as a result of the efforts of American firms. It is interesting to note that the cheap brands of cigarettes made from American tobacco are sold in Japan and China at about half the price charged for the same cigarettes in the United States.

In lieu of chewing tobacco, the natives chew betel nut, mixed with powdered lime. This gives the saliva a red coloration like blood, and this bloody appearance of the mouth renders the user very disgusting to foreign eyes. The natives claim that the use of betal nut aids digestion, but the better class of Filipino doctors say that it has quite the opposite effect, as might be expected.

Coffee is used very little by the natives, though plenty of it is raised for export. Tea is not used at all, except by the Chinese, who use it as their habitual beverage. The natives have no "drug habits" such as are met with in civilized communities, and cocaine, chloral, and other drug "fiends" are unknown here.

## Progress of Medical Science.

*Journal of the American Medical Association, June 27, 1903.*

**The Treatment of Vascular Tumors by the Injection of Water at a High Temperature.**—J. A. Wyeth discusses this procedure with reference to its employment in tubercular adenitis, abscess, fistulous tracts, etc. From animal experimentation he became convinced that with injections of boiling water, coagulation of the blood and albuminoids in vascular neoplasms was possible. Clinical experience has convinced him of the value of the method. He gives the histories of three cases thus treated. Case 1 was a large, cavernous nævus occupying the right lower jaw and chin, and a portion of the neck below, of a girl of twenty years. Case 2 was of a similar nature, the site of the swelling being on the back just above the right shoulder blade of a girl of nine years. Case 3 was a small pulsating tumor in a branch of the temporal artery directly over the ear. Allusion is also made to the application of the method in several cases of capillary angioma. In cases presenting tumors of any size, general anæsthesia is advised. The body or part operated on should be held firmly and an assistant should hold a sponge saturated with cold water over the needle, in order to prevent scalding of the skin should the apparatus leak. A small hypodermic needle is used, and this should be thrust through the sound skin, about one-eighth of an inch from the edge of the angioma, pushed beneath the neoplasm, care being taken not to let the point come through the surface. From five to fifteen minims of water may be injected in one spot, changing the needle here and there to suit the size of the mass. When the injections are made directly into the enlarged capillaries, necrosis almost always occurs, but if the water is forced well beneath the surface, the deeper parent vessels will be coagulated, causing the nævus to disappear by gradual denutrition (granular metamorphosis). It is a wise precaution to cover the area injected at once with aseptic collodion to prevent infection. This operation may be repeated from time to time until a cure is effected.

**A Clinical Report of a Case of Blastomycosis of the Skin from Accidental Inoculation.**—The patient of Newton Evans was a physician aged twenty-eight years, who inoculated himself on the finger at an autopsy made on a patient dying from systemic blastomycetic infection. The general features of a pus finger soon appeared with ensuing involvment of the arm. Incision and curetting of the finger removed a fungous mass extending down to the tendons. The wound was packed and allowed to heal in the usual way. During healing there was a slight febrile reaction, and after a crust had formed over the incised surface it was noted that little pustules were forming around and beneath the edges of the crust. These were evacuated. The tenderness was not marked. There also formed on the back of the hand in the subcutaneous tissue, over the metacarpal bone of the index finger, a small nodule of the size of a split pea, at first hard and later softened. This was not painful. It remained for from six to eight weeks, gradually growing smaller and disappeared. Simultaneously with the appearance of this nodule, a somewhat similar nodule appeared on the palmer surface of the affected finger, about one-half an inch above the lesion. This lesion contained a very small pus cavity, just beneath the epidermis, which was evacuated a number of times and decreased in size, but was not entirely healed at the time the case was reported. The granulation tissue removed by the curetting showed very little remaining epithelium on the surface, a mass of necrotic tissue occupying its place. Beneath the epidermis the corium was filled with a dense cellular exudate, for the most part consisting of polynuclear leucocytes. Scattered about in this tissue were found numbers of the typical, doubly-contoured, budding organisms, exactly identical in appearance to the organisms found in immense numbers in the case on which an autopsy was performed and from which the disease presumably was contracted. The paper closes with general considerations on blastomycetic infection.

*Medical News. June 27, 1903.*

**Report of a Case of Stammering and Method of Treatment.**—James Moreau Brown reports the case of a Russian who could speak only the Hebrew language. He was first taught to breathe deeply from the diaphragm, with frequent intervals of rest. Later came breathing exercises consisting in raising the arms slowly above the

head with inspiration, and lowering them upon expiration. The breath was held with firmness and released with energy. Slow speech was taught, with assurance, and when the patient was embarrassed, more attention was given to slowness and deliberation. Cold sponging of the upper part of the body daily, with careful attention to the general health and hygienic surroundings, were insisted upon. Exercises were given for strengthening the muscles of the tongue and lips, with the teeth overlapping and held firmly together. At first letters were practised, then words, and finally sentences were articulated with perfect ease. Breathing is most beneficial in difficulties of speech and a very important auxiliary in the treatment.

**Poisoning by Corrosives.**—Eli H. Long says that by corrosive action is meant that immediate disorganization or coagulation of tissue that occurs upon contact with poison. Nearly all corrosives are strong chemicals. The fact and the nature of their destructive action depend upon their chemical affinities. The severity of action depends upon concentration rather than upon quantity. Leaving out the halogens and arsenic, the following groups of corrosives may be considered: Mineral acids, caustic alkalies, coagulants. The mineral acids all coagulate albumin in addition to their affinity for bases. The caustic alkalies, by reason of their common affinities for water and acids, act similarly. They do not coagulate albumin. The coagulant corrosives act differently according to the affinities presented by each. Carbolic acid possesses the simple affinity for albumin, while the metallic compounds, when decomposed, have also the action of the liberated acid in addition to the coagulant action. The employment of a chemical antidote is most important, but even more important it is to dilute the poison largely by a copious draft of water without reference to the character of the poison. Corresponding closely to the three groups of poisons under consideration, the chief antidotes of practical value are: Dilute alkalies, dilute acids, albuminous substances. After administering the chemical antidote, emesis should be favored, unless already excessive, by copious drafts of warm water. When the poison has been removed, demulcents should be employed to soothe the corroded tissues, and they should be left in the stomach to prevent further damage to its walls by friction.

*New York Medical Journal, June 27, 1903.*

**The Ignition of Ether Vapor in Presence of a Closed Electric Light.**—D. H. Murray relates that during one of his operations the anesthetist unable to see the patient's eyes clearly (the patient being prone) turned on the electric light. Instantly there was a sudden flash, and it was found that the ether vapor had ignited. Fortunately only a slight scorching of the patient's hair and eyebrows and a superficial burn on the forehead resulted. Murray has never heard of such an accident before, and found himself unable to reproduce experimentally the untoward result, though he tried several times with the same burner and under conditions identical with those of his operation so far as the ether and light were concerned. He cautions against turning on electric lights near the vapor of ether, especially when the room is small and the ether vapor dense.

**Prophylactic Injections of Tetanus Antitoxin in Cases of Wounds from Toy Pistols.**—F. L. Taylor has seen in hospital practice 129 cases of wounds from toy pistols during the past three years. Of this number but one case developed tetanus. Counting cases previously reported, prophylactic injections were used in seventy-two patients while fifty-seven did not get them. No injection was given in the fatal case mentioned above. The author recognizes the limitation of any conclusions to be drawn from these figures. He nevertheless states that it is his practice to inject in all cases in which the wound has not been thoroughly open and cleaned within a short time after its infliction. He opens all wounds freely, incises them deeply and curettes them thoroughly. He then swabs them out with pure carbolic, its action being limited, when deemed necessary, with alcohol. The amount of serum to be used is 10 c.c., and the injection may be repeated in three or four days. The same pains in the joints and rashes that sometimes follow the exhibition of the antitoxin of diphtheria may occur after the use of tetanus antitoxin; they are transitory, and usually cause but slight inconvenience.

**The Application of Hospital Methods for the Prevention and Treatment of Puerperal Sepsis to Private Practice.**—From the statistics of the New York City Health Department W. S. Stone found that out of 178,139 births in five years, there was a mortalty rate from puerperal infection of 1 in 360, or about .27 per cent. From the out-door service of the Lying-in-Hospital, out of 10,234 births in 1897, the rate was .14 per cent. He goes on to state that asepsis instead of antisepsis is the great principle of obstetric as well as of surgical practice, and this is accomplished by the application of the following rules: (1) The use of no antepartum douches, except there is present for example, a purulent discharge, in order to protect the baby's eyes from gonorrhœal infection; not, however, as curative, because the seat of the infection is in the cervical mucosa; (2) the sterilization of the patient's external genitals and the attendant's hands; (3) the use of no postpartum douches, unless there is some special indication. He dwells at some length on the rules laid down for students in the out-door service in their conduct of obstetric cases. These do not differ except in minor details from those in vogue at sister institutions. He has used rubber gloves with the greatest satisfaction, and believes that from their general introduction the morbidity from puerperal infection can be reduced at least one-half. He does not believe that any evidence has thus far been presented that any form of specific treatment is of the least value in those severe types of puerperal infection designated as septicæmia or pyæmia.

*American Medicine, June 27, 1903.*

**The Relation of Neuralgic Headaches to Storms.**—S Weir Mitchell states that the originating causes of hemicrania are as yet unknown. The determining causes of the separate attacks have never yet been made clear enough to enable the victims to avoid them by precautionary measures. Eyestrains are rarely the primary trouble, but may add to the number and exaggerate the force of attacks. Freedom from exhaustion of mind and body is most apt to lessen the number of headaches. It is very probable that atmospheric conditions play an important part in the production of this form of pain. Certain migraines are due to storms, but not, as a rule, to the summer electric storms, which, nevertheless, in some hysterical women are sure to occasion a general headache, distinct in character from hemicranial attacks. The writer presents a chart on which are drawn two curves, the one representing the storm curve, the other the headache curve. March and April are the worst months and October and February the best. There is among later writers a quite general belief that the storm winds favor the production of headaches.

**Chronic Cyanotic Polycythæmia, with Notes upon Two Cases.**—T. N. Hall presents this interesting report. He offers this title as a "tentative designation for certain cases recently reported of chronic cyanosis with immense increase in the number of red cells and without cardiac disease. The first patient was a woman, aged sixty-one years. Since the menopause she suffered from dyspnœa and palpitation. The most striking feature in her appearance was the cyanosis which was startling in its intensity. Over her face were tortuous veins, almost black, and 2 to 4 mm. in width. The abdominal walls were so thick that examination of the spleen was very difficult. It was certainly not greatly enlarged. The abdominal examination was otherwise negative. As to the blood examination, the drop obtained by puncture was extremely dark in color, and coagulated so quickly that it could scarcely be removed from the capillary tube for the blood count. The red cells numbered 9,940,600, and were normal in character. The leucocytes numbered 6,500 and were normal in variety and proportion. The hæmoglobin was estimated at the first examination at 170, and at the second, 200. The blood had to be diluted twice as much as usual before making the estimation. The second patient was a woman of forty years. There were very large and dark veins upon the face, many being 2 mm. or 3 mm. in width. The blood was so thick it would hardly flow. The spleen was greatly enlarged. The notes of this last case were obtained from Turk. He laid special emphasis in these cases upon three features: the polycythæmia, the dilated veins, and the enlarged veins. Other manifestations have been observed in different cases. In the first one reported here, dyspnœa and palpitation were more striking than in the other two quoted. In the report of the autopsy on Cabot's case there seemed to be nothing characteristic but the marked passive congestion of all the internal organs. There were neurotic manifestations in Turk's and Cabot's cases. In the writer's case there was a well-defined chronic nephritis with cardiac manifestations. A French writer found tuberculosis of the spleen in one of these cases post mortem. The writer believes that all these cases should be put on record for collective study.

*The Lancet, June 20, 1903.*

**Note on an Outbreak of Malaria on Board Ship.**—J. Bell mentions the experience of members of warship crews who went ashore at certain Asiatic ports and who, some thirteen days later, when at sea came down with malaria. The correctness of the diagnosis was confirmed by the finding in each case of the malarial parasite. The majority were of the malignant type while a few were of the

tertian variety. All the patients recovered under quinine. No mosquitos were noticed on the boats.

**Two Fatal Cases of Partial Thyroidectomy.**—The cases are reported by F. C. Madden, one patient being an Egyptian girl of twelve years. Death resulted from insufficiency of thyroid secretion, the immediate factor being a post-operative tetany of the respiratory muscles. In its earlier stages this tetany resembled hysteria, but later the spasms became so severe as to suggest tetanus. At the autopsy no trace of thyroid tissue could be found in the neck, and it was obvious that a small piece left at the time of operation had atrophied. The author believes that in such cases thyroid medication should be pushed to the limit of safety. The other case was that of a blind Egyptian man, aged twenty-four years. In this case death resulted from excessive absorption of thyroid secretion. The symptoms were not those of collapse, but were exactly similar to those observed when the administration of thyroid extract has been pushed to an extreme degree. It was supposed that there was a sudden absorption into the system of the thyroid secretion from the cut surfaces of the isthmus, the extreme vascularity of the parts accounting for the rapidity of absorption.

**Preliminary Note on the Use of Chloroform in the Preparation of Vaccine.**—A. B. Green calls attention to the fact that the action of glycerin on vaccine eliminates the extraneous bacteria in the course of a few weeks. He finds that a solution of chloroform in distilled water will accomplish the same result in from one to six hours. He uses a solution of one to two hundred. His method is described in full, and for it he claims the following advantages: (1) So speedy an elimination of extraneous microorganisms is attained that vaccine, practically free from such organisms, can be distributed for use within a few hours of its collection from the calf. In times of urgent demand for large quantities of vaccine, such as occur during smallpox epidemics, this process must needs prove of great value, since the necessity for wasting some weeks for elimination of extraneous organisms by glycerin will be done away with. (2) In so far as the vaccination value of vaccine depends on the activity of a living organism deterioration of that value must occur in the course of a longer or shorter time. The potency of some vaccines, glycerinated or otherwise, becomes greatly impaired within a few weeks of collection—that is, within the time required for glycerin to exert fully its influence in eliminating extraneous organisms. Some of these vaccines may, at the time of their collection, have possessed a high vaccination value. Vaccine, characterized by this high but somewhat transient potency, can by means of the chloroform process be used at once before its activity has deteriorated, thus allowing greater economy of vaccine material than would otherwise be possible. (3) For a similar reason the chloroform process might be of considerable use in hot climates where the preservation of the potency of vaccine is frequently a matter of considerable difficulty

**On the Dangers of Railway Trips to High Altitudes, Especially for Elderly People.**—T. Zangger utters a word of warning against the dangers resulting from mountain ascents above an altitude of 3,300 feet. These are apoplexy and heart failure of thrombosis of the heart and embolus of the lung. The attacks may come on even two or three days after the patient has descended to the usual level. Patients with arteriosclerosis should avoid high altitudes, and the danger is not entirely avoided even if the ascent is made by train instead of on foot. The so-called "mountain sickness" of explorers who often go up 10,000 feet or more is not only accompanied but is produced by slight dilatation of the right cardiac ventricle. Elderly people should always submit to a medical examination before making a mountain ascent. Not only is there an alteration in barometric pressure, but the chemical features of respiration also change. The oxygen absorbed lessens while the respiratory quotient rises. The consequent increase of carbonic acid in the blood must also act to the detriment of a feeble dilated heart. The heart rate increases, there is a rapid variation of the temperature of the atmosphere. and peripheral blood vessels contract. Such vasomotor changes must affect the blood-pressure and the distribution of the blood in the whole system, even as far as the heart. It can be easily understood that on the return to the low ground considerable oscillations of the blood-pressure, and perhaps a considerable rise of some duration, may take place—a sequence of events which may explain the sudden occurrence of apoplexy. It must be remembered that the vessels of the brain have not yet been proved to possess vasomotor nerves, so that just at the most vital centers of life the regulation of the blood-pressure may be very inconsiderable or even altogether wanting. It is therefore not surprising that a feeble heart should show insufficiency under such an unusual strain.

*British Medical Journal, June 20, 1903.*

**Rectal Serum Therapy.**—J. Porter Parkinson states that for the last two years the rectal use of serums has been in constant use at the London Temperance Hospital. The results have been excellent in the case of anti-diphtherial serum, but antistreptococcus serum by rectal injection has shown the same uncertainty of effect that it does when administered by the subcutaneous method. Its rectal injection is free, however, from the disadvantages and dangers which may attend the subcutaneous method, such as local abscesses, etc., and thus may be preferred, as there seems no doubt that it is rapidly absorbed.

**The Duration of Life after Gastrostomy for Cancer of the Œsophagus.**—Frederick Treves cites the case of a patient upon whom he performed gastrostomy. There was a cancerous growth involving the termination of the gullet and extending to the stomach. The disease reached nearly the whole length of the lesser curvature of the stomach. The œsophageal opening was practically closed. There were no secondary deposits visible in the liver. The patient lived for three years less one month. He was practically free from pain throughout his long illness, and never suffered in the least from the gastrostomy wound.

On January 28 she did not recognize anyone or understand anything. Just below each mastoid she was very tender to pressure. There was no discharge from the nose or the mouth. It was thought that the most probable diagnosis was that of cerebral abscess. On January 31 her eyes were deviated to the right and upward, axes parallel. She could look in any direction and there was no oculomotor paralysis or nystagmus. The discs were normal. On the same day she had a Jacksonian convulsion. On February 2 the eyes were divergent, both being turned outward. She died on February 3 without regaining consciousness or having any more fits. Necropsy, which was limited to the brain, showed the pia arachnoid at the base of the brain in front of the optic chiasma to be injected and studded with small tubercles, especially along the sylvian fissure on the left side; there was no lymph exuded, no matting, and no excess of fluid. The only symptom in this case which did not fit in with the diagnosis of cerebral abscess, on the left side, was the conjugate deviation of the eyes.

**Case of Tuberculous Meningitis in an Adult, with Unusual Symptoms.**—T. H. Morse and A. J. Cleveland report this case, which is interesting on account of the unusual and misleading nature of the symptoms, together with the fact that the disease ran a very acute course when there was no reason to suspect any primary tuberculous lesion. The patient, a woman of forty years, was operated on in November, an abscess in connection with the left ovary and tube being dissected out. The abscess was, apparently, of long standing and its cause was not obvious. There was nothing about the patient suggesting a tuberculous process. On January 1 she suffered from sickness and diarrhœa, ascribed to an error in diet. On January 20 she suffered from very intense headache, which was not referred to any particular part of the head. This condition lasted for a week. Her pulse was nearly always 64, and the temperature, as a rule, 97.8°. Her mind was clear and there was no paralysis; the pupils were equal and active and the knee-jerks normal. On January 27 she constantly misused and misplaced words. She was given gas and ether and had two teeth removed.

*Berliner klinische Wochenschrift, June 8, 1903.*

**A Case of Severe Intestinal Autointoxication.**—Stuertz reports a case which is of interest because of the pronounced nervous symptoms present and also because of a marked brachycardia which succeeded the attack, and persisted for twelve days thereafter, the frequency of the pulse being repeatedly reduced to 42 per minute. The patient was a female, seventeen years of age, and gave no previous history of intestinal or nervous disturbances. The attack followed the copious ingestion of raspberries and green beans, and was ushered in by violent vomiting and severe abdominal pains. Constipation had been previously present. Severe nervous symptoms, consisting of muscular twitchings, hallucinations, loss of consciousness, and finally coma soon developed. Throughout the acute attack the temperature was only slightly above normal, the pulse not going above 72. The acute symptoms were promptly and completely relieved by the administration of calomel and high enema.

**The Physiologico-pathological Importance of the Radium Rays.**—E. S. London gives a preliminary report of his researches. His studies were conducted with 30 mg. of pure radium bromide inclosed in a box made of gutta percha and metal. (1) If a piece of sealing wax is actively rubbed with flannel it will, as is well known, attract to itself from a short distance small pieces of paper. If now, after the sealing wax has been rubbed with the flannel, it

is passed over the box containing the radium, its power to attract the pieces of paper is lost. (2) Mammals are killed by exposing them to the radium from a distance. Mice were used, and were placed in glasses which were covered with a gauze sheet of zinc. The radium in the box above described was placed upon the cover. Such animals died within four or five days, under symptoms of paralysis of the nerve centers, while mice similarly confined, but not exposed to the radium, lived and were in healthy condition. Upon the human skin radium thus used exerts an irritating influence and produces a dermatitis. Arterial blood is darkened in color under the influence of the radium rays. (3) The blind who are slightly suscept ble to light have this susceptibility much increased when radium is brought near to the eyes The blind who have no susceptibility to light do not react to the action of radium. The blind who can detect indistinct shadows of objects upon a light background under the action of the radium are enabled to much more sharply outline the objects. In persons with sound eyes, if the same are closed and tightly bandaged, perceive the light when radium is brought within 10 to 15 cm. of their foreheads. Microscopic examinations may be made in a dark room by means of the radium rays.

*Münchener medicinische Wochenschrift, June* 9, 1903.

**Massage of the Prostate and Albuminuria.**—C. Krüger reports two cases of chronic prostatitis following gonorrhœa in which massage of the prostate gave rise to an albuminuria which was transient, but which repeated itself so long as the massage was continued. No signs of kidney trouble had previous'y been present in either case, and no casts were ever present in the urine. The cause of the albuminuria cannot be stated, but it seems certain that it was not due in any way to renal irritation, and whether it was due to the presence of prostatic excretions dislodged by the massage or to nervous or other influences is mere speculation.

**Recent Advances in the Treatment of Hay Fever.**—Arthur Thost reviews the treatment of hay fever by Dunbar's serum and confirms the latter's results. Of course, it is to be expected that this serum will only be effective in those cases in which the hay fever arises from the action of the same toxin which is used to produce the serum. Also all forms of pseudo-hay fever (bronchial asthma, influenza, and nervous disturbances are influenced by it. In complicated cases the accompanying troubles must receive appropriate medication, and even in uncomplicated cases the combined employment of the usual local applications is of benefit in cutting short the duration of the attack.

**A New Operation for Detached Retina.**—Leopold Müller gives a new operation which he has employed in seven cases with excellent results. The method consists of three steps. (1) Temporary resection of the external margin of the orbit according to Krönlein. (2) Exposure of the bulbus. (3) The excision (posteriorly) of a small portion of the sclerotid (a piece 8 to 10 mm. broad by 20 mm. long); the evacuation by puncture of the subretinal transudate through the site of the removed portions of the sclerotid; and the union by sutures of the edges of the excision so as to put this coat of the eyeball somewhat upon the stretch. While by this method it is not possible to evacuate all of the subretinal fluid, experience has shown that the portion which remains is rapidly and completely absorbed. The anterior chamber is not abnormally deepened, as might be expected by the operation.

*Deutsche medicinische Wochenschrift, Juni* 4, 1903.

**Spirit of Soap as a Disinfectant for Surgical Instruments.**—Schumburg shows Gerson's recommendation of this method of disinfection of surgical instruments is not sound. Instruments infected with staphylococci and submitted to Gerson's process are not disinfected, as may be demonstrated by making cultures from them into nutrient bouillon, when the staphylococci upon them will be found to be still alive. Gerson in testing his method used solid media for transplantation from his supposedly disinfected instruments, and because no growth took place upon such solid media, he thinks that the disinfection of his instruments was complete. It is generally conceded that for such tests as these, fluid and not solid media should be used, in order that the results obtained may be without reproach.

**Mechanism of Strangulation of the Gut.**—Josef Kertesz reviews Wilms' recent explanation (*Deutsche medicinische Wochenschrift*, 1903, No. 5) and does not entirely concord therewith. While it is true, as Wilms points out, that the increase of the intestine within the strangulation is due to the pulling in of the "efferent" arm of the gut, it is not true that such a pulling action is due to an increased peristalsis of the intestine within the strangulation, as Wilms supposed. The experimental observations of the author conclusively show that soon after strangulation the peristalsis of the involved intestine rapidly decreases and is soon practically gone. There is, hence, no such thing as increased peristalsis of strangulated intestine. It is much more probable that the pulling in of the "efferent" intestinal arm is due to the increase of fæces, gas, etc., within the strangulated intestine, and also to the increased intraabdominal pressure present.

**A Case of Head Tetanus with Peculiar Etiology.**—Albert Schültze reports a case of head tetanus which was caused by the bite of a peacock upon the forehead of the patient. The first symptoms developed four days after the injury was received, and consisted of a paralysis of the left half of the face. The tetanic symptoms first appeared on the eighth day after the bite, and were confined to the muscles of the right half of the face and those of the head and neck. Recovery took place slowly following the administration of 250 units of Behring's antitetanus serum. During the entire course of the disease there was no elevation in temperature. The diagnosis was confirmed by the isolation of tetanus bacilli from the wounded tissues and also from a small portion of the beak of the peacock which had become embedded therein. In addition to such isolation portions of these tissues were inoculated into mice and guinea-pigs, these animals dying in due time under the typical picture of tetanus.

*French and Italian Journals.*

**Physiology of the Orbital Lobe.**—From the results of his experimentation Luigi Ferrannini concludes that lesions of the orbital lobe always produce persistent hyposmia and frequently hypogeusia on the same side as the lesion; often a transitory motor deficiency of the opposite side, and very often a transitory hypoæsthesia variously situated in relation to the lesion abrasion of the cortex of the lobe constantly produces degeneration of a bundle of the connecting fibers which lead from the orbital lobe to the zone of Rolando on the same side as the lesion.—*La Riforma Medica*, June 3, 1903.

**Tremor and Hemiparesis Following Malaria.**—Guido Salmoni reports the case of acute attacks of malaria in an old malarial patient, in whom the previous history, the condition of the spleen, and the presence of the parasites were all sufficient for a positive diagnosis. The special point of interest was the presence of disturbances of the nervous system, tremors, slight contracture and paresis of the left arm, and paresis of the left leg. Other predisposing causes, such as arteriosclerosis and alcoholism, having been excluded, malaria remained as the only possible etiological factor. The author believes that this sequela to malaria has not before been reported.—*Rivista Critica di Clinica Medica*, June 6. 1903.

**Ocular Manifestations of Hereditary Syphilis.**—E. Sendral observes that hereditary syphilis frequently causes interstitial keratitis, which may disappear without leaving a trace. A return of the trouble is apt to occur, especially if a first attack have left any corneal opacity; it is always grave because it involves the deeper membranes and endangers vision. Treatment must be energetic and prolonged. Hereditary syphilis is frequently developed in subjects predisposed to lymphatic and scrofulous troubles, a fact which explains the remarkable tenacity of the affection observed in many cases. The treatment of interstitial keratitis should, as a rule, be that of syphilis. Mercury alone will give better results than mixed treatment. The iodide of potassium, which frequently has such marked action on syphilitic manifestations, is less successful in the case of ocular lesions.—*Recueil d'Ophtalmologie*, May, 1903.

**The Diagnostic Value of Leucocytosis.**—Fernand Bezancon and Marcel Labbé state that polynuclear hyperleucocytosis is the rule in acute suppuration; this fact is of value in the diagnosis of appendicitis and of pelvic suppurations. In a patient suffering from fever with a typhoid state, the demonstration of leucocytosis with polynucleosis would point to some frankly inflammatory process, and exclude typhoid or miliary tuberculosis. Malaria gives a mononuclear hypoleucocytosis. In cachectic conditions, not accompanied by fever, the presence of polynuclear hyperleucocytosis with anæmia may lead to a diagnosis of cancer. In the differential diagnosis of ganglionic tuberculosis, lympho sarcoma, and simple lymphadenitis, an examination of the blood is of the greatest value; the last-named affection alone showing a normal number of leucocytes with predominence of mononuclears.—*Gazette des Hôpitaux*, June 6, 1903.

**The Prophylaxis of Deafmutism.**—M. Lafite-Dupont would have marriages between deaf mutes and between closely related individuals forbidden, for the avoidance of congenital deaf-mutism. The affection may be acquired

rarely by malformation or arrest of development (in which case it is incurable), or, as is more usually the case, by disorders of the auditory apparatus. The latter is more apt to be involved in childhood than in adult life. (1) Because it is more delicate and vulnerable from its anatomical structure and its relation to adenoid growths and to the tonsils. (2) It is affected by the diseases of childhood, such as lymphatism, scrofula, coryza, scarlatina, measles, diphtheria, mumps, meningitis, and traumatism. (3) Discharges from the ear are frequently neglected either because of carelessness, or an ignorance which holds that suppuration is beneficial. Certainly 20 per cent. of the cases of acquired deaf-mutism could be avoided by prompt treatment, especially of aural discharges, coryza, and adenoid growths.—*Gazette Hebdomadaire des Sciences Médicales*, June 7, 1903.

**Tumors of the Kidney in the Adult and in the Child.**—Léon Imbert says that the symptoms of this affection are: (1) Hæmaturia frequent in the adult, exceptional in the child. (2) The tumor itself, noted as a first symptom in about 20 per cent. of the cases in adults, usually the first symptom in the child. (3) *Pain* is neither characteristic nor constant, except perhaps in children. (4) The urine is but slightly altered, except for albuminuria. Disorders of micturition are rare in the adult; in the child there may be retention, incontinence, or even symptoms of cystitis. (5) Compression symptoms may point to compression of the nerves, causing neuralgia and paralysis of the ureter, or of the intestines. Varicocele is apt to occur late in the disease. As to treatment, operation is, of course, the only resource. In adults the statistics of nephrectomy are: 20 per cent. of mortality after operation, 50 to 60 per cent. of a return of the neoplasm, 20 to 30 per cent. of cures. The results are not brilliant, but will doubtless be better when physicians have learned how to make an early diagnosis. In the case of children, the statistics are: 25 per cent of deaths after operation, 63 per cent. of relapses, 12 per cent of cures.—*Gazette des Hôpitaux*, May 30, 1903.

## Book Reviews.

THE PRACTICAL TREATMENT OF STAMMERING AND STUTTERING, with Suggestions for Practice and Helpful Exercises. By GEORGE ANDREW LEWIS; and a Treatise on the Cultivation of the Voice. By GEORGE B. HYNSON. Detroit: George Andrew Lewis, 1902.

We have looked over this book with considerable interest. While we are convinced that personal touch with a good teacher is the best method of curing stammering, we realize that there are many to whom this privilege is denied and for such we believe that the work will prove valuable for "home treatment." It is written in a plain style and ought to be intelligible to anyone of ordinary capabilities. On the other hand, we feel that the author has made a too-sweeping statement when he says that doctors have failed to cure stammerers. In many cases there are faulty conditions of the upper-air structures requiring correction before teaching exercises will be of any benefit whatever. Doubtless, however, the majority of stammerers are free from these anatomical defects. While the author admits that surgery may do a noble work in some cases, he does not bring out to our minds forcibly enough the cooperation that should exist between the physician and teacher. The portion of the book devoted to voice cultivation traverses only familiar ground. An excellent collection of poems designed for practice in speaking closes the volume.

A PRACTICAL TREATISE ON MATERIA MEDICA AND THERAPEUTICS. By ROBERTS BARTHOLOW, M.A., M.D., LL.D. Professor Emeritus of Materia Medica, General Therapeutics and Hygiene, in the Jefferson Medical College of Philadelphia; formerly Professor of Materia Medica and Therapeutics and of the Practice of Medicine in the Medical College of Ohio; Fellow of the College of Physicians of Philadelphia; Member of the American Philosophical Society; Honorary Fellow of the Royal Medical Society of Edinburgh; Honorary Member of the Société Medico-pratique de Paris, and of Various National, State, and County Medical Societies. Author of a Treatise on the Practice of Medicine; of a Treatise on Medical Electricity, of a Manual of Hypodermatic Medication; of the Russel and Jewett Prize Essays, and Prize Essays of the American Medical Association and of the Rhode Island Medical Society, etc. Eleventh edition, revised and enlarged. New York and London: D. Appleton & Company, 1903.

SINCE 1876, when the first edition of this standard work was published, there have appeared eleven editions, each one brought to a higher point of efficiency than its predecessor. In the present issue that author has incorporated such new remedies as in his judgment had a claim to recognition, and has maintained the same character of the work which has made the book such a popular one.

Not only are the drugs and chemicals fully described, but diet, beverages, water, heat, air, massage, aquapuncture, bloodletting, hydrotherapy, etc., claim considerable attention from the writer. As a "storehouse of facts relating to materia medica and therapeutics," as the author describes his work, the volume before us certainly fulfils the intention of the writer; as a guide to the student or reference handbook for the practitioner it can be highly commended.

A TEXT-BOOK OF PRACTICAL MEDICINE. By WILLIAM GILMAN THOMPSON, M.D., Professor of Medicine in the Cornell University Medical College, New York City; Physician to the Presbyterian and Bellevue Hospitals, New York. Second Edition, Revised and Enlarged. New York and Philadelphia: Lea Brothers & Co., 1902.

THE first edition of this text-book was published about two and a half years ago, and already several important articles have had to be rewritten—a sufficient evidence of the rapid progress in medical science which the present generation is witnessing. Among the articles which have been so extensively revised are yellow fever, dysentery, and malaria, and many sections in the articles on diseases of the heart and of the blood have also been practically rewritten. Other minor changes have been made, part cularly in the therapeutical chapters, in several of the other articles. Dr. Thompson's work is distinguished especially by its clear directions concerning the treatmen of disease, and for this is valued above some of its riva s. We wish we could always agree with the writer, however, but he seems to us to be somewhat inclined to nihilism. The evidence of the value of salicylate of sodium and carbonate of creosote in the treatment of pneumonia, for example, is too strong, and this use is too wide spread to justify a writer in ignoring them entirely and dismissing the subject with the remark that "medicinal treatment has no positive influence upon the course of the disease." The writer does not sin in this respect very often however, and on the whole is a trustworthy guide.

THE MYCOLOGY OF THE MOUTH. A Text-book of oral Bacteria. By KENNETH WELDON GOADBY, D.P.H., Camb., L.R.C.P., M.R.C.S., L.D.S. Eng. Bacteriologist and Lecturer on Bacteriology, National Dental Hospital, Sen. Dental Surgeon Seamen's Hospitals; Hon. Lecturer on Hygiene of the North London School of Tropical Medicine; Late Demonstrator of Practical Dentistry, Guy's Hospital Dental School, London, New York and Bombay: Longmans, Green & Co. 1903.

THE specializing tendencies of the times are well illustrated in the title of this book, for not only is the science of pathogenic microorganisms divided off from bacteriology in general, but even the former has been found too wide a field and is being cut up into smaller holdings so that each can be tilled more thoroughly. As the author tells us, a large proportion of the fifteen hundred microorganisms which have been described and classified are to be found in the mouth, although, fortunately for poor suffering humanity, not all of these are pathogenic. Although the book was written primarily for dental students, it will be found of equal value to students of general medicine, and will prove a treasured addition to the library of workers in microparasitology. The mouth harbors microorganisms of all sorts and kinds—some of them of a higher station than the humble schizomycetes, for which reason Dr. Goadby has chosen the title Mycology instead of Bacteriology, as being more inclusive. In addition to the purely descpritive portions of the work, much space is given to the practical details of laboratory work, the aim of the author being to prepare a complete manual for the student whose other labors will not permit him the luxury of an elaborate course, in general bacteriology and bacteriologic technique. Dr. Goadby has done his work well and has made a commendable book.

PHOTOTHÈRAPIE ET PHOTOBIOLOGIE ROLE THÈRAPEUTIQUE ET ROLE BIOLOGIQUE DE LA LUMIERE. Par les Docteurs LEREDDE et PAUTRIER. Paris: G. Naud, Editeurs, Rue Racine, 3, 1903.

THIS work has a preface by Finsen, who gives the authors, as it were, his sanction and commendation. Half the book (134 pages) is taken up with the biological rôle of light, and most of this could have been written before phototherapy became known. The *x*-ray is scarcely mentioned (one page). The subjects of lupus and lupus erythematosus are those almost exclusively considered, about ten pages being devoted to other dermatoses. It is an interesting and well written work, of interest to those who have to do with actinic-ray treatment, but naturally covers a rather restricted field.

# Society Reports.

## THE PRACTITIONERS' SOCIETY OF NEW YORK.

*180th Regular Meeting, Held Friday, April 3, 1903.*

JOSEPH D. BRYANT, M.D., PRESIDENT, IN THE CHAIR.

**Spasmodic Torticollis Relieved by Operation.**—Dr. ROBERT ABBE presented a woman, who came under his observation about three years ago. According to her history, she had first noticed a trembling of the head thirteen years ago. Gradually this became more severe, and was accompanied by a spasm of the neck, which drew the head around to the left side. These spasms became more violent in character, and the tremulous movements were almost constant. When she first came under his care, three years ago, the head was constantly drawn over the left shoulder and could only be straightened momentarily with considerable effort. The spasmodic movements calmed down at night and while the patient was in the recumbent position.

The first operation done by Dr. Abbe on this case was a resection of the second posterior cervical nerve, which was followed by only much improvement. A few months later, under cocaine, he divided the tendon of the sternomastoid muscle at its sternal attachment, as this seemed to be the only remaining muscle in spasm. This operation was done two and one-half years ago; it was followed by marked and immediate improvement, which had continued up to the present time. The patient was now able to keep her head in the straight position without effort and the trembling had entirely ceased.

Dr. Abbe said his idea in dividing the tendon of the sternomastoid on the right side was to put that muscle at rest; it was much hypertrophied, while the muscle on the opposite side was correspondingly atrophied. The scar from the first operation was along the hair-line, and quite insignificant. The union of the sternomastoid tendon presents no defect, and the case is one of particularly gratifying outcome.

Dr. CHARLES L. DANA said that his experience with spasmodic torticollis in recent years had led him to favor operative interference in spite of the fact that the disease was a central scortical. In one of his cases where the spinal accessory alone was divided, no improvement followed, but in two other cases where the resection included the spinal accessory and the posterior cervical the results were excellent. The speaker said that the improvement was due to the division of the nerves and also of the muscles. This subject had come up for discussion at a recent meeting of the American Neurological Association, and he then had expressed the opinion that in operating on these cases, the nearer one got to cutting off the patient's head, the better the result because it gave more rest to the muscles, and the best treatment, aside from surgical measures, was prolonged rest.

Dr. M. ALLEN STARR said he had never been able to convince himself that torticollis was a peripheral disease. The spasmodic movements of the head in these cases resulted from the combined action of certainly two muscles, and very often five or six. In Dr. Abbe's case, for example, the sternocleidomastoid of one side was concerned in the movements, and the splenii of the other, and his result was obtained by cutting off the action of two separate and distinct motor mechanisms. It stood to reason, the speaker thought, that these complex movements were of central origin and the result of cortical irritation. In the majority of cases that had come under his observation there was a history of mental shock or prolonged worry. The condition was practically analogous to a cortical epilepsy. He did not know that any one had ever attempted to operate on the brain in these cases, and exsect the cortical center for the movements of the head, but that seemed to him a more rational surgical procedure than to divide the muscles or nerves. In a number of patients whom he had had operated upon by the latter method the result had never been absolutely satisfactory. Even in the case shown by Dr. Abbe there was a noticeable twitching of the head at times.

The President, Dr. BRYANT, said his experience in this method of division was limited to a single case, in which he made quite a wide resection of the spinal accessory. It relieved the patient's symptoms for a time, but he subsequently learned that they recurred. He agreed with Dr. Dana that resection of the spinal accessory alone rarely did much good, and he favored the combination nerve operation—cutting also the muscle.

Dr. Abbe, in closing, said that in one very severe case of torticollis he had obtained some amelioration of the symptoms after resection of the posterior cervical; he then resected the spinal accessory, and the effect of the two operations was such that it almost incapacitated the patient. In another case he had operated on, the result of these operations on the nerves alone also proved unsatisfactory. His present feeling is that temporary paralysis of the muscles involved in the spasm, by section of their tendons, or transverse muscle division, is much better than resection of the spinal accessory—which is permanently disabling. Yet the resection of the posterior root of the second and third nerves is effectual and easier than muscle division extensively carried out.

**An Unusually Extensive Development of Gouty Tophi.**—By Dr. W. GILMAN THOMPSON. The patient was an Englishman, forty-three years old, a valet and butler by occupation, who for twenty years had suffered from frequent attacks of gout, which had increased in severity during the past five years. His hands and feet, and to a great extent the knees and elbows, were covered with numerous tophaceous nodules of various sizes, many of them being as large as a hen's egg. The patient's family history was negative, with the exception of the fact that his mother had suffered from rheumatism. He had never suffered to any extent from other than the arthritic symptoms of gout, and has had very little gastrointestinal disturbance. There were no evidences of kidney disease. The heart gave evidences of myocarditis, and occasionally the patient had attacks of shortness of breath and cyanosis.

Dr. Thompson said the main points of interest in the case were, first, the absence of a hereditary element; and, second, the unusual number and size of the tophi, which were, for the first part soft and motile, many of them moving with the tendons of the hands. Others were situated upon the palms and palmar surfaces of the fingers and on thumbs, yet the finger joints were fairly movable.

In connection with this case, Dr. Thompson showed a photograph of a patient who had a large number of tophaceous nodules in the scrotum. One of these masses had been excised and examined; its contents consisted of phosphate and carbonate of calcium, but no sodium biurate crystals were found. The speaker said he was aware of the fact that in the region where these masses were situated the sebaceous follicles sometimes degenerated and became calcareous, but in this case the tumors had all the nodular, non-cystic appearance of gouty deposits, although they did not contain sodium biurate. The patient showed no other tophi excepting one or two in the ear, but he gave a definite history of true Sydenham's gout.

Dr. EDWARD G. JANEWAY said these tophi were occasionally seen in patients who gave no history of acute gout nor involvement of the joints. He very recently saw a woman who had never had inflammatory symptom of gout, and still she had a number of these tophaceous nodules on the hands and underneath the skin. They had been developing during the past ten years. The speaker said he had examined the contents of many of such nodules, and had always found the sodium biurate crystals.

Dr. DANA asked whether it would be wise to resort to surgical measures in the removal of these matters? The patient stated he had had one or two removed, and the results were not very good.

Dr. ABBE said that an examination of these tophaceous nodules with the *x*-rays had shown that the bone was usually invaded by the calcareous deposits, in some instances to such an extent that there was actual displacements of the bones at the knuckle. Under such circumstances, we could not expect much from a surgical operation, as it might be necessary, in order to remove these masses, to curette away a good part of the joint itself.

Dr. THOMPSON said, that in the case he had shown the tophi seemed to be quite movable and largely superficial.

**Arterial Disease as a Cause of Nervous Affections.**—Dr. M. ALLEN STARR read this paper (p. 1).

Dr. HENRY F. WALKER referred to a not infrequent class of cases in which, at a certain period of life, attacks of persistent and severe migraine cease, and are replaced by gouty symptoms and a tendency to the development of arteriosclerosis. He was at a loss to explain this curious phenomenon, which could often be prognosticated with a fair degree of accuracy.

Dr. W. GILMAN THOMPSON said he had been greatly interested in what Dr. Starr said in regard to the influence of arteriosclerosis, with intermittent attacks of high arterial tension, upon the nervous system. In a case of this kind which recently came under his observation the speaker said he attributed the accentuation of the tension primarily to intestinal auto-intoxication resulting from long-standing constipation, and secondarily to a syphilitic history. Treatment directed along those lines proved successful in that instance. Dr. Thompson referred to another case, now under his observation, in which the following complex symptoms occurred: There was sudden hemianæsthesia, with aphasia, strabismus and dilatation of the pupil on the right side, and weakness of the extremities. There was partial loss of consciousness. This varied series of nervous phenomena disappeared completely within a day or two, or sometimes a few hours, and the patient was then as well as ever. It was hardly possible to conceive that they were due to embolism or thrombosis. The patient had had a number of these attacks, which were always similar in character, and always accompanied by a very marked increase in the arterial tension, and by marked diminution in the quantity of urine. Their disappearance was hastened by the free use of vasodilators. The speaker said he agreed with Dr. Starr regarding the unsatisfactoriness of using these remedies for any extended period, and the better results obtainable by the employment of hygienic measures. For that reason, patients who were not bed-ridden were much better subjects for treatment. Dr. Thompson said he had seen several well-marked cases of temporary hemiplegia occurring in adults, in connection with a high-tension pulse and great thickening of the arteries, which closely resembled typical examples of the type of hemiplegia caused by cerebral hemorrhage, but the symptoms lasted a few hours only, and were probably dependent upon a transient increase in the arterial tension. In conclusion, the speaker said that while the nervous symptoms to which Dr. Starr had referred might conceivably be due to a lack of thyroid extract or other internal secretion in some instances, he was convinced that they were more frequently due to intestinal auto-intoxication, and were favored by the renal insufficiency which often existed in such cases.

Dr. FRANCIS P. KINNICUTT called attention to the fact that a large proportion of the cases of neurasthenia occurred at an age antedating the usual period of arterial degeneration. While he agreed that in many of the exacerbations of the neurasthenic state there was an increased arterial tension, he thought that the explanation for this must be sought for elsewhere than in arterial degeneration. Possibly, as Dr. Starr had suggested, it was due to a perverted function of one or the other of the various glands supplying the internal secretions, rather than to actual disease of the arteries. Dr. Kinnicutt said it was a well-known fact that even advanced endarteritis, although a condition to be deplored, was consistent with prolonged life.

Dr. CHARLES STEDMAN BULL said he had been particularly interested in Dr. Starr's paper, because it was along the line of some investigations which he had been carrying on for several years. During the past winter he had seen three cases of gradually progressing ophthalmoplegia, one involving the external rectus, and the other two the various branches supplied by the third nerve. Two of these patients were over fifty years of age; the third was a young woman of about twenty, who had been under his observation for the past seven years. In her case there was advanced arterial sclerosis of the retinal arteries, as well as of the temporal and radial. In these cases, anti-syphilitic treatment produced no appreciable benefit. Another condition directly connected with the remote effect of arterial disease was observed in those cases which had long been classed as simple chronic glaucoma, but which were now to be regarded as the result of progressive atrophy of the optic nerve, and which were probably produced by pressure upon that nerve either within the optic canal or back of it by the sclerosed ascending internal carotid or by the rigid ophthalmic artery or by both.

Dr. BULL said he recently saw a marked example of the type of undeveloped children which Dr. James had referred to as being quite common in the better walks of life. The patient he had in mind was a girl of seventeen, who had the appearance of a child of twelve or thirteen: she was undeveloped both mentally and physically, and had never been able to get any education. An examination of her eyes showed no errors of refraction nor muscular defect, but furnished one of the most marked examples of retinal arterial sclerosis he had ever seen at any age.

Dr. CHARLES L. DANA said there were a number of nervous diseases and conditions which were recognized as being connected with arteriosclerosis. During the past winter the speaker said, he saw three patients who were, apparently, suffering from brain tumor. One of the patients had Jacksonian epilepsy, headaches, vomiting and such distinct evidence of a brain tumor that an exploratory operation was done. The only lesion discovered was a patch of softening due to obliterating endarteritis. In two other cases which simulated brain tumor, with headaches, Jacksonian epilepsy and slight paresis of one arm, the clinical directory later pointed to an oblitering endarteritis. Dr. Dana said that in old people, very persistent, severe and diffuse headaches sometimes developed, associated with marked evidences of arterial sclerosis. Occasionally, these headaches will terminate in some crisis, such as a convulsion or an attack of hemiplegia. The speaker said he could not quite agree with Dr. Starr in regard to the influence of the arterial system upon spinal cord diseases: for example, in myelitis, whether syphilitic or otherwise, the vascular condition was usually secondary; the same was true of the combined sclerosis. Some years ago, Dr. Dana said, he reported a case with autopsy of senile paraplegia which was due to an obliterating endarteritis. He was quite convinced that many peripheral nervous conditions were dependent upon interference with the vascular supply: this included most of the cases of neuralgia in elderly people. Half a century ago, Dr. Austie made the statement that migraine usually ceased after the age of forty-five or fifty, but was sometimes followed by some other form of neuralgia. Another condition, due to vascular trouble, was that known as "intermittent claudication," which followed the sudden obliteration of the artery of the leg. Erythromelalgia and Raynaud's disease have also been attributed to obliterating endarteritis. He did not regard arteriosclerosis as the sole or most important factor of neurasthenia, but it certainly had some bearing upon cer-

tain cases. He thought that neurasthenia often had a bad myocardium and cardiac tonics were usually more beneficial than arterial dilators. His attention had recently been called to thyroid extract, in doses of from one-sixteenth to one-tenth of a grain, as an excellent cardiac stimulant. He had found pilocarpine, in doses of from one-tenth to one-fourth of a grain, accompanied by a a glass of hot water, a good remedy for alleviating some forms of arteriosclerosis.

Dr. EDWARD G. JANEWAY said he had seen a good deal to confirm what Dr. Starr had said in regard to the effect of arterial changes upon different diseases of the brain and cord and nerveous system generally. In treating arteriosclerosis, the speaker said he relied very much upon potassium iodide, in doses of five to ten grains; he thought this remedy was far better than nitro-glycerin for continuous use. The nitrate of sodium had recently been pronounced dangerous for continued use, it being claimed that it was apt to produce severe gastric symptoms. In connection with arteriosclerosis, the condition of the heart should always be carefully considered in estimating the gravity of the condition.

Dr. HERMANN M. BIGGS said it had always seemed to him that patients with arteriosclerosis did best and lived longest in those instances where the disease was pretty extensive in the medium sized and large arteries, and where the arterial walls yielded rather early to the tension, resulting in considerable dilatation, so that the supply of blood was maintained fairly well. In the other class of cases, where the medium sized vessels were not so seriously affected, but were thickened and the calibre reduced and the tension was maintained, we were more apt to find more serious impairment of the supply of blood through the small vessels. The speaker said he recently seen a case of arteriosclerosis following alcoholism and syphilis, in which the effects of large doses of nitroglycerin were strikingly shown. The patient was a man about forty-eighty ears old, with gangrene of the left foot. There was no pulsation in either femoral nor in the left brachial, while that in the right brachial was very feeble. The man was in a stuperous condition; he had considerable temperature, his heart action was very feeble, and it seemed as though he would die within a few hours. Under enormous doses of nitroglycerin, however, his condition improved wonderfully. The circulation was fairly well restored in the right leg, and the coldness and blueness of the limb, which had progressed as far as the knee disappeared. He improved to such a degree that he was able to be up and about the wards, but six or eight weeks later he developed a cerebral hemorrhage and died. Dr. Biggs said it had always seemed to him that in cases of neurasthenia associated with arteriosclerosis, the cause which was back of the arteriosclerosis was also back of the neurasthenia; that both were the result of the same form of poisoning.

Dr. BEVERLEY ROBINSON said that while in many cases of arterial tension, nitroglycerin or amyl nitrite gave good results, there were other cases in which the effects of these and similar drugs were quite unsatisfactory or even entirely wanting. His experience had led him to believe that in certain cases of arterial tension and changes in the arteries the conditions could best be treated, not by drugs, but by more rational measures, such as better hygienic surroundings, careful dieting, etc. Five years ago, the speaker said, he visited several of the larger hospitals in Paris, and he found that there the view was generally held that the nitrites should not be employed to relieve arterial tension unless some very manifest symptoms were present. The possibility of an associated renal lesion in these cases should not be overlooked. An atrophic kidney or interstitial nephritis may at times be easily recognized, and again the presence of such a condition may be readily overlooked. While in such a case the kidney itself did not change, its functionating power did, and in consequence of this the urinary symptoms varied widely at times. Dr. Robinson said he felt confident that there were cases where certain nervous symptoms which were attributed to arterial changes were not really dependent upon the latter, and failed to improve after the arterial conditions had been modified.

Dr. W. GILMAN THOMPSON said it was exceedingly important to distinguish between arterial tension and arteriosclerosis. We should remember that the latter was often quite localized, perhaps in the brain or peripheral vessels, or elsewhere. There was probably no better field for observing arteriosclerosis than Bellevue Hospital, where so many of the patients had a syphilitic and alcoholic history, and were workingmen whose circulatory system had long been subjected to great strain. It was the exception rather than the rule there to find a man of forty with normal arteries. In the majority of patients of that class at that age, arteriosclerosis was fairly well developed, and yet those patients did not suffer often from purely functional nervous disorders. The more extensive the thickening of the vessels, the less likely was the patient to develop temporary functional nervous disorders. Dr. Thompson said that postmortem examinations had shown that we were very apt to be misled by the sense of touch as to the extent to which arterial sclerosis had progressed in a given case. The speaker was inclined to believe that the functional nervous phenomena under discussion depended more upon vasomotor neurosis affecting a large number of vessels and modifying their function, than upon structural changes in the vessel wall.

Dr. Kinnicutt referred to the recent pathological findings in three cases of erythromelalgia reported by Shaw, of the University College Hospital, London. In all, vascular changes were present. The changes consisted of an increase in the intima of the arteries of the affected parts, and occasionally in thrombosis and changes in the inner coat of the veins. The nerves, even to their terminations, showed no indication of degeneration, and there was no increase of fibrous tissue in the trunk of the nerves.

Dr. STARR, in closing, said that in a paper of the character he had presented, which only dealt with a certain group of cases depending on arteriosclerosis, one was liable to be accused of striving to cover too much ground. He realized that there were many cases of neurasthenia that were not traceable to arterial changes. Migraine was due, ninety-nine times out of one hundred, to some toxæmic condition, a fact which had been worked out by Rachford of Cincinnati. Occasional cases, however, were associated with arterial sclerosis. While neurasthenia was usually dependent upon toxic states, nevertheless it was not at all unusual to observe it in men of middle life who were laboring under great pressure and carrying heavy responsibilities, and in those cases it was not attributable to toxæmia, but to arterial changes which in the course of time, perhaps, eventuated in an attack of apoplexy. Dr. Starr said he thoroughly agreed with what Dr. Dana had said regarding the possibility of arterial sclerosis giving rise to symptoms which it was difficult to distinguish from those of brain tumor. As an example of this, he reported the following case: The patient was an elderly man who was apparently suffering from a tumor of the brain, and Dr. Starr was asked to see him in consultation and help decide whether the case was an operable one or not. The symptoms were choked disk, intense headache, an occasional convulsion, hemiplegia and hemianopsia. On account of the diversity of the symptoms it was decided not to operate, and the conclusion was reached that if they were due to tumor, the lesions must be multiple. The patient died and at the autopsy no tumor was found, but the cerebral blood vessels were sclerosed to such a degree that they looked likes pipes of lead. The entire brain was riddled with areas of softening. The arterial sclerosis was apparently limited to the brain, and the arteries at the temple, wrist and feet were quite soft.

Dr. Starr showed a photograph of a case of hemiatrophy of the face that had made rapid progress in two years

## NEW YORK STATE MEDICAL ASSOCIATION.

FIFTH DISTRICT BRANCH.

*Nineteenth Annual Meeting, Held in New York City, May 19, 1903.*

PARKER SYMS, M.D., PRESIDENT.

**Symposium on Malaria: Morphology of the Anopheles Mosquito; Its Habits; Modes of Destruction.**—Dr. W. N. BERKELEY opened the discussion with a paper having this title. Three species of the anopheles were described, and attention was called to the fact that there were many enemies of the larvæ. He said there was no permanent remedy against anopheles except drainage, but there were several well-known methods of temporarily ridding a neighborhood of these pests.

**Laboratory Diagnosis and Life Cycle of the Parasite of Malaria.**—DR. W. T. KLEIN read this paper. He said that as the malarial plasmodium could not leave the body of itself, and was not found in the stools. it was natural to look for an agent of such transmission. This was found in the mosquito. Further study brought out the now well-known fact, that there were two cycles, viz.: (1) The endogenous cycle in the body of the human, and (2) the exogenous cycle in the body of the mosquito. The tertian organism being the commonest in this latitude, was taken for study. The parasite was seldom, if ever, found free in the plasma. Just after the chill it could be seen in the red cells as an unpigmented. spheroidal body which, in the unstained and fresh state, was actively amœboid. In the next stage there was formed, usually within two hours after the chill, the characteristic ring. This gradually increased in size, and showed active amœboid movements in the unstained specimen. As the ring increased in size a thickening of the protoplasm developed at one section, and the body assumed a more nearly spherical form, while the pigment granules became more numerous and the chromatin broke up. At the end of the first twenty-four hours the organism occupied about three-quarters of the invaded red cell. In the full-grown organism the nucleus broke up into a recticulum, which invaded the protoplasm and the chromatin granules continued to divide, becoming fewer in number and larger. The breaking up of the segmenting body and the liberation of the spores were synchronous with the rigor. The cycle was completed approximately in forty-eight hours. Almost from the very beginning the erythrocyte became swollen and soon exhibited a granular degeneration of its protoplasm, which was best demonstrated by the staining method of Goldhorn. The quartan ring resembled that of the tertian, but was slightly smaller and its pigment granules were smaller and more numerous. There were usually between six and twelve spores, and the cycle was completed in seventy-two hours. The rings of the æstivo-autumnal form were distinctly smaller than those of the tertian, and the rings were more delicate and symmetrical. The full-grown and segmenting forms were seldom seen in the peripheral circulation. Two distinct types of æstivo-autumnal forms were recognized, one having a cycle of twenty-four hours, and the other having a cycle of forty-eight hours. The crescent body was an intracellular body of crescentic shape with the horns somewhat rounded. The full-grown body contained one or two centrally located chromatin groups surrounded by motionless pigment granules. The parasite was transferred to man by the bite of the mosquito, the disease usually developing in from eight to ten days after inoculation. All inoculations, however, were not successful, showing that certain conditions were necessary for the successful development of the endogenous cycle.

**Diagnosis.**—The blood suspected of containing the malarial parasite might be examined either dry or fresh, and the specimen should be taken, if possible, about eight hours after the chill. This was because there was a tendency for the organisms to retire to the internal organs just before the chill. Ewing claimed that in an acute malarial fever, even though quinine had been administered, malarial parasites could always be found if the blood were carefully and patiently examined within eighteen hours of the chill. It was exceedingly important that the cover glass and slide used for the examination should be absolutely free from dirt, otherwise annoying errors were apt to arise. For this microscopical examination a one-twelfth-inch oil immersion lens was required. The polychrome methylene-blue stain colored the chromatin a bright red, which contrasted well with the light blue of the intracellular organism. Certain precautions must be observed in order to obtain reliable results. The speaker said that his personal experience as examiner of such blood for the New York Health Department had led him to prefer L. B. Goldhorn's staining method to all others. The entire fixing and staining process could usually be completed in one minute, and the results were eminently satisfactory. The chief feature of this method was the beautiful staining of the chromatin granules, thus greatly facilitating the diagnosis. The errors in diagnosis were usually made with the hyaline and unpigmented forms; hence the value of a stain which brought out well the chromatin granules. A marked diminution in the number of the red corpuscles was a constant occurrence, and the cells were extremely deficient in hæmoglobin. The absence of leucocytosis was also characteristic. A rapidly rising temperature without a marked increase of leucocytosis should lead one to suspect malarial infection; on the other hand, a marked leucocytosis should make one doubt the existence of an uncomplicated malarial infection. Pigmented leucocytes should always be looked for. In æstivo-autumnal fever the parasites were always most numerous during the apyrexial stage, but there were mild forms of the disease in which the parasites could only be found with difficulty In such cases, however, pigmented leucocytes were always present.

**The Concurrence of Anopheles Mosquitos and Malaria.**—Mr. HENRY CLAY WEEKS, Engineer in Economics, presented this paper. He said that the misfortune of being ten years ahead of one's time was that one was put down as a crank, but in this instance the crank effected a revolution of ideas and was able to prove the possibility of exterminating mosquitos from a given region. He commended the quite exceptional and very progressive public spirit of the Board of Trade of Worcester, Mass., which had published an exhaustive report with regard to the existence of malaria in that place, and announced the intention of excluding it. He believed there was much yet to be learned about the mosquito, and it was sincerely to be hoped that people in many other places would not shrink from publishing the fact of the existence of malaria, and so take the first important step toward the banishment of this public disgrace. The speaker then read from various reports with regard to localities, which he was not at liberty to name, all tending to show the concurrence of malaria, with anopheles mosquitos. Attention was called to the fact that the larvæ of the anopheles were found much later in the season than those of the ordinary culex mosquito. He was now engaged in a systematic investigation with regard to malaria in the southern part of Brooklyn. He was glad to say that this movement against malaria was spreading, and he believed that in the near future the results would be remarkable and far reaching.

**Clinical Diagnosis and Treatment of Malaria.**—Dr. ALEXANDER LAMBERT discussed this part of the subject. He said that at the beginning of his medical career he had been impressed with the fact that various serious diseases, such as tuberculosis, puerperal infection, typhoid and other forms of sepsis, were very commonly diagnosticated as "malaria." This was largely because the work of Laveran was only just beginning to be appreciated, whereas now the examinations of the blood were a part

of the routine work of the hospital. We must realize that ordinarily from ten to twelve hours were required for the malarial paroxysm to pass through its complete cycle, whereas most other chills did not take so long. He had seen chills following sepsis from double ear disease which did take as long, and which, consequently, left the diagnosis in doubt until the blood examination had been made. Although there were types of malarial chills which only lasted from four to six hours, these were mild cases, and the temperature did not rise to 104° or 105° F., as in the ordinary malarial paroxysm. When the fever was 104° or over the pulse did not show a corresponding increase in frequency, being often below 100. This was not true of any other similar elevation of temperature with which he was acquainted. These observations were intended to apply only to the form of malaria commonly seen in this climate. Captain Delaney of Calcutta had recently published some interesting observations on that most puzzling form of malaria, the æstivo-autumnal type. He found that this type occurred in about 17 per cent. of the cases there on the first or a single examination, but that if the differential count of the leucocytes were made, in over 90 per cent. of the cases a justifiable diagnosis of malaria was possible. The polynuclear leucocytes were found to be undiminished, the small lymphocytes were increased, often as high as 60 per cent., and the large mononuclear leucocytes were also greatly increased. By these cells he meant all those mononuclear cells which were as large as the polynuclear ones. If they constituted over 12 per cent., he made a diagnosis of malaria. This position was supported by the reports of many cases. Only four cases appeared to be exceptions to this rule, and each one of these occurred in persons who had just developed malaria for the first time. In his cases there was usually a good proportion of hæmoglobin, and the color index was always over one. He found a very high leucocytosis only in those exceedingly severe cases of the æstivo-autumnal variety in which the parasites were present in the circulation in large numbers. With regard to the differential diagnosis of malaria from tuberculosis, the speaker called attention to the different length of the cycle, and the fact that the temperature quickly fell to normal, whereas in the early stages of tuberculosis the temperature ran from the subnormal to the subfebrile, the temperature ranging from 97° to 100° F. In sepsis the chill, the rise of temperature and the sweating occupied a comparatively small period, and recurred irregularly. In cholelithiasis there was frequently a form of fever that had been designated "remittent." When the gall-stone became impacted in the duct it was apt to cause such a fever, and this was usually associated with jaundice. Gradually the duct became dilated and the symptoms subsided, only to be followed by another impaction and other slow dilatation. This explained the remissions observed in such cases. In yellow fever, with a stationary or rising temperature there was a falling pulse; in malaria, the pulse did not continuously fall. It was often difficult to distinguish between æstivo-autumnal malaria and typhoid fever because one must accept the existence of double infections. A fever which rose in a step-like curve and did not rise suddenly and fall as suddenly, and which occurred in a case giving the history of malaise and the prodromal symptoms of typhoid, should be diagnosticated as typhoid, and not as malaria. Moreover in typhoid there would be the abdominal symptoms without much nausea or vomiting, whereas in malaria nausea and vomiting were common, and abdominal symptoms were rare. The enlargement of the spleen in typhoid did not occur as early as in malaria. The diazo-reaction in the urine was not so common in malaria as in typhoid, and the Widal reaction might be present to assist in the diagnosis. Unless the malarial parasites could be found in the blood after repeated examination, or unless the blood changes already described were not present, one should exclude malaria. In this latitude we should deal with fevers as other than malaria unless we could prove them to be malarial. This would prevent many mistakes which had occurred in the past.

**Treatment.**—Fortunately we had a specific for the treatment of malaria. The maximum quantity of quinine was found in the blood six hours after its ingestion into the stomach. The malarial parasite could only be acted upon before it had become mature. The chill occurred about the height of segmentation; hence he gave five grains of quinine every four hours, and continued it until the desired effect was obtained. After this he gave three grains three times a day for a week. In cases of severe malarial infection coming from the Philippines he had followed Manson's treatment, and had not yet seen a case in which it had not proved successful if the patient lived long enough for the quinine to be absorbed. According to Manson, five grains of quinine should be given every four hours until a decided effect was obtained and the temperature reached normal; then, three grains were given three times a day. After the temperature remained at the normal the patient was told to cut a lemon into small pieces, pulp, skin and seeds, place it in one quart of cold water and boil it down to one pint. It was then strained through muslin after having been sweetened to suit the taste. This quantity should be drank every day for four or five months. After three weeks the patient should take a calomel purge, and then three grains of quinine three times a day for one week. At the end of a month he should repeat the calomel purge and the quinine for another week, and this should be repeated at intervals of a month for four or five months, all the while drinking the lemon-juice. It was well to remember that whereas the ordinary sulphate of quinine was almost insoluble and contained only 72 per cent. of the alkaloid, the hydrochlorate of quinine was exceedingly soluble, and contained 81 per cent. of the alkaloid.

Dr. Francis P. Kinnicutt said that a knowledge of the latent phase of the plasmodium was necessary for the intelligent treatment of malaria. Ross, than whom there was no higher authority, recommended first a saline purge, and then ten grains of quinine every two hours for the first fortnight, fifteen grains daily for the second fortnight, ten grains for the second month, five grains for the third month, with ten grains instead of five grains at first twice a week, and then once a week. This dosage was intended for a person weighing one hundred and fifty pounds, and should be greater or less in accordance with variations from this standard weight. In every case of infection with the malarial plasmodium quinine should be given regularly for four months, whether relapse occurred or not. This was a most important fact to be borne in mind. He did not think that clinical experience showed that Manson's treatment was as effective in destroying the parasite as the one given by Ross. The best method of administering quinine was in acid solution; the next best was in the form of powder shaken up in water. Dr. Lambert had very properly called attention to the great solubility and strength of the hydrochlorate and the bihydrochlorate of quinine. During the continuation of the fever little benefit could be expected from arsenic, and while methylene blue appeared to destroy the malarial parasites, it did so more slowly than quinine and often gave rise to certain unpleasant effects. As a preventive of infection, when necessarily exposed to it, he advised taking five grains of quinine daily, with ten grains twice a week.

Dr. David P. Austin said that the period of incubation was about one week, and there was a strong tendency for relapses to occur at intervals of a week up to the fourth week. After this period it was not likely to recur again the same season. As an initial dose he endeavored to give, some hours before the chill, fifteen grains of quinine, ten grains of calomel and five grains of capsicum. This was usually sufficient to interrupt the chill, so that the

next one might be looked for one week later, and should be forestalled by the administration of ten grains of quinine.

Dr. W. I. Cocke of Port Washington, Long Island, spoke of some successful and permanent cures that he had obtained in a considerable number of cases from the administration of nuclein. The "Cuban Mixture," composed of sulphur, camphor and capsicum, had also proved useful in his hands.

**Officers Elected.**—*President*, Dr. J. C. Bierwirth, Brooklyn; *Vice-President*, Dr. Milton C. Conner of Middletown; *Secretary*, Dr. E. V. Hubbard of New York City; *Treasurer*, Dr. Henry Dodin of New York City.

## New Instruments.

### OBSERVATIONS ON RETRACTION AND RETRACTORS IN ABDOMINAL SURGERY, WITH DEMONSTRATION OF AN AUTOMATIC CŒLIOTOMY RETRACTOR.*

By ARTHUR STURMDORF, M.D.,
NEW YORK.

Accessibility of the surgical objective point to sight and touch dominates all operative prognosis.

In intraabdominal operations, such accessibility to sight and touch is obtained by distending the abdominal incision by means of retractors; by postural manipulations, and by partial or complete evisceration. The first of these aids, namely, retraction, is invariably essential and indispensable; while postural manipulation and partial or complete evisceration may be called into play as complementary aids.

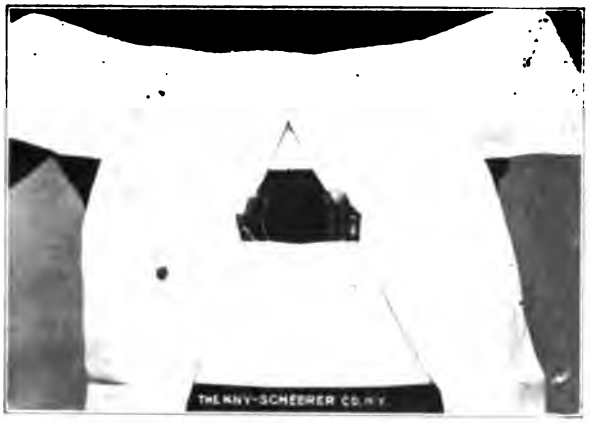
In uncomplicated abdominal conditions, with freedom from extensive adhesions, and in which the necessary operative procedures are of comparatively short duration, the enumerated means, as ordinarily employed, accomplish all that is essential. But it is otherwise in an abdomen presenting extensive and complicated agglutinations. Here we are dependent for accessibility solely upon the retractor, until by intraabdominal manipulations, sufficient visceral mobility is obtained so that postural and eviscerating aids may be utilized.

It is in *these cases of necessarily prolonged retraction* that the technical shortcomings of retractors in use at the present day become manifest.

Yet, while the *immediate detriments* from structural faults in retractors, during operation, have been fully recognized, as evidenced by the enormous variety of such instruments in vogue, there is one ultimate detriment of paramount importance, which to the present writing has received no emphasis. This ultimate detriment which distinguishes abdominal wound retraction from wound retraction in other regions, is the production of wound conditions inimical to firm union, thus favoring the development of *visceral protrusions*. The occurrence of post-operative hernia, while materially reduced in frequency by modern methods, is not entirely obviated by the same.

The most accurate layer-coaptation in suturing cœliotomy wounds cannot secure an adequate union of wound edges, bruised and devitalized by long-continued pressure and friction. I am convinced that this traumatic element also stands in causative relation to the cases of "*late gaping*" in cœliotomy wounds, which were reported recently by Collins, Lilienthal, Morris, Brewer, Moschowitz, Blake, Walker, and Foote. In discussing these cases, Dr. Erdman, reported one in which the wound opened on the ninth day, without apparent cause, and this, despite the fact that he had taken special pains in coaptating the parts at the time of operation. It is not necessary to demonstrate gross lesions in evidence. The baneful effects of antiseptics upon the healing process in clean wounds is fully recognized.

Can continuous pressure by badly fitting, pronged, toothed, or fenestrated irons be less deleterious? Pressure and bruising devitalize wound surfaces and deprive them of the two functions essential for their primary and permanent union. The cytogenetic, necessary for the production of young, healthy connective tissue cells—and the bacteriolytic, essential for the annihilation of such bacterial presence, as the




Unencumbered operative field. Note absence of projections.

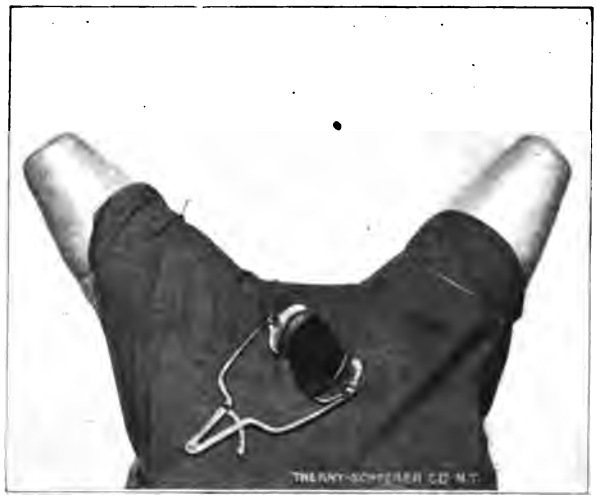
Longitudinal retraction.

Disarticulated.

*Demonstrated before the Gynecological and Surgical Sections of the New York Academy of Medicine.

Proper method of grasping instrument for rotation within the wound.

Normal lateral retraction. Note absence of angulation in incision.



Oblique retraction.

Proper method of separating blades within the wound.

Posterior view of retractor.

most scrupulous antiseptic endeavors cannot obviate.

The attenuation of a post-operative hernial covering is *not* due primarily to a simple diastasis of the parietal strata, but to a more or less extensive atrophy of the involved layers. Note the uniform absence of adipose tissue in such an incompetent scar, and the fact that, most frequently, the visceral protrusions are more prominent in the *immediate vicinity* of and *not through* the scar itself. Note the influence on the occurrence of post-operative hernia, from the pressure of drainage tube and gauze strip.

Wound retraction *is* nevertheless indispensable and its detriments must be obviated or at least mitigated. A longitudinal abdominal incision, distended laterally, presents an opening more or less elliptical in shape. The points of greatest distensibility in this elastic ellipse are in the center of its lateral borders—in other words, through its widest diameter. This distensibility diminishes rapidly from these points toward the apices of the wound.

It follows that, to obtain a maximum of distension with a minimum of force, the blades of the retractor should be so shaped as to exert the greatest traction on these points of greatest distensibility; namely, in the center of the lateral borders of the incision and neither above nor below these points.

Thus the disadvantage of the ordinary flat-bladed retractors becomes evident. The flat retracting surface being applied to the concave border of the distended incision, maximum traction is exerted by the lateral edges of the flat blade at points above and below the center of greatest distensibility; the wound becomes angulated, to the detriment of tissue and space. If we recall the direction of the vascular channels in the abdominal wall, such forcible angulation might throw some light on the etiology of thrombosis in the veins of the lower extremities, after cœliotomies running an otherwise uneventful course, as reported by Lennander, Coe, Meyer, and others.

The wider the retracting blade, the more prominently will this factor come into play. It follows that, to obtain the maximum of retraction with a minimum of injury, the shape of the retracting blade must conform to the lines of the *distended wound* and not to those of the *relaxed incision*.

Modelled on these lines, two semi-elliptical blades result, which, placed *in situ*, present a dilatable metallic ellipse fitting smoothly and snugly within the wound ellipse, thus obviating the injurious results of improper blade contour. . . . In addition to the disadvantages of improper shape the ordinary hand retractors necessitate the presence of additional assistance; an undesirable feature because additional assistance cannot always be had, and when had

entails additional sources of infection, with encumbrance of the operative field.

The instrument which I take the liberty to submit, possesses proper blade conformation and an automatic self-retaining mechanism, which enables the operator, unaided, to control any desirable amount of steady traction, in any diameter of the wound, for any length of time.

I claim but a small share of originality in the construction of this retractor. The blades are modified from Fritche's instrument, and the self-retaining mechanism was suggested by Kelly. Yet a glance will show very essential differences from both.

The instrument, as submitted, was used in a number of tedious and difficult abdominal operations, and proved itself eminently satisfactory. It enables me to carry through successfully, without any assistance whatsoever, in the presence of several of our members, a complicated gynecological extirpation, with the usual peritoneal plastic work. The instrument is simple in construction, easily disarticulated for sterilizing purposes, and free from inaccessible crevices and joints.

In applying it, it is only necessary to avoid insinuating the free edge of the blades into the preperitoneal space, preventing injury to or peeling of the peritoneum. It does not encumber the field of operation by projections of any kind. The blades rotate freely, thus enabling the operator to change the lines of traction from the transverse to the oblique or longitudinal diameter without extracting the instrument, by simply rotating it within the incision, as shown in the illustration. Owing to the shape of the blades they cannot slip either in or out of the wound. If found desirable, one blade can be easily detached during operation and the instrument used as an ordinary single-hand retractor.

It is supplied with several sizes of interchangeable blades, thus making it applicable to any length of incision. It is manufactured by the Kny-Scheerer Co. of New York.

206 East Sixty-second Street.

## THE IGNITION VACUUM BOTTLE.

### A CHEAP, CONVENIENT, POWERFUL ASPIRATOR.

By KARL CONNELL, M.D.,
NEW YORK.
HOUSE PHYSICIAN, NEW YORK HOSPITAL.

A strong clear glass bottle of medium or wide mouth is selected. For aspirating the chest an ordinary five-pint bottle of about one-inch mouth is a convenient size. This is fitted with a perforated stopper, rubber preferably, to which is attached a foot or two of firm rubber tubing clamped by a hæmostatic forceps or other device. Three drachms of 95-per-cent. alcohol is poured into the bottle, which is then turned until the entire inner surface is coated. The excess of alcohol is poured off. The bottle is then placed upright and ignited at the mouth before the film of alcohol has time to dry or settle. (Figure 1.) A sheet of flame descends into the bottle, varying in time for complete ignition from a fraction of a second to several seconds, depending on the strength of the alcohol and the temperature of the glass. As the flame touches the bottom, the bottle is quickly corked. On attaching the needle the aspirator is complete.

By this simple procedure, taking less than half a minute, one displaces regularly 75 to 85 per cent. of the air in the bottle, thereby securing an initial suction power sufficient to raise a 28-foot column of water.

The capacity is limited only by the size of the bottle. That described will aspirate 60 to 68 ounces, which in a personal experience of some two hundred tappings has been found to be the maximum amount to be removed at one time with safety and comfort to the patient. Should further aspiration be desired after this amount is reached, the cork can be loosened, the tubing led over the side of the bed and further fluid obtained by syphonage, or the bottle can be disconnected, emptied, and the vacuum reëstablished.

The suction transmitted to the needle is limited by

Fig. I.

the collapsing index of the connecting tubing. If only gentle suction is desired a few inches of soft tubing can be interposed at any point. To transmit the full suction power fairly firm tubing is necessary. The rate of flow is governed by the size of the needle, or by clamping the tubing.

Some experience is desirable to time the corking

Fig. II.

of the bottle correctly. This influences the degree of vacuum more than the rate of combustion. The temperature of the bottle should be between 60° and

110° F. At 60°, with 95-per-cent. alcohol, ignition is slow, but becomes more rapid if the temperature of the bottle is raised, until at 110° it takes place as a hoarse cough, necessitating quick corking. Below 60° the alcohol will not ignite. Above 110° it ignites so rapidly as to introduce possibly, with a weak bottle or narrow neck, an element of danger. With 50-per-cent. alcohol, or whiskey, the temperature of the bottle must be at least 85°F. for combustion to take place. Ether and other volatile substances should be avoided. The bottle in the illustration has been used over a thousand times. No accidents have ever happened.

If the vacuum should be lost through clumsy corking or leaky connections the vitiated air must be displaced by water before ignition is again attempted.

The great economy of time and labor has resulted in this device supplanting since its origin eight months ago all the expensive and rapidly deteriorating Dieulafoy, Potain, and other mechanical aspirators, and the less powerful syphon methods hitherto employed at the New York Hospital. The method has recently been introduced into Roosevelt Hospital, with satisfaction, by Dr. Geo. L. Peabody, and demonstrated by Dr. Henry P. Loomis before the Clinical Society.

The monetary feature commends the instrument to the average practitioner. It can be obtained, exclusive of clamp, at any village drug store, for less than fifty cents.

The instrument is satisfactory as an aspirator for exploring or evacuating liver abscess or empyema, or for suprapubic aspiration of the bladder. A larger bottle would provide ample suction for rapidly drying the pelvis or aspirating a cyst at the operative field. When relief from massive œdema of the legs or scrotum is sought by direct puncture, this vacuum bottle is useful to secure more rapid drainage without liability of infection. For such a purpose, a medium-sized needle is inserted deeply into the œdematous tissue, and attached to the bottle which rests clear of the bed. Twenty ounces of serum can be obtained from a single puncture of an œdematous scrotum in several hours, with relief of symptoms, in a cleanly manner, and without subsequent oozing.

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**Gersuny's Operation for Saddle-back Nose.**—Joseph Rilus Eastman reports a case successfully treated by paraffin injections. Two cubic centimeters of molten paraffin were injected into the skin over the site of the bridge of the nose. Directions are given for the preparation of the paraffin and the method of conducting the operation. There is nothing of interest, the author says, in connection with the history of the case cited since the operation, except that the patient has suffered three or four attacks of pronounced syncope. The patient was not seen by him during any one of these attacks, therefore he has no knowledge of their character, but he suspects slight embolism. —*The Medical and Surgical Monitor.*

**Microbes at the Pole.**—Dr. J. Charcot is heading a very unusual expedition to the polar regions. On May 15 he sailed from St. Malo, France, under the auspices of the Pasteur Institute and the Museum of Natural History of Paris, to study bacteriology in the polar regions. A number of prominent investigators deny the existence of microbe life in the polar regions, and Dr. Charcot, by making repeated analyses of air and water in these regions, as well as by careful examining the intestinal tracts of polar animals for the primary microbes which are found so abundantly in warm or temperate latitudes, will undoubtedly make many interesting discoveries and definitely settle the dispute.—*Albany Medical Annals.*

# Medical Items.

**Contagious Diseases—Weekly Statement—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending June 27, 1903:**

| | Cases. | Deaths. |
|---|---|---|
| **Measles** | 403 | 14 |
| **Diphtheria and croup** | 399 | 49 |
| **Scarlet fever** | 210 | 16 |
| **Smallpox** | .. | .. |
| **Varicella** | 54 | 1 |
| **Tuberculosis** | 263 | 142 |
| **Typhoid fever** | 56 | 7 |
| **Cerebrospinal meningitis** | .. | .. |

**Health Report.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending June 27, 1903:

SMALLPOX—UNITED STATES.

| | | CASES. | DEATHS |
|---|---|---|---|
| Alabama, Mobile | June 13–20 | 3 | .. |
| California, San Francisco | June 7–14 | 1 | .. |
| Colorado, Denver | May 23–June 6 | 24 | .. |
| Georgia, Atlanta | June 3–17 | 3 | .. |
| Illinois, Belleville | June 13–20 | 3 | .. |
| Chicago | June 6–20 | 6 | 1 |
| Danville | June 6–13 | 1 | .. |
| Indiana, Indianapolis | June 6–20 | 3 | .. |
| Kokomo | June 13–20 | 1 | .. |
| Iowa, Des Moines | June 13–20 | 1 | .. |
| Louisiana, New Orleans | June 13–20 | 2 | .. |
| Maine, Port Kent and vicinity | June 18 | 9 | .. |
| Maryland, Cumberland | May 1–31 | 24 | 4 |
| Massachusetts, Fall River | June 6–20 | 7 | .. |
| Michigan, Detroit | June 15–22 | 7 | .. |
| Flint | June 13–20 | 1 | .. |
| Grand Rapids | June 13–20 | 2 | .. |
| Port Huron | June 13–20 | 10 | .. |
| Minnesota, Winona | June 13–20 | 1 | .. |
| Missouri, St. Louis | June 7–21 | 18 | .. |
| New Hampshire, Manchester | June 13–20 | 2 | .. |
| Nashua | June 13–20 | 1 | .. |
| New York, Elmira | June 13–20 | 3 | .. |
| Ohio, Cincinnati | June 12–19 | 7 | .. |
| Cleveland | June 6–13 | 1 | .. |
| Dayton | June 13–20 | 2 | .. |
| Hamilton | June 13–20 | 3 | .. |
| Toledo | May 30–June 13 | 8 | 1 |
| Warren | June 13–20 | 1 | .. |
| Pennsylvania, Carbondale | June 7–21 | 4 | .. |
| McKeesport | June 6–20 | 1 | .. |
| Pittsburg | June 6–20 | 40 | 4 |
| | | (one case imported) | |
| Philadelphia | June 13–20 | 35 | 4 |
| Tennessee, Memphis | June 13–20 | 2 | .. |
| Nashville | June 13–20 | 1 | .. |
| Utah, Salt Lake City | June 6–20 | 6 | .. |
| Washington, Tacoma | June 15–22 | 1 | .. |
| Whatcom | Jan. 1–June 1 | 14 | 2 |
| Wisconsin, Milwaukee | June 13–20 | 10 | .. |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Argentina, Buenos Ayres | Mar. 1–31 | .. | 8 |
| Austria, Prague | May 30–June 6 | 4 | .. |
| Belgium, Antwerp | May 30–June 6 | 3 | 1 |
| Ghent | May 16–June 6 | .. | 4 |
| Liege | May 23–30 | 1 | 1 |
| Brazil, Bahia | May 23–30 | 2 | .. |
| Rio de Janeiro | May 10–27 | .. | 7 |
| British Guiana, Demerara | Feb. 10–May 16 | 344 | 2 |
| Canada, Hamilton | June 6–13 | 1 | .. |
| Ontario | Apr. 1–30 | 122 | 2 |
| Vancouver | May 1–31 | 1 | .. |
| Canary Islands, Las Palmas | May 18–June 6 | 37 | .. |
| Colombia, Bocas del Toro | June 2–9 | .. | 4 |
| Germany, Strassburg | Apr. 1–30 | 13 | .. |
| Great Britain, Birmingham | May 30–June 13 | 9 | .. |
| Bristol | May 30–June 6 | 1 | .. |
| Dublin | May 30–June 6 | 15 | 3 |
| Dundee | May 30–June 6 | 1 | .. |
| Leeds | May 30–June 6 | 40 | .. |
| Liverpool | May 30–June 13 | 81 | 5 |
| London | May 30–June 6 | 24 | .. |
| Manchester | May 23–June 6 | 20 | 4 |
| Nottingham | May 23–30 | 2 | .. |
| Newcastle-on-Tyne | May 30–June 6 | 2 | .. |
| Sunderland | May 30–June 6 | 2 | .. |
| India, Bombay | May 19–26 | 45 | .. |
| Japan, Kobe | May 9–16 | 2 | .. |
| Yokohama | May 16–23 | 1 | .. |
| Mexico, City of Mexico | May 31–June 7 | 24 | 14 |
| Russia, Moscow | May 23–30 | 8 | 1 |
| Warsaw | May 16–23 | .. | 1 |
| Spain, Cadiz | May 1–31 | 1 | .. |
| Straits Settlements, Singapore | Apr. 11–18 | 4 | .. |
| Turkey, Smyrna | Apr. 19–26 | .. | 1 |
| Uruguay, Montevideo | Mar. 1–Apr. 5 | 22 | .. |

YELLOW FEVER.

| | | | |
|---|---|---|---|
| Brazil, Rio de Janeiro | May 10–24 | .. | 12 |
| Colombia, Panama | June 8–15 | 3 | 1 |
| Costa Rico, Limon | June 4–11 | .. | 4 |
| Mexico, Coatzacoalcos | May 30–June 6 | 1 | .. |
| Tampico | June 6–13 | 11 | 8 |
| Vera Cruz | June 6–13 | 30 | 10 |
| Vera Cruz | June 13–20 | 27 | 7 |

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## Original Articles.

### SOME RECENT METHODS OF INTESTINAL ANASTOMOSIS.*

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INTESTINAL surgery is a subject which should be of interest to all who make any pretense to surgical work. The general surgeon must, of course, be qualified to deal with any of the complications necessitating operations upon the intestines whenever he invades the abdominal cavity. Likewise the gynecologist, equally with the general surgeon, would be incompetent to attempt any abdominal section for pelvic disease were he not thoroughly conversant with the methods and technique of this branch of surgery. The gynecologist, more frequently than not, expects to find intestinal complications in the way of adhesions when he opens the abdominal cavity; in fact, I think we may state that he has to deal with dense intestinal adhesions more frequently in his allotted field than does the general surgeon in his work in other parts of the abdomen. The obstetrician occasionally must open the abdomen, and

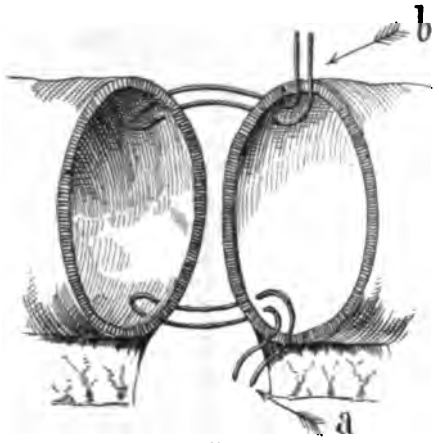



Fig. 1.

even an ophthalmologist may be called upon in an emergency to do likewise, as was the case with one of the members of this club. Suffice it to say, that the recent advances and the present status of this interesting subject, and a practical knowledge of the technique of the different methods, should be familiar to all who do abdominal work. Those who are not especially interested in this subject, may be under the impression that the problem of uniting the severed ends of the intestine has been solved of late years by the Murphy button, which is so generally used. The fact that new ideas and methods are being constantly presented in great variety goes to prove that the end is not yet and that we are still searching for an ideal.

*Read before the Hospital Graduates' Club.

Only a few years ago Senn wrote: "We have reason to believe that the technique of intestinal surgery remains an unfinished chapter, and that the ideal method of uniting intestinal wounds has not yet been devised." This statement holds true to-day, but since that time great progress has undoubtedly been made.

The history of intestinal surgery dates from ancient times, but two landmarks stand forth, from each of which great advances in the problem were made. Lembert in 1826 proved that the healing of

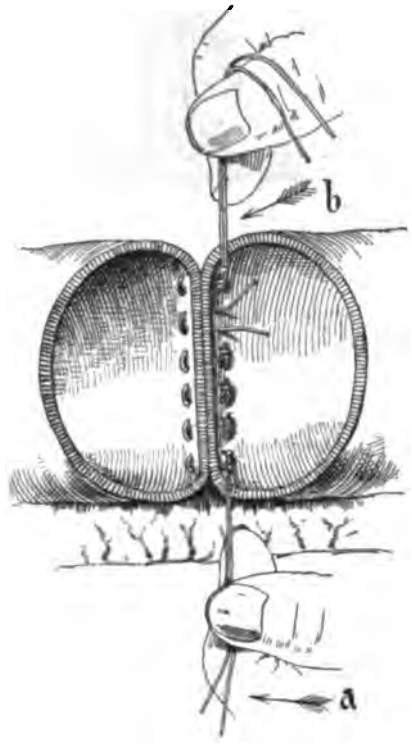



Fig. 2.

intestinal wounds takes place most constantly and speedily if serous surfaces are brought into contact, and the law of "serosa to serosa" has stood the test of time and holds good to-day.

Lister by his discoveries in antisepsis made possible the invasion of the abdominal cavity with impunity, and thereby opened up the field for the attainment of the hitherto impossible. It is only in the past twenty-five years that the abdomen has been opened so that intentional operative procedures upon the intestines might be performed. Before that time operations upon the bowels were only done in emergencies as the result of accidents, and as a forlorn hope. Less than fifty years ago, the rule was to do nothing, as nature was considered the better surgeon.

The mind of man has been ever active in the devising of ingenious devices whereby a fellow-being might be saved from the consequences of grave intestinal wounds, as is shown by the precursor of the Murphy button, when four monks of the thirteenth century first snatched from death a case of intestinal injury by inserting the trachea of a goose into the open lumen of the bowel. This was the

first authenticated instance of a foreign substance being placed in the interior of the gut for purposes of anastomosis. Since that time every conceivable substance of metal, bone, rubber, and vegetable matter has been employed to take the place of the goose trachea, known in history as the "Method of the Four Masters."

In 1730 we find recorded the first case of recovery following circular enterorrhaphy for complete transverse division of the bowel, when a surgeon by the name of Ramdohr inserted one cut end into the other and retained the parts by a single suture placed

Fig. 3.

in the convex border of the intestine; truly a remarkable recovery.

Since that time the development of the subject has been upon three lines, and we may divide the methods into three classes of operation: First class, methods where foreign bodies are employed in the lumen of the bowel to hold the ends together, and to act as splints to favor accurate approximation. Second class, by suture alone. Third class, by mechanical devices which hold the parts in apposition while the sutures are being placed, but which can afterward be withdrawn.

All three classes as perfected to-day are successful, but each has its disadvantages as well as its advantages, so therein lies the reason for the constant

Fig 4.

appearance of new methods and new devices, in each of which an approach to the ideal has been sought for.

First class: The principle in which a foreign body is placed in the lumen of the bowel to secure an accurate approximation of the parts, and to facilitate the introduction of sutures, finds its origin in the method of the "Four Masters" previously referred to. Senn, by his masterly investigations upon the healing of intestinal wounds, stimulated the work in this country, and in 1887 he presented his method of using decalcified bone plates to hold the cut ends of the bowel together. These had the advantage of being softened and gotten rid of by the action of the intestinal juices, so that they were eliminated after their usefulness as splints was over.

This method is not popular to-day, because of the trouble in preparing the plates, and the introduction of more handy substitutes. Different investigators have presented the same idea, using rings of catgut and rubber, plates and cylinders of cartilage, turnip, potato, chromicized gelatin, tallow, raw-

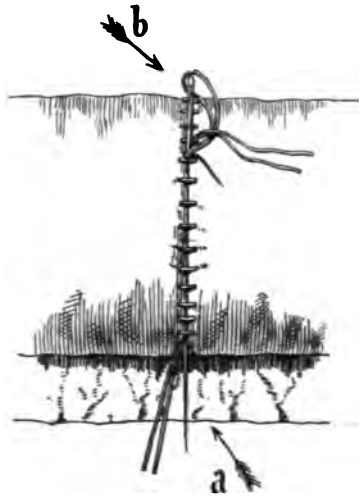



Fig. 5.

hide, rubber, cardboard and cork. The same objections that apply to Senn's original bone plates apply to all of these methods, chiefly that they are never ready, are difficult to prepare, and require unusual skill to apply them speedily and accurately.

It was not until Murphy of Chicago invented the button which bears his name, in 1892, that a means was found whereby the ends of the intestines could be accurately approximated, serosa to serosa, with great speed, and without the employment of unusual skill, that the whole problem was simplified and a

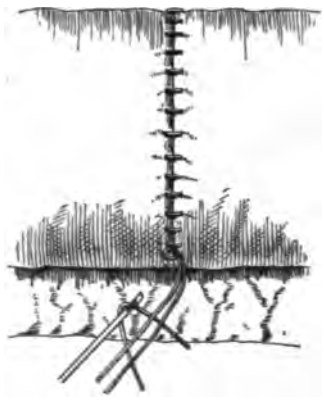


Fig. 6.

great advance in results was attained. The Murphy button is to-day the most used of all methods, which means that it has proved generally satisfactory. It owes its popularity mainly to its simplicity of application, and to the rapidity with which the anastomosis can be made by its use; two most important requisites to the success of any method. When it is used without reinforcing sutures, much time is saved, but of late years I think the majority of surgeons prefer not to trust to the button alone, but insert a row of sutures to insure the strength of

the union. This procedure naturally increases the amount of time required, and takes away one of its chief advantages, and places it on a par with other methods which depend upon sutures for their success. It is interesting to note that the advent of the Murphy button was not without severe criticism at the hands of acknowledged authorities. Senn wrote of it in 1893 as follows, "It is an exceedingly ingenious appliance, but its mechanism, as far as uniting the ends of the bowel is concerned, is no

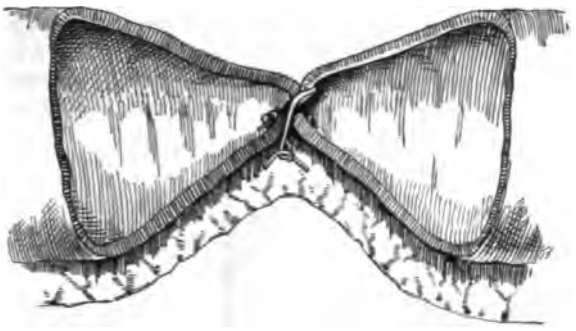
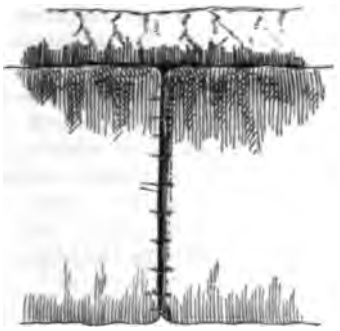


Fig. 7.

improvement upon the rings employed by Denan, more than half a century ago. Any instrument, suture, or ligature used in effecting the continuity of a wounded or a divided bowel that produces gangrene must be looked upon as a source of danger. As a means of end-to-end union of the intestine, the Murphy button is certainly inferior to Denan's procedure, because the lumen of the connecting part is not large enough as a temporary outlet for the intestinal contents." He quotes Keen, in the *Annals of Surgery* for June, 1893, as saying, "The button should be abandoned for intestinal anastomosis," and concludes, "If this warning of so eminent a surgeon foreshadows the final verdict of the pro-



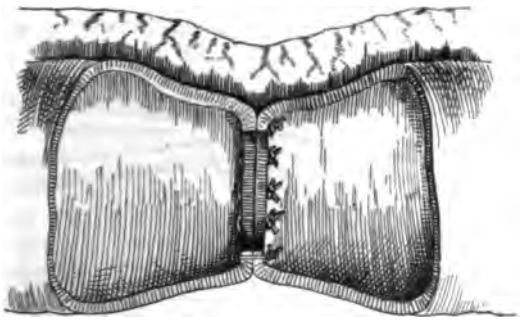


Fig. 8.

fession in regard to the use of the button for anastomotic purposes, it will never come into use in end-to-end approximation."

That Senn has been compelled to change this early opinion of the merits of the button is shown, if we refer to his recent work on "Practical Surgery" just issued, in which he says of it, "Of all the appliances as a substitute for suturing of intestinal wounds, the Murphy button has been used most extensively, and has yielded the best results."

The main objection to the Murphy button is the fact that a large foreign body is left in the canal, and this is a serious feature, as sometimes the button does not come away, but remains to cause intestinal obstruction.

Another objection is that the lumen of the button is very small, which predisposes to clogging of the aperture. As its liberation depends upon sloughing

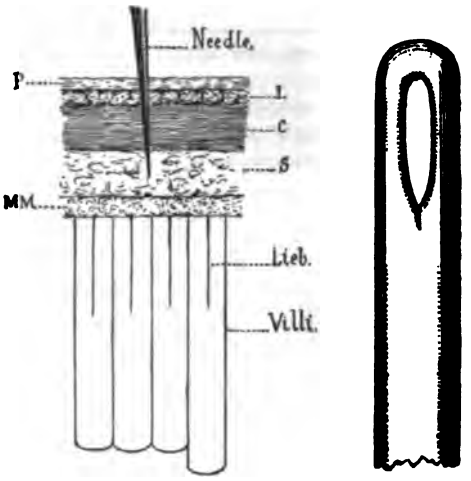



Fig. 9.

of the walls which are pinched within its opposing halves, a raw, unhealed surface is left on the interior of the bowel, which likewise has given trouble by becoming adherent or by causing contraction. Another objection is, that as the walls of the intestine often vary greatly in thickness, the button does not always fit properly, and then again the spring and catch of the button are liable to get out of order, especially when not made by the best instrument makers.

Second class: Methods where union is obtained by suture without mechanical aids, may be said to date from Ramdohr's application of a single stitch.

The glovers' stitch is the first suture recorded, but is abandoned. Since that time innumerable methods have been invented, but few have survived the

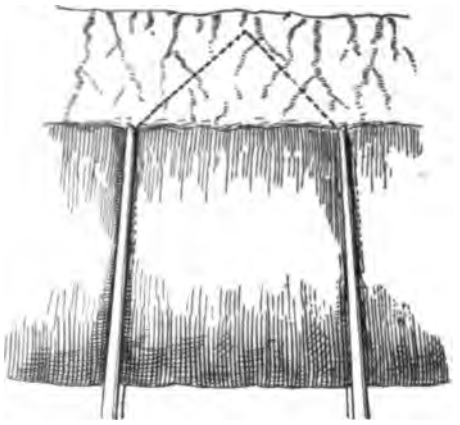


Fig. 10.

test of experience. The law of "serosa to serosa," as first demonstrated by Lembert, marked a change in the technique of suturing, and all methods to-day have the approximation of serous surfaces as their object.

The continuous overhand suture, applied after the principle of Lembert, is rapid but has marked disadvantages; namely, if one part becomes loose the whole is liable to become insecure; in tightening it, it is difficult to secure even tension all along the line; should the bowel contract, the whole suture may become loosened and the wound gape. Therefore it is not

safe to trust alone, but it may be used in combination with the Lembert stitch.

The Lembert suture is an interrupted stitch, and approximates the serous surfaces by picking up the peritoneum and muscular coats. Halsted, in recent years, has emphasized an important fact, first noted by S. D. Gross in 1843, that the submucous coat of the intestine is of a strong fibrous nature, and that to insure proper holding of the sutures the point of the needle must penetrate this coat.

The Czerny-Lembert suture is the Lembert stitch reinforced by a deep row approximating the mucous membrane.

The quilt or mattress suture recently devised by Halsted, is a most important advance. It is so

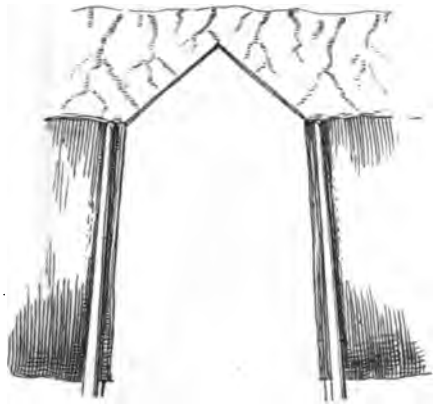


Fig. 11.

safe that a single row of stitches will suffice, thus obviating the danger of gangrene, which is sometimes caused by the double row of Czerny-Lembert sutures. It constricts the tissues less than the Lembert suture, and does not tear out so readily, if submitted to tension; furthermore it is more rapid of execution, as there are just one-half the number of knots to be tied.

In all the above methods the knots are tied on the peritoneal surface of the bowel. This has been always recognized as objectionable on account of irritation, the danger of capillarity should a stitch accidentally penetrate into the lumen of the gut, and the fact that the suture is likely to remain permanently.

Maunsell's method appeared in 1892, and it was a departure from previous methods, as the suture and the knots were here placed inside the lumen at the

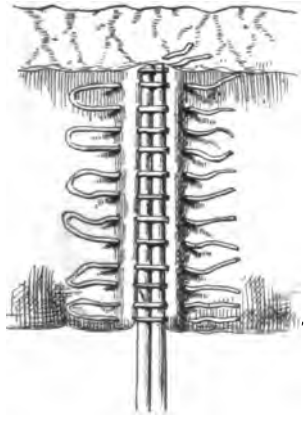


Fig. 12.

site of the anastomosis, but the closure of the longitudinal slit through which the ends of the bowel are inverted, must necessarily be closed with external sutures. This method affords a very secure union of the cut ends, as the whole thickness of the intestinal wall is penetrated by the stitch. Practically it has proved most successful, as instanced by a report of thirty-one cases, with but three deaths.

Third class: Methods wherein mechanical devices are used to facilitate the placing of the sutures, and which are afterward withdrawn, have been much advocated of late, and many clever instruments have been devised. Halsted's inflatable rubber bulb is one example of this method. The collapsed bulb is placed in the lumen of the bowel, the cut ends of which are held in apposition by stay sutures. The bulb is inflated to distend the bowel while the stitches are passed and tied, after which it is deflated and drawn out before tying the last stitch. A number of ingenious forceps have been invented to accomplish the same purpose, notably those of

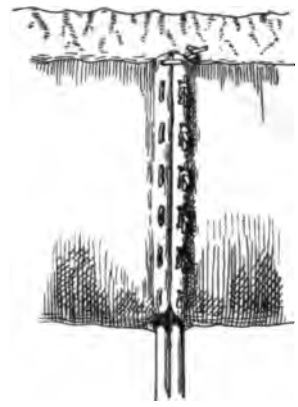


Fig. 13.

Mudd, Grant, Morrison, Lee, and especially the Laplace instrument.

The objection to rubber bulbs or cylinders is manifest when we remember how rubber deteriorates, and how easily an unintentional needle puncture would collapse the bag. The various forceps mentioned are complicated and frequently difficult to apply, yet under suitable conditions the method is a most admirable and successful one.

The aforementioned methods are illustrative of the three classes of operation, and may be said to be the standard procedures employed to-day in this branch of surgery, and with which you are doubtless familiar. I wish to present to you some new methods recently advocated, and shall speak of three, each belonging to one of the three classes. Each is claimed to overcome the objections advanced against the standard methods, and therefore are a nearer approach to the ideal sought for.

The first method I shall call your attention to belongs to the first class, whose most familiar prototype is the Murphy button. It is Harrington's

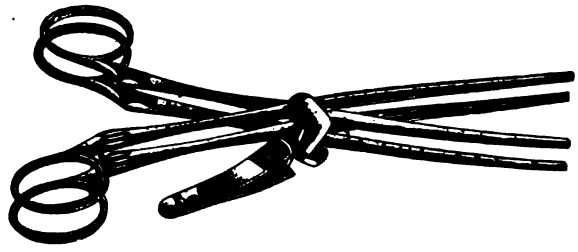


Fig 14.

segmented ring for intestinal anastomosis (see figure 15).

It was invented by Francis B. Harrington, surgeon to the Massachusetts General Hospital, and was published in the *Boston Medical and Surgical Journal* for November 6, 1902. It consists of a ring of aluminum made in four sections which are grooved to fit each other, and they are firmly held together by a small rod of steel which screws into two of the segments, and at the same time acts as a

convenient handle. The circumference of the ring is concave. A purse-string suture of silk or catgut is run around the cut ends of the bowel, as in using the Murphy button. The ends of the bowel are then slipped over the ring and the purse-string sutures firmly tied in the groove. Lembert, or Halsted's mattress, sutures are then placed to approximate the peritoneal surfaces of the gut. The handle is then unscrewed and withdrawn and a little firm pressure separates the ring at once into its four sections, which are small and easily passed by the bowel, thus having the advantages of the crushable cylinders of potato, turnip, etc., without their disadvantages. This ring has some of the good points of the Murphy button and the Laplace forceps, and is without their objections. It is much simpler and less expensive. The segments do not cause pouching of the intestine, as they weigh only from 10 to 25 grains, while the Murphy button weighs over half an ounce. The lumen is much larger than that of the button, and it does not depend upon sloughing for its liberation. It is quickly applied, as the handle greatly facilitates manipulation. The ring has been used in a number of cases of intestinal anastomosis with excellent results.

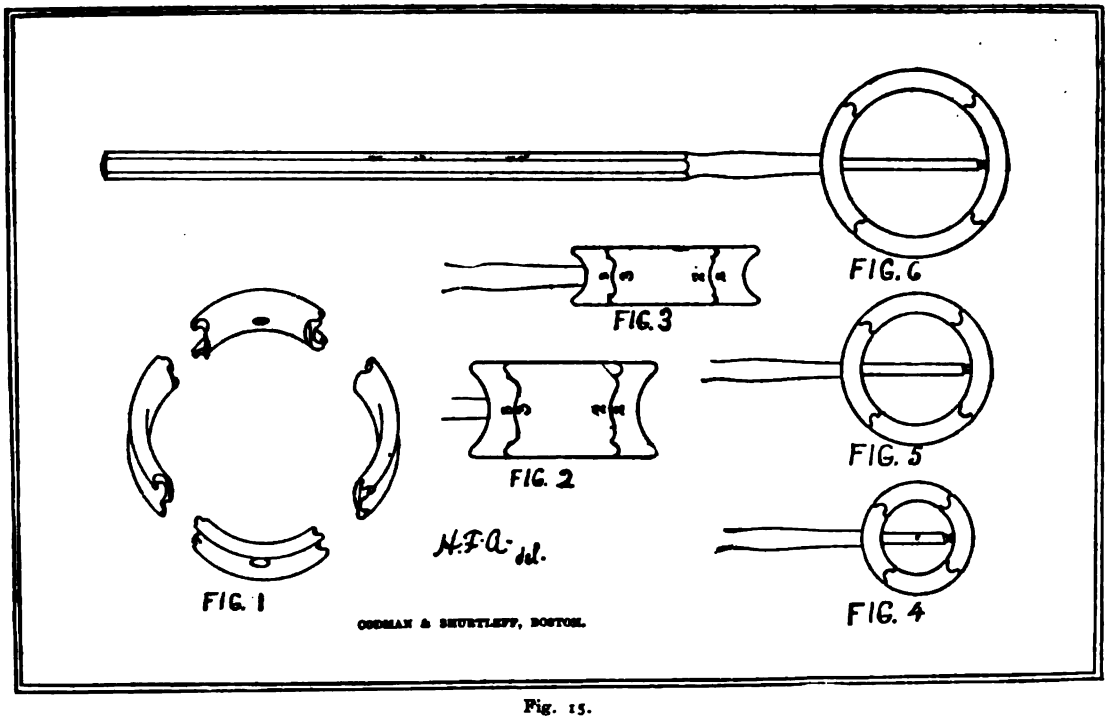



Fig. 15.

The second method of which I wish to speak is known as the "Connell Suture," and belongs to the class of operation in which no mechanical aid is employed. This ingenious method was invented by Dr. F. Gregory Connell of Chicago, and was first published in the *Philadelphia Monthly Medical Journal* for January, 1899. It was first employed in June, 1900, by Martin of Chicago, and was presented in an improved form with a report of nineteen cases and fifteen recoveries, before the American Medical Association in the summer of 1901, by Dr. Connell. This paper appeared in the *Journal of the American Medical Association* for October 12, 1901, under the title of "The Knot within the Lumen in Intestinal Surgery." Of all the methods belonging to this class of operation, it, theoretically at least, more nearly approaches the ideal than any other yet devised.

We have mentioned the great success of Maunsell's method, and noted that the success of that method was due largely to the firm union obtained by the sutures passing through the entire intestinal wall, and to the fact that all of the sutures and knots were upon the inside of the bowel, with the exception of those closing the longitudinal slit upon the convexity of the intestine, through which the cut ends were inverted while being sutured. It must be apparent that if we could find a way of placing all the sutures and knots upon the *inside* of the bowel, and at the same time do away with the longitudinal incision, which is necessary to enable us to place the sutures in the Maunsell operation, we would surely be approaching very close to the ideal. This is what is made possible by the Connell suture.

The resection of bowel having been made in the ordinary manner, the first stitch is placed at the mesenteric attachment of the cut ends. The needle is passed clear through the intestinal walls of both cut ends on one side of the mesenteric attachment and is returned through the walls in a like manner on the other side and is tied as is shown in figure 1, A. The ends of the suture are left long so as to make convenient stays for the assistant to hold.

The next stitch is passed in a similar manner, but at a point about one-third of the circumference of the bowel away from the first stitch (see figure 1, B). The ends of this stitch are also left long and the assistant now holds the bowel by the two stitches (see figure 2, A and B). Next, stitches are now placed in the space between suture A and B, and are tied and cut short, thus completing one-third of the anastomosis (see figure 2). In inserting these sutures, the needle penetrates both cut ends of the bowel at once, thus saving considerable time.

The second third of the circumference is closed in precisely the same manner as the first third (see figure 3).

The closure of the last third must be done in a somewhat different manner. While the stitches are placed and tied in exactly the same position, the needle must penetrate each wall of the gut separately as shown in figure 4.

It is apparent that no difficulty in tying the stitches on the inside of the lumen will be encountered until we come to the last stitch, as they are tied through the opening in the bowel not yet closed. But after the last stitch has been placed, comes the problem of tying it with the knot inside the bowel, and herein lies the trick of the Connell method.

The last stitch having been placed in position ready

to be tied, a threaded needle is passed, *eye* end first, between the approximated walls of the bowel, at a point nearly opposite the last stitch in the space between two sutures (see figure 5, a). The eye end of the needle, with its thread, is brought out of the aperture remaining to be closed by the last stitch (see b, figure 5). The ends of the last stitch are then passed through the loop of the threaded needle (see b, figure 5), and are drawn into the bowel, and out of it through the space in the walls at which the eye end of the needle first entered (see figure 6).

The ends of the last stitch are now drawn tight, closing the final opening, and bringing the opposite sides of the bowel in contact with each other, while the stitch is tied and cut (see figure 7). The knot is then slipped into the lumen of the bowel through the space between the stitches, and the seemingly impossible has been accomplished (see figure 8).

This method is difficult to describe, but is simple to grasp when once seen.

The chief advantages of this method over others of this type are, in the very firm union of the serous surfaces of the bowel, that practically none of the suture material is exposed on the peritoneal surface, therefore obviating the danger of capillarity, that the suture material eventually works its way into the lumen of the intestine and is thus entirely gotten rid of, and that no incision in the wall of the bowel is necessary to accomplish it, as is required in the Maunsell method.

In the Maunsell operation the anastomosis is made with an overhand stitch, and there is always a possibility that the cut ends may slip by each other, so that the serous surfaces are not in perfect apposition. In Connell's method this is impossible. It is a decided advantage to have no sutures on the peritoneal surface, as they sometimes cause irritation and may eventually be the cause of a fecal fistula. The avoidance of an incision in the bowel is a decided improvement, of course. Furthermore, Connell demonstrated in his article on "The Knot within the Lumen" that it is practically impossible to place a Lembert, or Halsted mattress, suture without perforating the entire intestinal wall. Halsted showed that, in order to get a firm union, it was necessary to penetrate the tough and strong submucous coat, and all operators recognize that fact to-day. In his article he illustrated the relative thickness of the various coats of the intestine by a picture which magnified the wall of the bowel about thirty-two times (see figure 9), but as Connell rightly points out, he failed to magnify the needle in the same proportion as the rest of the illustration. In figure 9 is shown the size of a No. 8 needle magnified the same number of times as the intestinal wall in this picture, and it must be readily apparent to all that the task of picking up the submucous coat with any surety of not penetrating the mucosa is a practical impossibility. The submucous coat is estimated as being $\frac{1}{100}$ inch in thickness, while the No. 8 needle has a diameter of $\frac{1}{40}$ inch. Also, it is important to remember that in the duodenum, Brunner's glands, which, of course, are in direct communication with the intestinal lumen, are situated in the submucosa.

Therefore there would seem to be no advantage to be derived by using Lembert or Halsted sutures, as they, in practice, do not avoid penetration of the bowel and the dangers of capillarity.

Over a year ago the Connell suture had been employed nineteen times with fifteen recoveries, and it must have been used many times since. Its further employment will, undoubtedly, become popular as its merits are known and its technique mastered.

The third method that I wish to present is that of O'Hara forceps, which belongs to the class in which mechanical aids are used. This instrument was first presented by Dr. M. O'Hara, Jr., of Philadelphia, in April, 1900. It consists of two slender clamp forceps held together by a serre-fine (see figure 14).

The technique of the method is extremely simple. Each forceps is clamped on the gut at the exact points where the intestine is to be resected (see figure 10). The intestine is cut away close to each forceps (see figure 11), and the two forceps are then approximated and fastened together with the serre-fine clamp. Halsted mattress sutures are then placed so as to bring the walls of the intestine together over the forceps (see figure 12), and when one side has been completed both pair of forceps are turned over and the other side is sutured in the same manner. The sutures being all tied, the forceps are therefore completely buried (see figure 13). The forceps are then unlocked, and each one is withdrawn through the small opening left, which is closed by a stitch.

The advantages of this instrument are, that they are rapid of application and simple in construction; that one pair of forceps will answer for any size of intestines, thus doing away with the necessity of various sizes of Murphy buttons and Laplace forceps; that no preliminary clamping or ligating of the bowel is necessary, and last but not least, that they avoid contamination with the interior of the gut, as all the manipulation is exterior to its lumen. This last is an advantage which no other method possesses. With the foregoing recent methods, I have had personal experience with the O'Hara forceps only.

Last summer I resected seven inches of ileum with their aid, in a patient who came into my service at the Post-Graduate Hospital, with the following history: Mrs. A. S., age twenty-six years, married seven years, perfectly healthy until the birth of her only child five years ago. Her labor was difficult, requiring forceps, and was followed by puerperal sepsis, which resulted in the formation of a tuboovarian abscess on the right side. This abscess eventually pointed in the right inguinal region above Poupart's ligament, and although it was opened and curetted by her physician, it had resulted in a sinus, which was discharging pus freely at the time I first saw her. Her general condition was one of misery, as she suffered constant pain. At times she had a profuse discharge of pus from the rectum. Examination disclosed a subinvoluted retroverted uterus, firmly bound with adhesions, and a mass in the right side, the size of a duck's egg. A probe passed into the inguinal sinus entered directly into this mass. Before opening the abdomen, the inguinal sinus was sealed with gauze and collodion to prevent contamination. Extensive omental adhesions were encountered, and the tuboovarian abscess was exposed with considerable difficulty. The vermiform appendix with the caput coli and two loops of ileum were densely adherent to the wall of the abscess. An appendectomy was next done, and the head of the colon released. One loop of intestine communicated directly with the abscess cavity by an opening one inch in diameter, and this was closed with mattress sutures. The other loop of bowel was constricted, and had several perforations, so that I deemed it unwise to leave it. This loop, seven inches in length, I resected with the aid of the O'Hara forceps. The walls of the abscess were dissected out and the opening into the inguinal sinus was closed. Vaginal drainage was made. The patient made a rapid and uncomplicated re-

covery, and is entirely well to-day, having gained fifteen pounds. The ease with which I was able to make the resection with this instrument and the satisfactory result obtained fully confirm the claims that have been made for it.

These recent methods are certainly worthy of attention, and as they overcome the recognized disadvantages of the standard operations, they must be looked upon as a decided advance. Doubtless each operator will prefer the method to which he is most accustomed, but it is not wise to depend on one method alone, as the circumstances under which we are called upon to make an anastomosis are very variable [illegible]

The surgeon surely has a variety to choose from in these three methods, but whether he prefers the crushable ring or the O'Hara forceps, he should certainly include the Connell suture in h s repertoire, as it is necessary that he have one method at his command when only a needle and silk are needed to accomplish an anastomosis, as the emergency may unexpectedly arise when no mechanical aids are at hand.

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## THE PHYSICIAN AND THE OPHTHALMOSCOPE.

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At the last meeting of the State Medical Society held in Albany, our retiring President, Dr. Henry L. Elsner, in his closing address, "A Modern Diagnosis," used these words, "An instrument of precision too little employed by the general practitioners is the ophthalmoscope, for the introduction of which the memory of Von Helmholz will always be revered."—"It gives information regarding the existence and nature of pathological conditions elsewhere than in the eye which is often obtainable in no other way." As I listened to his argument on the use of the ophthalmoscope I asked myself the question, How many physicians know how to use this extremely valuable instrument? Why do they not use it? Can its use be so demonstrated to them that they may use it?

These are questions to be answered partly by the physicians themselves, but the last must be answered by one somewhat familiar with the use of the ophthalmoscope and with the advantages it may present to the physician in the diagnosis of many conditions that arise in general practice, either that it may elucidate some unexplained phenomena or confirm some previously suspected conditions.

It goes without saying that every physician should make himself as fully competent as possible in the diagnosis of all general diseases, with their complications and their sequela. In the use of all other instrumental aids, as the stethoscope, etc., the physician does inform himself as thoroughly as possible, yet in the use of this instrument, one of the best for objective diagnosis of disease, he seems to have left it in the hands of the specialist; depending possibly on a consultation or passing the matter to one side depending solely on his other objective and subjective signs.

There are few instruments in the hands of the physicians that can give as useful information in the diagnosis and prognosis of disease as that of the ophthalmoscope, nor is there one that can be relied upon so implicitly. The findings of the ophthalmoscope are so obvious and correct that they leave no doubt as to the condition of the fundus and the systemic conditions that these findings may indicate. Furthermore, as Gowers well says, "We examine the artery to its termination and the commencement of a vein with the blood circulating in each; the termination of a most important nerve which, from its close proximity to the brain, undergoes significant changes in various disease conditions of the brain and in affections of all other parts of the nervous system; and a nervous structure, the retina and a vascular structure, the choroid, which also suffer in a peculiar way in many general diseases." Is not this matter important enough for a careful consideration?

I do not expect that the general practitioner will ever become so far proficient as to readily detect all the most delicate changes that are sometimes presented by this beautiful system of vessels, nerves, and tissues of the eyeball, yet I do believe that with reasonable experience in the use of this instrument the physician may so perfect himself as to recognize the most important changes in these delicate structures of the eyeball indicative of or associated with some systemic disease. What can be more useful than the picture presented by the appearance of the termination of the optic nerve in any obscure disease of the brain or that of the retinal vessels and the retina itself in diseases of the kidney? Do we not know of cases of Bright's disease in which the first correct diagnosis has been made when the eyes have been examined with the ophthalmoscope? Tuberculosis may be diagnosed, or at least confirmed, with the ophthalmoscope by the appearance of the fundus, as it shows the characteristic tubercles in the choroid, and in doubtful cases of acute miliary tuberculosis may confirm the diagnosis. It is not always possible to refer these cases to those who are engaged in this special field of medicine and one who can use this instrument—even in a comparatively limited manner—will be much more than compensated from the instruction and the information it will give him. The brief time it may require to learn the method of its use in a practical way is not very great.

How often have I heard the answer to the question, Have you an ophthalmoscope? Yes, but I never use it; but why? Why does the physician possess this instrument and yet not use it? I think I can answer this question in this way: Because when he commenced the study of ophthalmoscopy in the textbooks he found it presented so many details and so many complications that the instrument was soon laid aside, simply to be remembered in the possession of its owner, but not to be used. It is my hope that this subject may be presented in a very simple manner, by one partially familiar with its uses and advantages, which is the object of this paper, and I would present it by the common-sense method, so that it will be useful to the physician, and leave the more complicated uses of the instrument to the specialist.

Before proceeding further let me describe the instrument. What is it? It is simply an apparatus by which we may place the examiner's eye in the path of the rays of light as they come from the background of the examined eye when illuminated by reflected light.

To see an object we must have the rays of light pass into our eyes in certain directions, either parallel or divergent. Now the rays coming from an examined eye are either parallel, divergent, or convergent. To the second condition—divergent rays—our eyes are readily adjusted and we have a perfect image on the retina of the examiner, the fundus being easily seen. The parallel and convergent rays cannot be focussed on the retina—and here is one of the trials of the beginner—except under special conditions, but they can be

easily made divergent and so become useful for the vision of the examiner. Then our instrument is a mirror to illuminate the examined eye and a disk of lenses to so bend the emerging rays that they may focus on the retina of the examiner.

To illuminate the eye we require a good steady light—the Argand burner with oil or gas is the best—a slightly concave mirror to concentrate and reflect the light and a handle to direct the reflected rays, within the eyeball, directly through the pupillary space. If we now place the examiner's eye in the center of the rays coming from the examined eye—that is, behind the aperture—as the retina is illuminated, he will be able to see the details of the fundus if the outcoming rays are divergent. If not divergent we cannot see the fundus clearly, and we must make them so by placing suitable glasses behind the aperture. It can be readily understood that if the examiner's eye receives these rays and can focus them on the retina, they must there form a picture that will correspond with the object from which they proceed. In other simple words, the ophthalmoscope enables us to look into the eyes of our patients and to see the condition of the eye-ground, either in health or disease. Such is the simple purpose of the ophthalmoscope, seemingly very easy, but I will point out the difficulty that may arise and then show the usefulness of the instrument.

It has been fifty years or more since the ophthalmoscope was first used to see the interior of the eye, but to Von Helmholz we owe all reverence for his introduction of this instrument in 1851, and those of to-day are the same in principle, only differing in the mechanical parts, as when the instument was first used. I do not propose to enter into the subject of the estimation of the refraction of the eye, but only how to see the background or retinal field; what it looks like and what are the essential changes that we should be able to see, to know, and to appreciate. Now the textbooks tell us to look through the aperture of the ophthalmoscope as if we were looking toward infinity or in the distance with the accommodation at rest, etc. This is all very true, but it requires a vast amount of practice to master just that; no beginner can do it, nor is it essential, and moreover it is only useful to the specialist. I shall then try to inform you as to the use of the instrument as needed in the hands of the general practitioner. Let us accept the statement that one is utterly ignorant of the method of using the ophthalmoscope, but wishes to understand its use in the diagnosis and prognosis of certain diseases of the general system. How then shall he use the ophthalmoscope so that he may gain this practical knowledge? Place the light—let me say at once that too bright a light is not necessary for the appreciation of the most delicate changes at the fundus—behind the patient, about one foot distant from the eye, on a level with it and to the right or left according to the eye to be examined; seated now on the side of the eye to be examined, the ophthalmoscope is placed before the corresponding eye of the examiner and he looks through the small opening or aperture. If possible, it is best to keep both eyes open, but for the purpose we have in view, one may close the eye not used if by so doing it will assist him in the examination. Now reflect the light from the lamp or gas-burner into the patient's eye and we find the pupil changes from its natural blackness to that of a bright orange red. If not so, we must proceed to a more detailed examination of the anterior part of the eye, as the cornea and lens. To do this, we place the lens marked + 6. in the disk, at the aperture and we move nearer the patient until we are within the focal distance of the lens—about five or six inches—when we will see the anterior part of the eye mangified and can readily detect any opacity or changes that may appear on the cornea or lens, showing generally as black spots on the bright orange red color of the pupillary space. This examination may indicate incipient cataract, iritic deposits on the capsule or, if there is complete absence of the pupillary reflex, some very serious condition of the interior of the eye-ball. To resume, if this portion of the eye is found to be perfectly clear, we now proceed to examine the deeper parts or fundus. Removing the convex lens and again looking through the aperture, with the reflected light directed into the pupillary space, we now attempt to see the background or fundus of the eye—in other words, the nerve, retina, vessels, the choroid, etc. But just here comes the great difficulty which all examiners meet in their *first attempts* to examine the eye. This is due to the direction of the rays of light coming out from the examined eye and the inability of the examiner to control the action of his own accommodation. We make an effort to look at something very close to us on account of the proximity of the patient's eye and so we exert a certain amount of accommodative power, preventing the formation of a distinct image on our own retina. To obviate this difficulty, so common to beginners, we must place at the aperture one of the concave lenses marked with red figures on the disk. This will neutralize the action of our own accommodation, will make the rays of light divergent and then the details of the fundus will rapidly come to view. Now, having mastered this instrument to the point where you can begin to see the fundus, you must know what you see and what to look for, both in health and disease, so that you recognize such pathological conditions of the fundus that may point to some systemic condition. If you will attempt to make this examination on the eyes of your patients that have no eye troubles, young people with large pupils, you will soon appreciate what is the appearance of the normal fundus, with the arteries, veins, and nerves. With this mental picture before us we can readily see any pathological changes that may have taken place. Before proceeding further, let me state, inasmuch as the pupillary area is not always the same in every eye, and when very small it is very difficult even for an expert to see anything except the red reflex, then you are justified in using a weak mydriatic to dilate the pupil. Atropine will not do for this purpose, as it impairs the sight too long. Cocaine, 4 per cent., or homatropine, one-fifth of one per cent., will be the best dropped in the eye about twenty minutes before we are ready to begin the examination. Either one of these drugs will dilate the pupil in a short time and will make your examination much easier, while the effects of the mydriatic will pass off in about twenty-four hours.

All these conditions now being at our command, the next question arises, What is the normal appearance of the fundus or background of the eye? and in the words of Haab, "I cannot too strongly advise the beginner to study the normal eye as often and as thoroughly as possible."

We first note the color of the eye-ground; this will appear very different even in perfect health, according to the individual, as blonde or brunette. Brunettes generally present a much darker eye-ground than blondes. This difference is chiefly due to the amount of pigment in the retinal layer,

the pigment epithelium. This pigment is also in the choroidal layer showing as dark spaces between the choroidal vessels, and in the negro the dark spaces and the numerous choroidal vessels are very often seen, while in the albino, with little or no pigment, the vessels of the choroid will appear red on an almost white background. In the region of the macula or yellow spot—the position of most acute vision—always found outward toward the temples from the nerve entrance, we find the pigment color darker and in many cases a small spot in the center. This pigment is also seen about the entrance of the optic nerve, forming the choroidal ring, dark masses irregularly placed, but seldom, if ever, extending completely around the nerve. The nerve entrance is quickly seen, being so prominent as a large round space, apparently in the center of the eye-ground. It presents a grayish-white color, seemingly semi-transparent, and the central part whiter from the dipping inward of the central nerve fibers. If the central part is very large and deep, the lamina cribrisa may be seen as a large, white network in the nerve entrance. This nerve entrance or papilla may be round or slightly oval in any direction, and in a condition of health its surface does not extend beyond the plane of the retina. The retina itself in health cannot be seen except in some cases by the most practised eye. The general appearance of this eye-ground presents to the examiner's eye a peculiar appearance, as of a very small irregularly figured carpet, somewhat like a mosaic of small light and dark spots; this is called the *stippling of the retina*. This is very important and should be carefully studied, as its presence or absence must indicate the condition of the retina. The slightest changes are shown by the blurring of this delicate network of pigment, which indicates some pathological condition either in the eye itself or the parts behind it. The arteries of the eye-ground consist of the branches of the central artery of the retina, which pass out from the nerve and dividing into smaller arteries extend outward over the entire retinal field to the anterior part of the eye-ball; similarly, the veins of the eye-ground have the same arrangement, are darker in color and empty into the central vein of the retina. We can recognize the arteries by their lighter color and the white line that runs along the center of each vessel, while the veins present a much darker color, the line along the center not being so prominent. All these vessels have a straight course, being slightly curved, and they can be distinctly traced to the periphery of the retina. Any irregularity in their course or blurring of their outlines is probably due to some retinal changes Pulsation in the veins on or near the nerve entrance, may be readily seen and has no special significance, but if seen in the arteries is serious. The diagnosis of this condition is very difficult and would carry us beyond the scope of this paper. For a more complete description of the normal eye-ground I must refer you to the many textbooks on this subject, but I have described the most important details of the appearance of the normal fundus as seen with the ophthalmoscope, in order that we may become familiar with this picture from the examination of the eye in health so as to appreciate the changes that take place in disease as shown by the retina nerve and vessels.

Because of their frequency and their importance in the diagnosis of disease, there are two conditions of the fundus of the eye that will always have special interest to the medical profession. I refer to retinitis in its many manifestations and what is commonly called "choked disk." Retinitis, inflammation of the retina, covers a vast variety of changes in the back part of the eye, readily seen by the expert with the ophthalmoscope. The general practitioner cannot see all the minute changes, yet with reasonable care he can appreciate the important changes that may indicate some local or systemic disease if he becomes familiar with the appearance of the normal fundus. Now inflammation of the retina becomes the most important change, because it is frequently present in so many other systemic diseases that may be first noticed from the complaints of failing vision, as if there was a veil or blur over the page when reading. According to Jacobson (*New York Medical Journal*, July, 1901), inflammation of the retina occurs in 10 per cent. of the cases of Bright's disease, and is known as albuminuric retinitis. Its significance is very important, as it is well known that when these changes take place in the retina the possible duration of life is seldom more than two years.

I made the diagnosis of Bright's disease with the ophthalmoscope in the case of supposed hysterical amblyopia and in three weeks from that time the patient, a young girl, passed away. The importance of this examination must be obvious to all, and if we have the pupil dilated with any brief mydriatic, and retinitis is present, then, as we look into the eye with the ophthalmoscope, we will see a great difference in the appearance of the retina from that of the normal. The edges of the disk will not be clearly seen; the veins will be dark, tortuous and dilated; the arteries, partly covered by the swollen retina, cannot be followed to the periphery and seem to be covered by white masses, like clouds, that are partly due to exudation and œdema of the retina. Then we find various dark, irregular spots, small and large, scattered about the retinal field, due to hemorrhages from rupture of some of the small vessels of the retina. In some cases these hemorrhages may be very large and in others very few or even entirely absent. White patches about the retina are frequently seen, in which we note that the edges are not very clearly marked, but shade off into the retina and the small blood vessels seem to pass through them. Fatty degeneration of the retina is also present and shows itself as a peculiar stellate appearance in the region of the macula or yellow spot. These minute spots are arranged in rows, radiating outward from the center of the macular region, not always perfect, as they may be absent on one or the other side, but when present with the other appearances are almost positive evidence of kidney disease. Knapp states that this degeneration of the retina may be seen in tumor of the brain, but I have not been able to see any cases yet that were not associated with albumin in the urine. The swelling of the retina may extend so as to involve the nerve-head or disk, with blurring of its outline and reddening of its surface; in advanced cases this swelling may resemble "choked disk" or papillitis, but the presence of the stellate figure in the region of the macula, the white patches and the hemorrhages will confirm the diagnosis of Bright's disease.

I do not know of any more important use of the ophthalmoscope to the practitioner of medicine than the diagnosis of the condition of albuminuric retinitis. The changes that may be shown in the early stages of this disease may present a slight congestion and tortuosity of the vessels, with blurring of the retina and the edges of the disk; this condition associated with diminished vision would lead us to suspect diseases of the kidneys and at a time when it may be amenable to treatment; but when we have the characteristic picture as presented, then we can only say that the prognosis is very grave, with probably

a fatal result in less than two years. It has been claimed by Pooley that the ophthalmoscope will assist us in the diagnosis of the albuminuria of pregnancy and if present is an indication of premature delivery, but I have had no experience with these cases, and without other signs should prefer to wait.

Choked disk or papillitis: Under this heading we may consider most of the inflammatory changes of the optic nerve or papilla. The ophthalmoscopical appearances of the condition may be readily understood when we consider how prominent the disk is, the normal appearance of the disk, its distinct circular outline and the branching outward of the vessels from the center. Now in choked disk we have an almost complete disappearance of all the characteristics of the normal disk, and on examination there is seen a distinct swelling of all the nerve fibers, which seem to stand out in the vitreous body, covering over parts of the blood vessels and then shading off, as it were, to an almost normal retina. Such is the simple picture of the choked disk and the appearance it usually presents at the ophthalmoscopic examination; but in some severe cases the swelling of the nerve-head is much more extensive, the vessels very tortuous, with extensive hemorrhages throughout the entire retinal field. To the expert with the ophthalmoscope this swelling or extension of the nerve-fibers into the vitreous may be measured, giving about .34 m.m. to each dioptre of refraction, so that he can note any increase or decrease of the elevation. Is not the diagnosis of optic neuritis or choked disk very important in the practice of medicine, as it is one of the important signs of an abscess or tumor of the brain, a sinus thrombosis and other inflammatory systemic conditions?

Optic Nerve Atrophyy: In tabes and other conditions where we have a diminution of the visual power, dim sight, the opposite condition to that of choked disk is found. Here we have all the details of the fundus and the nerve-head very clearly shown, but the natural soft color of the disk has changed to a hard, white or slightly bluish color. In tabetic atrophy the optic nerve has a pearl gray color. The edges of the disk are very sharp and clean cut, the lamina cribrosa shows as an interlacing of the nerve-head, and all the vessels appear much smaller than normal. In the gray atrophy of tabes the prognosis, as to any restoration of sight, is very serious, as they generally pass on to complete blindness.

Amblyopia, or blurred vision, due to atrophy of the optic nerves, as shown by the ophthalmoscope, and caused by the abuse of alcohol and tobacco, is probably more amenable to treatment and the prognosis is not so serious. This condition is more apt to affect the central nerve fibers or those supplying the macular region, and this is shown by a peculiar whiteness of the disk in the lower outer quadrant. Here we find the evidence of atrophy from the central scotomata, or blindness in the center of the field of vision; and conversely, in the tabetic atrophy the blindness commences in the outer part of the field and extends toward the center. I have some doubts about the atrophy of the nerve being caused by tobacco alone, but when we have the condition of alcohol and tobacco used in excess, and when the use of toxic drugs has been abused in early life, then I think they may bring about an atrophy of the optic nerve fibers. This may possibly be controlled by the stoppage of these pernicious habits, the use of strychnia by hypodermic injection and, in some cases, the iodides. I have never seen complete blindness from this *amblyopia ex abusa*.

Choroiditis: Changes in the appearance of the fundus of the eye are frequently seen as large white plaques with spots of pigment on the edges, and scattered about the retinal field are many pigment deposits looking very much like bone corpuscles. The retinal vessels are seen to pass over these white spaces without any deviation, showing that they are not involved in the process. This appearance is due to an inflammation of the choroid that may have been active but is now the result of a previous inflammation. In the acute stages of exudative choroiditis we have an infiltration of the choroid with exudation that hides the retina and through which the retinal vessels seem to pass. As resorption takes place the exudate disappears and the choroid presents these atrophic spots. Suppurative choroiditis is very serious and is generally metastatic. Bull states that he has seen several cases of infectious choroiditis due to *la grippe*, in which the ophthalmoscope gave a most startling picture, with ultimate destruction of the sight. This septic choroiditis is also met with in typhoid and other fevers, in pyæmia, in meningitis, and in puerperal septicæmia. The amaurotic cat's eye or pseudogliomata is a mild form of suppurative inflammation of the choroid, showing as a whitish or yellow reflex, deep in the eye, the pupil dilated and the tension of the eye decreased. This condition must not be mistaken for a true glioma of the retina that is always associated with increased tension of the eye-ball.

Embolism of the central artery of the retina may be the first indication of an endocarditis. This is well shown by the whitish color of the retina about the center, probably due to an exudation. The vessels are indistinct and in the center of the macula a cherry red spot is seen. This is a typical picture, and is only seen, as far as I know, in this condition and in the peculiar disease known as amaurotic family idiocy.

Hemorrhage into the retina is frequently seen, and if without any signs of inflammation would indicate an increased blood-pressure, disease of the retinal arterial walls, or some morbid states of the blood. In old people it shows a weakness of the arteries. These hemorrhages will show with the ophthalmoscope as dark red spots of various sizes and in many parts on the retinal field, some of them very minute and others very large. In diabetic retinitis very small hemorrhages may be seen, but generally only in one eye; and also in the diagnosis between chlorosis and pernicious anæmia as these hemorrhages are not seen in the first-named disease, but are frequent in the latter.

Glaucoma with increased tension of the eye-ball and diminished vision. The ophthalmoscope will show a cupping or pushing backward of the entire disk so that the blood vessels tip sharply at the edges and appear indistinct in the center. This condition is generally seen quickly with the ophthalmoscope and should not be mistaken for atrophic changes in the disk.

The use of the ophthalmoscope in the diagnosis of all the many changes that occur at the fundus would carry us far beyond the scope of this paper, so I have only considered those most useful to the physician.

I do not expect that all physicians will become so proficient in the use of this instrument, from a careful study of this paper, as to use the ophthalmoscope with all the skill of an expert. It requires constant application and experience even to master these details, but on the other hand, careful study and practise of the method I have endeavored to convey in this paper will soon enable one to see, to know, and to appreciate the appearance of the healthy background or fundus of the eye, and seeing and knowing this we may readily appreciate any changes that have taken place; that is to say, the pathological

condition of the retina and its adjacent structures and the systemic disease that is the prime cause.

It is impossible to describe the many conditions of the eye-ground that may be seen with the ophthalmoscope, nor is it necessary in a paper of this import. The diagnosis of all the many changes that may be of pathological interest must come from one who is fully competent to use the instrument in all the various conditions of the eye and the correction of its refraction, but I trust that I have made some suggestions that may be of service to the physician in his work. In closing, I again turn to the words of Elsner, "We do not contend that the general practitioner must of necessity become an expert in the use of the ophthalmoscope, but we believe that he must depend on its revelations, if he would early recognize certain diseases of the brain, arterial degeneration and renal complications."

## THE CYSTOSCOPE; ITS INDICATIONS AND CONTRAINDICATIONS IN GENITO-URINARY DISEASES.

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In this article we wish to demonstrate what can be expected and what can not be expected from a cystoscopic means of exploration. We intend, also, to explain how to make a good cystoscopic examination, and also, from personal experience, to point out some of the stumbling-blocks to be avoided. We wish to show in what cases the cystoscope is useful, indispensable, or harmful. The cystoscope most frequently employed is that of Nitze. Nitze, by inventing the cystoscope and by his investigations on this subject, deserves one of the foremost places among those who have helped make an accurate diagnosis of genito-urinary diseases possible. It will not be necessary in this paper to give a detailed description of the many modifications of the cystoscope made by Brenner, Fenwick, Boisseau du Rocher, Guterbock, Albarran, and F. Tilden Brown. As the student of medicine must learn to use the laryngoscope and the ophthalmoscope, so must the student of genito-urinary diseases learn to use the cystoscope—as the accurate diagnosis of so many conditions of the bladder is impossible without this means of exploration. During the past year we have been using the cystoscope in our clinic at the Presbyterian Hospital with most satisfactory results. The results of the work done by cystoscopic examination, with the report of interesting cases from the clinic, will form the material for another paper by us later on.

Through the use of the cystoscope, we have been able to make an absolute diagnosis when patients have wandered from clinic to clinic, and left in a state of complete ignorance as to what was the matter with them. We must not expect too much of any one means of exploration. First, we must take down accurately the past history of the patient; then, we must proceed to the physical examination of the urinary and genital tracts—we must study the condition of the urethra, the bladder, and the kidneys; we must examine the testicles, the prostate, and the seminal vesicles. We do not agree with Dr. Willy Meyer, who says that after the surgeon has taken the general history and examined the urine, the first instrument that one must take is the cystoscope and not the sound. In order to make a successful cystoscopic examination, four conditions are necessary: (1) That the urethra must be sufficiently large to admit of easy passage of a sound of the caliber 24—French scale. (2) The bladder must be sufficiently tolerant to contain at least 90 to 120 grams of fluid. (3) The wall of the bladder must be transparent and remain transparent during the examination. (4) The prostate gland, if much enlarged, will interfere somewhat with our examination; therefore, before using any urethral instrument, we should make a rectal exploration to determine the condition of the bladder neck.

As the irrigating cystoscope of Nitze has the caliber 24 French scale, we have found that the urethra must permit of an easy passage of a rubber bougie 24 or 25. When the urethra is contracted, it must be dilated to this extent. When one is obliged to make an effort to insert the cystoscope into the bladder, one increases the discomfort of the examination, and often causes a bleeding which clouds the lamp. As enlargements of the prostate gland are nearly always on the inferior surface of the wall of the urethra, they seldom render any serious difficulty to the passage of the instrument. Even in cases of very large hypertrophies of the prostate gland, we have been able to pass the instrument by inserting the index-finger into the rectum, pressing the beak of the instrument against the upper urethral wall.

The bladder must be sufficiently tolerant to hold at least 90 to 120 grams of liquid. As it is necessary that the lamp be illuminated in the interior of the bladder without its touching the walls (when the lamp touches the vesical wall a blur occurs), it is a good plan to always have the bladder equally dilated. We have usually injected 150 grams of a two-per-cent. solution of warm bori-cacid solution. In most cases in which the bladder will not hold this amount of fluid, the cystoscope cannot be used. However, a number of means have been tried to increase the bladder capacity. Cocaine has been used for this purpose, but we must recommend the greatest caution in its use. While a healthy bladder does not absorb, every one admits that the pathological bladder and the mucous membrane of the urethra absorb to a very considerable extent. But 10 or 15 centigrams of a ten-per-cent. solution of the hydrochlorate of cocaine can be injected into the bladder without great danger. Where the injection of cocaine has not rendered the vesical capacity sufficiently great, the patient can be put under the influence of a general anæsthetic. However, it is often necessary to press the anæsthesia very far in order to make the bladder sufficiently tolerant, and often bladders, acutely inflamed, will not react even under chloroform.

The third condition necessary to make a good cystoscopic examination, is the transparency of the walls of the bladder. To obtain this condition the bladder is washed with a two-per-cent. solution of boric acid. When the bladder bleeds, the examination is rendered much more difficult. We must see that the blood does not cloud the prism of the instrument. In these cases an irrigating cystoscope must be used—and irrigation must be continued during the examination. In cases of hemorrhage of the bladder or urethra, adrenalin chloride 1-5,000 is an effective remedy, and should be used just before introducing the cystoscope.

Before using the cystoscope, which should be placed in a 1 to 40 solution of carbolic acid and allowed to remain in this solution a few minutes, the

fore skin and glans penis should be carefully washed with a solution of 1 to 1,000 bichloride of mercury. The urethra should then be washed out with a saturated solution of boric acid.

*Introduction of the Cystoscope.*—If the urethra is large and the introduction of a catheter has been easy, the cystoscope may be lubricated with glycerin, to permit of its easy passage. If, on the other hand, the passage of the catheter has been difficult, carbolized oil should be used. The introduction should always be done with the greatest gentleness, so as not to cause any bleeding. Before introducing the instrument, be sure to see that the lamp gives sufficient light. The instrument is then introduced into the bladder as though it were an ordinary sound. Often the instrument is a little soiled with blood or urethral secretions. It is therefore a wise precaution to irrigate a moment before turning on the light. In some cases the desire to urinate becomes so pressing that the instrument must be withdrawn. The withdrawal of some of the fluid will usually relieve the tenesmus sufficiently to allow the examination to be continued.

The stumbling-block which confronts the beginner most often is that the light suddenly disappears. This is caused by (1) the lamp burning out, or an interruption of the electric circuit; (2) by the lamp coming in direct contact with the vesical wall; (3) by the prism being occluded by a large tumor; (4) by the coagulation of blood on the lamp; (5) by the lamp becoming overheated and causing a burn on the bladder wall. This danger has been largely overcome by the cold lamps recently perfected.

When the beak of the instrument has been placed in the middle of the bladder, the lamp is then lit—the clear, luminous field of vision of an orange-yellow color can be seen. The beak of the instrument being held up horizontally, as indicated by the little round knob at the end of the cystoscope, the instrument is gently pulled toward the operator until a dark red border appears on the inferior part of the field of vision crossing the clearer border above. This crossing indicates that the beak of the instrument is very near the neck of the bladder—and another considerable movement will obstruct the vision, as the prism will be covered by the mucous membrane of the urethra. This darker line crossing the field of vision can be seen above, or below—to the right or to the left—but it always appears at right angles to the beak of the instrument. When we have ascertained the situation of the neck of the bladder, we proceed to the examination of the lower surface of the bladder—the beak of the instrument is rotated until it faces below, describing an arc of 180 degrees. We now look for the trigonum, which often has a color less rosy and paler than the rest of the mucous membrane of the bladder. Above the trigonum can be seen, in some cases, a light, luminous transverse line, which represents the inter-urethral muscle. It is in this position of the cystoscope, with the beak rotated below, that one tries to see the opening of the ureters. To accomplish this purpose, move the beak of the instrument toward the hip of the patient on the side you wish to explore; draw the instrument toward you, until you see the lighter color of the muscous membrane of the trigonum. If, in some cases, one cannot succeed in finding the ureter, then look for the other ureter, to see if some point cannot be discovered to help us find the first one. Sometimes one sees a drop of urine exuding, which indicates the ureteral opening. This opening generally appears as a small slit of a rosy color. After one has explored the neck of the bladder and the base, the beak of the instrument is rotated above and the upper wall of the bladder is then explored. By rotating the beak of the instrument, by lowering it, or by raising or moving it from side to side, all parts of the bladder can be seen with the No. 1 cystoscope of Nitze, with the exception only of a small portion of the posterior wall, which can be seen by the No. 3 cystoscope of Nitze.

*The Interpretation of the Cystoscope Images.*—We have seen (1) that it is necessary to learn how to insert the instrument; (2) how to manipulate the instrument in the bladder; but this is not enough, because we must learn (3) how to interpret the images we see.

Cystoscopic images are reversed, as stated by most of the writers on this subject However, this reversion is found only in the vertical plane. The objects that we see on the right and on the left, are really in these positions. .

When the cystoscope is placed horizontally and parallel to the object that one wishes to see, the image represents the object in a vertical situation, and the extremity the nearest to the observer is seen above. Thus it can be seen that the object, which is really in a horizontal position, appears to us in the vertical position, and that the part nearest the observer appears to be at the top.

If we again look at the object in the same situation, but with the cystoscope elevated to 45°, we shall again see the object completely reversed and in the horizontal position.

Thus it can be seen that the apparent position of objects varies according to the degree of inclination of the lens of the cystoscope. From this it can well be understood that in order to estimate the form of an object seen by the cystoscope it is necessary to place the cystoscope in different positions, and under varying angles of incidence, instead of being contented with the first glimpse of the object. The object appears in its normal size when it is situated three centimeters from the prism of the cystoscope of Nitze. When the prism is drawn away from the object, the object appears smaller; the nearer the prism approaches the object, so much the larger does it seem.

There has been a great deal of controversy in regard to the cases in which it is advisable to use the cystoscope. Some authorities in this country and in France neglect almost completely this mode of exploration.

The cystoscope should never be used until we have acquired accurate knowledge of the length and caliber of the urethra, and tested the capacity of the bladder.

*Diseases of the Bladder.*—It is in diseases of the bladder that the cystoscope is most useful to us. However, we must not depend on any one means of exploration for our diagnosis. We must take a careful history of the case. An accurate chemical examination of the urine should always be made. All the parts should be carefully explored. A rectal examination should always first be made, and the condition of the prostate and seminal vesicles carefully noted.

Dr. Eugene Fuller of New York deserves the credit of bringing the attention of the medical profession of this country to the importance of never failing before urethral instrumentation to make a rectal examination and determine the condition of the bladder neck. Too much attention cannot be laid on the importance of never failing to make a thorough palpation of all parts, instead of relying on any one means of exploration like cystoscopy, important as it is.

In many cases the analysis of symptoms, and the combined palpation—rectal and hypogastric—help to show us the consistence, size, and probable

nature of a tumor of the bladder. However, the cystoscope is the most valuable aid to diagnosis. It shows us whether the tumor is single or multiple and where it is located. Often when the symptoms remain latent for a long time, the cystoscope alone shows the presence of a tumor. It is only by making the most precise diagnosis possible, that we can determine the best means to employ for treatment.

Where it is evident that operative interference is useless, the cystoscope should not be employed. When the tumors are very large, cystoscopy is contraindicated, as it simply serves the purpose of causing bleeding.

The exact size and form of the tumor should be noted. When the tumor is large, it is only by a series of views that we can determine its exact size. The connection of the tumor with the bladder wall is very important to note, *e. g.* whether it is pedunculated, sessile, or infiltrated. The small villous tumors, finely pedunculated, are easy to see; their filaments flutter in the fluid in the bladder and show very well all the details of their structure.

It is unfortunate that there is no accurate concordance between the histological nature of the neoplasm and its macroscopical form. Indeed, even when the surgeon has the tumor in plain view during an operation, an accurate diagnosis cannot be made until a microscopical section has been examined. However, when a villous tumor is finely pedunculated the chances are that it is not malignant. When the villosities jut out in a solid mass from a solid base, epithelioma should be thoughtof. Nearly all cases of a villous growth of the bladder if left long enough will become malignant. In a case of a villous growth of the bladder, the history of which was followed for twenty-five years by Prof. E. S. Wood and Dr. Ogden, in Boston, the growth in the end became malignant.

In diseases of the prostate gland the cystoscope is sometimes an aid to diagnosis. It will frequently show us the extent to which the lobes bulge into the bladder. In hypertrophy of the median lobe, the cystoscope alone can tell us at what point the lobe is pedunculated, or whether the conditions are more or less favorable for a partial prostatectomy. In cancer of the prostate the cystoscope is not indicated, as it simply serves the purpose of causing a hemorrhage.

In cases of foreign bodies, the cystoscope can be used when the diagnosis is doubtful. In vesical calculi, the metal explorer usually makes the diagnosis without the use of the cystoscope; but we have found calculi in the bladder in two cases in which no symptoms pointed to their presence. After the operation of lithotomy, the cystoscope can be used to see if all the particles of stone have been removed.

In nearly all cases of acute cystitis the cystoscope is contraindicated. In tuberculous cystitis Fuller says that instruments should not be inserted into the bladder. In such instances the pain on instrumentation is very marked and the intolerance of the bladder very great. Nevertheless, the cystoscope alone can tell us the extent of the parts involved.

The diagnosis of vesical tuberculosis is not always easy to make. The bacilli are very difficult to find, and often cannot be found even after repeated examinations covering a long period of time. Cystoscopy, when it can be employed, removes the doubt, but the resulting augmentation of painful symptoms caused by this procedure will sometimes cause the doctor to lose his patient, and be cordially remembered for some time.

Ulcerations are very rare, but the cystoscope alone reveals their presence.

In this paper we have attempted to give only a general outline of the various conditions in which the cystoscope is of assistance in determining the diagnosis in a given case. There is no reason why the cystoscope should not become a routine part of our examination when at all indicated in dispensary work. Only in this way can we gain sufficient practice to use it with the best results.

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## A CASE OF PARAFFIN INJECTION INTO THE NOSE FOLLOWED IMMEDIATELY BY BLINDNESS FROM EMBOLISM OF THE CENTRAL ARTERY OF THE RETINA.*

By LEE MAIDMENT HURD, M.D., and WARD A. HOLDEN, M.D., NEW YORK.

This case is reported because it adds another to the list of unfortunate results following paraffin injections, and also because it permitted the study of the retinal changes almost from the time of formation of a true embolism of the central artery. The latter point is of interest because we now are learning that plugging of the retinal arteries, formerly always called embolism, is in reality chiefly due to endarteritis obliterans.

*The Operation.*—The patient, V.M., aged thirty-two years, an Italian by birth, came to Dr. Hurd to be relieved of the deformity of a saddle-shaped nose. At the age of sixteen, he said, a "pimple" developed within his nose, and when incised by a physician pus escaped. In the course of three weeks the nose sunk in, and has since remained in the same condition. A loss of part of the cartilaginous septum seemed to be the cause of the deformity. He admitted having had gonorrhœa several times, but denied having had syphilis. A later careful physical examination revealed no affections of the heart, lungs, liver, spleen, or kidneys, nor any evidence of arteriosclerosis in the retinas or in the body generally.

On October 5, 1902, after the use of a 4 per cent. cocaine solution, enough paraffin was injected into the depressed soft parts below the nasal bones to restore the nose to its proper shape. Except for some swelling and redness, the result was satisfactory.

On November 17 the patient requested that a slight irregularity about an inch from the tip of the nose on the right side be corrected by a second injection. This was done without any bad result.

On April 24, 1903, he returned again and requested that a little more paraffin be introduced near the site of the second injection. A mixture of paraffin (130° F.) and ordinary white vaselin, having together a melting point of 110° F., of semisolid consistency, was injected without the previous use of cocaine, the needle being introduced first at the tip of the nose and pushed upward an inch, and then introduced at the root of the nose and pushed down to a spot just above the former injection. At this time the patient was seen to rub his right eye, and in reply to a question, he said that he could not see with it. A little later ecchymoses appeared about the tip of the nose, indicating that a vein had been punctured.

*Ocular Examination.*—Twenty-five minutes after

*The patient was presented before the Laryngological Section of the New York Academy of Medicine, May 27, 1903.

the injection the eyes were examined by Dr. Holden. The pupil of the right eye was large and did not respond to light. The patient had a subjective sensation of objects swimming about in the entire field of vision, but objectively he was unable to distinguish between light and dark. The media were clear, the retina was not hazy, and the retinal veins were normal. The main inferior branch of the central artery of the retina and its divisions, however, were empty and collapsed, being recognizable only by the faint white outlines of their lateral walls. The main superior branch contained some blood, but when gentle pressure was made upon the eyeball, the blood column here broke up and the blood flowed backward into the central artery.

It is now believed that the blood column must show these interruptions before a diagnosis of embolism can be made, for the circulation is not entirely wanting, at least in the beginning, in the cases of blindness due to narrowing of the lumen of the vessels from thickening of their walls.

*Treatment.*—When the central artery is blocked by an embolus and there is blindness in the entire field, the indication is to force the embolus forward into one of the branches of the central artery, whereby vision is restored in a part of the field. To accomplish this the action of the heart is stimulated, the peripheral vessels are dilated, and the eyeball is pressed back into the orbit until the ocular vessels are empty, and then suddenly released in the hope of drawing the embolus on by suction.

In our case digitalis was administered at once, and then inhalations of nitrite of amyl were given, after which the ball was pressed back into the orbit to the point of tolerance, and then suddenly released. This message after the inhalations was repeated several times in the course of two hours. Some hours later glonoin was substituted for the digitalis, and after inhalations of nitrite of amyl several more efforts were made to dislodge the embolus. The same course was pursued the following day also, but no vision was obtained.

Two hours after the patient was first seen, the white disc had become slightly blurred at its margins and the retina about the larger vessels was hazy. The repeated massage had forced the blood out of both arteries and veins, so that the retina was entirely bloodless. Three hours later the blood had returned to the veins, and the superior artery was partly filled, but pressure at once emptied all these vessels near the disc, while in the periphery their blood columns persisted, although in many vessels it was broken. The retina near the large vessels and in the elliptical area included within the large vessels was then very œdematous, and the usual red spot at the macula was clearly marked. There was no improvement in vision later.

Bad results following the injection of paraffin have often been hinted at, but few cases have been definitely reported. In the *Clinique Ophtalmologique*, 1902, p. 116, it is mentioned that Pfannenstiel and Hölban have seen cases of pulmonary embolism, and that embolism is more likely to occur when liquid paraffin is used. Elsewhere in the same volume Kümmel remarks in a discussion that fatal cases of pulmonary embolism have been observed. Pfannenstiel's case (*Centralblatt für Gynäcologie*, 1901, No. 2, p. 33) was one in which he injected 30 c.c. of paraffin, 45°C., according to Gersuny's method, to relieve incontinence of urine in a woman whose urethra had been extirpated for carcinoma. After leaving the hospital the patient was attacked with symptoms indicating embolism of the lungs and brain. Eventually she recovered.

The only case of blindness after injection that we have been able to discover in the literature is the frequently quoted case that Leiser reported. (*Vereinsbeilage der deutschen medicinischen Wochenschrift*, April 3, 1902, p. 110.) Briefly it was as follows: After the third injection of paraffin into the nose the patient collapsed, but recovered after the injection of ether and the performance of artificial respiration, although he continued to vomit for hours. After recovering consciousness the patient found that he was entirely blind in his left eye.

January 25, the following day, Dr. Rischmüller found the left upper lid œdematous, the eyeball injected, the pupil not responsive, and the aqueous humor cloudy. The ophthalmoscopic examination was difficult, but the disc was found to be unchanged, and the surrounding retina œdematous. The motility of the eye was limited downward and outward, and the tension was—1. January 26: The hyperæmia, and the cloudiness of the aqueous humor increased. January 27: Œdema of lids, lacrymation, and hemorrhages into the iris. January 28: Interior of the eye clearer, disc red, veins well filled. January 29: External conditions improved, no hemorrhages in the retina. February 2: Beginning pallor of disc.

Leiser believed that there had been thrombosis of the ophthalmic vein into which runs the vena dorsalis nasi that might have been punctured in the operation. No note is made, unfortunately, of the condition of the retinal arteries. Thrombosis of the ophthalmic vein far back, or of the cavernous sinus into which it enters, might have accounted for the symptoms observed, but it is remarkable that a foreign body entering a small vein should pass centripetally toward the heart and be caught in a vein of much larger caliber.

The pathological conditions are no clearer in our own case of embolism of the central artery of the retina, since a foreign body large enough to block the large central artery and resist all efforts to force it along into a smaller branch, can hardly be supposed, after entering a vein, to pass through the capillaries of the lungs and back to the left side of the heart, and thence into the general arterial circulation. Dr. Evan Evans, who kindly made a physical examination of the patient, suggested the possibility of there being a persistent foramen ovale between the two auricles, through which foreign bodies entering the veins might pass directly from the right to the left auricle and, avoiding the pulmonary circulation, give rise to a crossed or paradoxical embolism, so-called, somewhere in the general arterial circulation. Since communications of considerable size between the auricles are not infrequently found at autopsies, this explanation seems plausible.

The obvious lessons taught by these cases is that loss of vision, and even of life, may follow the injection of paraffin into a vein. This danger could be partly avoided, doubtless, by performing aspiration after the introduction of the needle, and if there was no evidence of penetration of a vein, injecting the paraffin through the needle without moving it. There would remain, however, the possibility that the needle had passed entirely through and beyond a vein, and then the paraffin when injected under high pressure might, in its ramifications, pass backward along the course of the needle and thus gain entrance to the vein.

At all events, the operation is not so lacking in danger as the frequency with which it is done to improve the appearance or increase the comfort of the patient would seem to indicate.

## SOME PRACTICAL REMARKS ON THE MANAGEMENT OF BREECH PRESENTATIONS.

By JOSEPH KUCHER, M.D.,
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Practitioners usually dread cases of breech presentation on account of the dangers to the child. The dangers lie, however, not so much in the presentation as in the improper management. Too early or too hasty interference by the attending physician is usually the cause of all the troubles incident to breech presentations. As even a short labor lasts too long for the sufferer, the attending physician is always more or less urgently asked to do something to shorten the time of suffering. If a foot or a knee is within reach (as it is in incomplete breech presentations), the attending physician is easily tempted to pull on the extremity, in the belief that by doing so, he can shorten the time of suffering without doing any harm. In other cases the attending physician interferes too soon because he sees danger to the child life when there is no danger. Passage of the meconium or prolapse of the cord has not the same significance as in head presentations, and offers, therefore, no indications for interference. Such interference always endangers more or less the life of the child, and besides it is not necessary.

In the great majority of cases there is no danger to the child before the breech appears at the vulva. At this time the head enters with its greatest circumference the brim of the pelvis and fills the space so completely that the circulation in the cord is soon suppressed, and the child must be delivered in a short time, which is easily done if the labor has taken its natural course, without any outside interference. In such a case the arms of the child have remained in their natural position on the chest, the lower uterine segment had been gradually and completely dilated and offers very little resistance to the passage of the head. All this is changed if premature tractions have been made on the lower extremity of the child. The arms have been pushed up above the head, and the body of the child, as it is very compressible, has been forced through the uterine orifice, before the lower uterine segment has been sufficiently dilated for the passage of the head. These two complications make us lose much valuable time at the last stage when quick delivery is very important. As the arms are high up, it is hard to reach the elbow and hard to bring the arm down, after this the greatest circumference of the head offers the greatest difficulty in extraction if the lower uterine segment is not sufficiently dilated. It is much easier to overcome a considerable disproportion between the head and the pelvis than to extract the head when it is still firmly retained by the lower uterine segment. In the former case pressure by the hand of an assistant from above is of great help, while in the latter case it is of very little use. The resistance encountered in such cases is usually attributed to a contracted pelvis, but in ninety-nine out of one hundred cases it is the lower uterine segment that offers the resistance.

In complete breech-presentations (that is, when no lower extremity is presenting) there is no danger of too early interference by the attending physician. But there arises, especially in primiparæ, not rarely another difficulty that is not met with in incomplete breech presentations. The labor may have progressed quite satisfactorily up to the last stage, and then the pains may stop or become so lagging that for hours the labor makes no progress. It becomes necessary to interfere, as a too long delay at this stage would be dangerous to the mother and to the child. But the difficulty now is, how to do it before the breech is near the vulva. As such a contingency may arise in every case of breech presentation, it has been suggested to bring a foot down at the beginning of labor, but this cannot be done when we find the breech already engaged in the pelvis. Divers devices have been proposed and tried in such cases. When the child is dead, the simplest way to extract the child is with the blunt hook in the groin. Although I have extracted in this way several times large children without the least injury. I never dared to use the hook on a living child, and was the less tempted to do so, as I found the forceps very satisfactory. Some precautions are necessary in using the forceps. It should not be applied before the breech is down in the pelvis, the handles should not be pressed too firmly together lest the blades injure the soft parts. By inserting a folded towel between the handle of the forceps, too hard pressure by the tips of the blades on the soft parts of the child can easily be avoided. The tractions, moreover, should be made slowly and only during a pain. In a case that I saw recently with Dr. H. Kudlich, I tried for the first time the short forceps, but found it so unsatisfactory that I had to exchange it for the long one, with which the extraction was very easy.

Lacerations of the perineum can be more easily prevented in breech presentations than in head presentations, though the reverse usually happens. Though by the passage of the trunk the perineum has been considerably stretched and prepared for the passage of the head, still the extraction of the after-following head must be made slowly and properly. By an assistant or by one hand of the accoucheur, the body of the child should be lifted toward the abdomen of the mother, and by the other hand the perineum should be supported. When once the mouth of the child is outside the vulva, there is no danger of the child filling his lungs with mucus, even if it begins to make premature respirations, and we can, therefore, take our time in letting the greatest circumference of the head pass slowly through the vulva, and so avoid laceration of the perineum.

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**The Indications for Operation on the Thyroid Gland in Graves' Disease.**—Leonard Woolsey Bacon summarizes his paper in part as follows: The two doctrines as to the pathogenesis of this disease are that of thyroid intoxication and that of primary affection of the sympathetic nerves and ganglia. The intoxication may be considered as that from mere hypersecretion, and that from perverted secretion. In cases of the type of "thyroid intoxication by excess of secretion," operation on the thyroid is indicated in all cases of more than a few months' duration in which the gravity of the symptoms warrants the exposure of the patient to an operation having a general mortality of about 7 per cent., provided that the cases have not been decidedly benefited by reasonable non-surgical treatment, or by surgical means addressed to other diseased organs. In cases of the type of "thyroid intoxication by perversion of secretion," the indication for operation on the thyroid is much less decided, and in many cases, especially those in which there are concomitant symptoms of myxœdema, operation on the thyroid gland is contraindicated. In this class of cases the risk is greater and the chances of betterment by operation are less. In the two preceding classes of cases it is reasonable to be guided as to operation by the effect on the patient of the tentative administration of thyroid extract. Those cases in which the symptoms are aggravated by the thyroid extract will be the more likely to be helped by thyroid operation. The indications for operation are less strong in cases of Graves' disease of the "sympathetic type,"

so-called "sympathectomy," being probably the preferable operation if surgical measures are to be employed at all. In cases of goiter secondarily exophthalmic the indication for thyroid operation is strong. Further indications for thyroid operation in Graves' disease are the general indications for surgical intervention in other parts of the body, thyroid abscess, pressure symptoms, malignant disease, etc. The more typical and regular the case of Graves' disease, the more likely it is to be benefited by operation on the thyroid gland, while, the more widely the symptoms differ from those known to be due to simple hyperactivity of the thyroid, the more ready should we be to turn to other methods of combating the disease. —*Yale Medical Journal.*

**The Paroxysms of Whooping-cough Treated by Pulling the Lower Jaw Downward and Forward (Naegeli).**—Jacob Sobel gives the results of his own experience with this method: Pulling the lower jaw downward and forward controls the paroxysms of whooping-cough in most instances and most of the time. The method is usually more successful in older children than in younger ones and infants. In cases without a whoop the expiratory spasm with its asphyxia is generally overcome, and in those with a whoop the latter is prevented. It is as successful as any single drug, or even more so. Mothers should be instructed in its use, so that attacks, especially at night, might be arrested. The manipulation is harmless and painless. Its only contraindication is the presence of food in the mouth or œsophagus. Patients thus treated are less likely to suffer from complications and sequelæ than those treated only medicinally. It is advisable to try this method in other spasmodic coughs and laryngeal spasms. The patient should also be afforded every possible hygienic advantage, he should be supported and sustained and be well looked after as to his gastro-intestinal tract and nerve centers. The method is especially indicated in those cases complicated with diffuse bronchitis, bronchopneumonia, convulsions, epistaxis, etc., and in those, who by age, rachitis, scrofula, or general debility are predisposed to serious complications and sequelæ.—*Archives of Pediatrics.*

**On Certain Bodily Conditions Resisting Phthisis.**—Arthur Ransome refers to the well-known enumeration of Walshe of morbid conditions opposed to phthisis, viz., anthracosis, rickets, gout, cancer, diathetic skin diseases, as pemphigus, emphysema, nodular pulmonary apoplexy and active organic cardiac disease, including aneurysm and angina. He assents, in a general way, to the truth of this contention, but believes that the experience of recent years has led to a more careful differentiation of the clinical conditions comprised in the above list that may lead to a resistance against tuberculous invasion. Ransome inquires if there may not be some bodily condition common to all these disorders; a condition which presents a hindrance to the entrance or growth of the tubercle bacillus? He believes that such a common bodily state *does* exist and applies to it, for want of a more definite term, the name "venosity"—as Rokitansky first suggested. It probably means a plethoric condition of the capillary system of blood vessels, with imperfect reaction of the blood; in other words, an excess of red blood-corpuscles, increased alkalinity of the blood, and increase of carbonic acid. It is difficult to say which of these conditions is chiefly antagonistic to tuberculosis, but, perhaps, all three are so.—*Medical Chronicle.*

**A Consideration of the Liver as a Factor in the Cause, Prevention, and Treatment of Disease.**—Robert S. Lamb says that experience teaches us that many diseases are the result of long abuse of the digestive system and accumulation of waste products of malnutrition and malassimilation which the overworked excretory organs cannot eliminate; these are predisposing factors in the acute infectious diseases. The liver in its normal condition will prevent the passage into the blood of certain deleterious substances, will form products that antagonize some otherwise poisonous substances, as caffeine, nicotine, indol and skatol, and attenuate or render innocuous the bacteria and their toxins; it will allow the necessary amount of glycogen for nourishment of the tissues to pass into the blood, and will excrete some injurious products, and aid in the excretion of others. To restore equilibrium we must regulate the diet, give the digestive organs rest, and prescribe only small quantities of easily digested food, in order that no undigested, putrefying material be absorbed and carried to the liver. Exercise, deep breathing, and massage are all of the greatest value. Organotherapy is beginning to be useful in treating diseases of the liver, and diseases caused by the products of the liver.—*Washington Medical Annals.*

**Furunculosis: a Survey and an Application.**—A. C. Miller says that as soon as a boil has appeared, the most scrupulous care should be bestowed upon it, with the view of limiting its infectivity. Unna's mercurial plaster, or its equivalent, ought in the first instance to be applied in the the hope of promoting absorption. In the event of this object being defeated, maturation should be promoted by means of an antiseptic dressing, and the discharge should be very carefully guarded from coming into contact with the surrounding skin. Should the furuncle assume the dimensions of a carbuncle, this ought not to be incised, but it will be advisable to enlarge or connect the fenestræ in the skin in order to allow freer egress to the discharge and slough. The local condition being the paramount one in the class of cases now under consideration, it is necessary to regard the constitutional element only in the sense of maintaining the general tone. The author has always had good results from exhibiting morphia to control pain and favor sleep. Iron and arsenic are invaluable hæmatonics, while wholesome—not too generous—feeding, with, in depressed anæmic cases, the administration of suitable stimulants in careful quantity, completes the therapeutic repertory.—*Edinburgh Medical Journal.*

**A New Application of Light in the Treatment of Lupus Erythematosus.**—Norman Walker states that a student having called his attention to the fact that his nose, which was the seat of the disease, invariably improved after exposure to the glare from the water when fishing in the Highlands, he resolved to try the effect of light only on lupus cases, without pressure or aiming at the blistering effects which the Finsen methods have in view. His patients were seated about a foot away from the lens, and were exposed to the rays for from twenty minutes to half an hour daily, or on alternate days. Six or eight exposures, roughly three and a half to four hours, were usually required before any change was noted, but when improvement had once begun it was usually rapid. In some of the cases the results have been brilliantly successful, and all have shown some improvement. Large areas of the disease have disappeared in some cases more thoroughly than under any other method with which the author is familiar. In the early cases he, of course, used no other treatment, but latterly, having determined the value of the method, he has been using in addition applications of adrenalin chloride, 1 to 4000, which seems to aid in the cure.—*Scottish Medical and Surgical Journal.*

**Boiling as a Method of Sterilizing Catheters.**—C. B. Nancrede and W. B. Hutchings conclude from their experimentation that caloric can be successfully employed for all varieties of catheters with the exception of the soft French instrument, provided all air is expelled from the interior. (2) That this essential having been secured, although in the great majority of cases five minutes' immersion in water which is actually boiling will suffice, ten minutes of actual ebullition should be employed, especially for the smaller calibered instruments: and (3) that a previous cleansing with warm soapsuds is desirable although not essential, reducing as it does the time of exposure requisite to sterilize the instruments.—*Journal of the Michigan State Medical Association.*

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## THE DISINFECTANT VALUE OF SULPHUROUS ACID.

IN the *Revue d'Hygiène* for May 20, 1903, Drs. Calmette and Rolants discuss this question. They had previously found that the germs of plague, cholera, and typhoid fever were easily destroyed by exposure for two hours to air containing 8 per cent. *ad minimum* of sulphurous gas (this term denoting the vapors resulting from the combustion of sulphur in air). But the discordant opinions arrived at by different investigators of late years determined them to undertake a new line of studies with a view of harmonizing the discrepancies, and of elucidating the reason of the wide divergence of opinion as to the efficiency of this gas. They used the gas in three forms. The vapor of sulphur burned in air, the vapor of sulphur burned in Clayton's apparatus, and the vapor obtained by volatilizing the liquefied sulphurous acid gas furnished in siphons. The distance to which the gas penetrated substances such as mattresses and different fabrics was also determined by special methods. To clear the ground it may be stated that the gas derived from the siphons (pure sulphurous anhydride, $SO_2$), proved entirely devoid of bactericidal properties, even when used in the enormous proportion of 22 per cent., with a six hours' exposure and a penetration of 28 cm. The diffusibility of the gas is small and it tends to collect at the floor level. When the liquid siphon contents is volatilized, there is no cloud, the liquid evaporating into the air transparently. But when sulphur is burned in the air, or in the Clayton furnace, a greater or less amount of dense, opaque, white fumes is given off. These consist of sulphuric anhydride ($SO_3$). The authors were able to show that it is precisely this substance (absent from the vapor derived from the siphons) which confers upon the gas obtained by combusion of sulphur in the air or in Clayton's furnace its extreme toxicity for animals and non-sporing microbes. It then becomes a matter of great interest and practical importance to determine the conditions under which it is produced in quantity sufficient to give the sulphurous gas antiseptic properties which the pure sulphurous acid gas does not possess, or possesses in too feeble a degree to permit of dependence being placed upon it as a disinfectant. Calmette and Rolants found the proportion of sulphuric anhydride in sulphurous gas obtained by burning sulphur in air to be only 0.1 milligram per liter, while that obtained by the combustion of sulphur in Clayton's furnace contained from 4.2 to 6.46 milligrams per liter. The gas obtained from Clayton's furnace (and that derived from the volatilization of the contents of the siphons) does not injure fabrics or other articles such as books, gilding, oil paintings, and cereals. But to avoid condensation of moisture upon them (and consequent formation of sulphuric acid) they should be covered with paper. When, however, one burns sulphur in the air, manifest injuries to the articles named, result. This is due to condensation of moisture from the air, explained by the authors as due to its rapid cooling consecutive to the heating by the combustion, which may raise the temperature from 12° to 39°. Thence results an abundant formation of sulphuric acid, which attacks the metals, and rapidly decolorizes the draperies. About 40 grams of sulphur produces the proper amount of gas for disinfecting an ordinary room. The maximum concentration obtained by Calmette and Rolants in the air of the room was 4.6 per cent., and the gas penetrated fabrics to the depth of 21 cm. The following results were obtained with cultures exposed to the action of the gas, the *minus* sign indicating sterile; the *plus* sign, not sterilized:

| | Air | Clayton Conc. $\frac{8}{10}$ Per Cent. |
|---|---|---|
| Streptococcus, dry cultures mixed with blood | — | — |
| Bacillus typhoides, dry, without blood | — | — |
| Bacillus typhoides, dry, with serum | + | — |
| Bacillus diphtheriæ culture, dry, without serum | + | — |
| Bacillus diphtheriæ culture, dry, with serum | + | + |
| Bacillus of charbon, sporing, dry, without and with serum | + | + |
| Bacillus tuberculosis | + | + |

A concentration of 12 per cent. sterilized, in addition, the fifth culture in the table.

The authors arrived at the following conclusions:

Sulphurous gas produced by the combustion of sulphur in air or in Clayton's furnace possesses a disinfectant power with regard to certain pathogenic microbes which are relatively easy of destruction, such as the streptococcus of erysipelas, and the bacillus of typhoid fever, even when these microbes are placed under the best conditions of resistance, that is when they are protected by an envelope of dry albumin. But one should not count upon its absolute efficiency in attacking resistant pathogenic organisms, such as bacillus diphtheriæ, bacillus tuberculosis, and, above all, the sporing microbes. The disinfectant properties of sulphurous gas are due to the presence in it of sulphuric anhydride, which is always present in greater or less amount. The largest proportion, and consequently the best results, attained by the burning sulphur in the Clayton furnace, are due to the fact that the gas thus obtained is richer in sulphuric anhydride than that obtained by combustion of sulphur in air. The sulphurous acid gas derived from the volatilization of the liquefied gas in siphons possesses no disinfectant value even in a strength of 22 per cent.; and it should consequently be entirely abandoned as a disinfectant for localities infected with pathogenic microorganisms. To obtain efficient disinfection by sulphurous gas, where pathogenic microorganisms are in question, it is necessary to be certain that the air is charged with, for at least two hours, 8 per cent. of the gas *ad minimum*. Every

time one attempts disinfection by sulphurous gas it is indispensable that he determine by simple yet rigorous methods of control the mean concentration of the gas, the distance of penetration across permeable objects capable of harboring pathogenic microorganisms, and the bactericidal efficacy of the gas with regard to the particular microorganisms which it is desired to destroy; and no disinfection should be carried out without this triple control. When employed under all the conditions outlined above (of which the most important are, a concentration of 8 per cent. *ad minimum*, an exposure of at least two hours, and a sufficient agitation of the air to ensure penetration through the whole permeable mass capable of harboring pathogenic microorganisms or animals, especially insects), sulphurous gas can be used as a disinfectant; and it should still be retained, but it should not be substituted for formalin, which, it would seem, ought to be the disinfectant of election for apartments. But sulphurous gas deserves to be employed wherever large spaces (such as ships, railroad coaches, and above all, granaries) are to be disinfected. It finds its especial field where one wishes to destroy both germs easy of destruction (*e. g.* the germs of plague, cholera, typhoid fever, and erysipelas), and insects and rats, on which formalin does not exercise a noxious influence. As Vallin has said: "It is not necessary, by reason of certain exceptions which we do not deny, to depreciate unduly the value of sulphurous acid, which is, in truth, one of the most efficacious, the most economical, and the most easily applied agents that we possess."

## ZOMOTHERAPY IN TUBERCULOSIS.

In the June issue of the *American Journal of the Medical Sciences*, Dr. Lawrason Brown of Saranac Lake discusses the merits or otherwise of a diet of raw meat in the treatment of tuberculosis. Richet and Herincourt, the well-known French scientists, were the first to experiment with raw meat as food for consumptives. The experiments were carried on with dogs, and as a result they concluded that cooked meat in any quantity is inefficacious, that meat deprived of its serum is moderately efficacious, and that muscle serum is as efficacious as raw meat. They also found that raw meat acted prophylactically. Several other scientists, nearly all of whom were Frenchmen, followed the lead of Richet and Herincourt. Among others Chantemesse, who was at first sceptical as to the great nutritive qualities of raw meat, became a convert to a belief in its efficacy, owing to the result of experiments on dogs undertaken by himself. Duhoureau, Petit-Clerc, Sarge, Josias, and Roux have all expressed themselves as adherents to the view that raw meat is the most beneficial diet for consumptives. Struck in the same manner as Fränkel was by the meagerness of the experimental work—Chantemesse, Salmon, and Fränkel being, apparently, the only observers to repeat Richet's work. Fränkel obtained opposite results, Salmon's results were inconclusive, while Chantemesse, from experimenting on two dogs, upholds Richet. Dr. Brown, at the instance of Dr. Trudeau, carried out some experiments similar to those of Richet.

Five dogs were inoculated in the external popliteal vein with 2.5 c.c. of a translucent emulsion of tubercle bacilli. Two of these animals were chosen as controls and fed on a mixed diet, the other three being given nothing but raw meat. At the end of the experiments the average life in the controls was 34½ days; and in dogs fed on raw meat, it was 31½ days. The next experiments were undertaken on six dogs, all injected with an attenuated tubercle bacilli. Four were fed on raw meat, and given at the same time some fat and occasionally a little bread and dog biscuit, while the others were fed on general diet. The result was that the test-dogs lived on an average 110 days after inoculation, and the two controls on an average 308 days.

From these experiments, and from observations made in the dieting of consumptives, the author thinks the following conclusions may be drawn: (1) That raw meat has no perceptible effect on the duration of experimental tuberculosis in dogs if the bacilli are virulent, and a sufficient number injected intravenously. (2) That raw meat has no effect on the prolongation of the duration of experimental tuberculosis in dogs, even if the bacilli are attenuated, provided a reasonable quantity be injected intravenously. (3) That under the same conditions dogs fed on a mixed diet with no raw meat, live a much longer time.

Regarding the use of meat in pulmonary tuberculosis, it may be said: (1) That meat is highly essential in the dietetic treatment. (2) That much meat, with a judicious admixture of carbohydrates, fats, etc., is essential to the treatment. (3) That rare meat is better than meat well cooked. (4) That meat-juice is of great value in suralimentation, as myosin albumin is easily digested by most patients—even the dyspeptic, and it affords a "maximum of nutrient for a minimum of effort." (5) That meat-juice can be taken when patients can take no other form of meat, *i. e.* when there exists a marked repugnance to all solids. (6) That the juice from raw meat seems slightly, if at all, more beneficial than the juice from meat slightly browned. (7) That the disadvantages of preparing and preserving raw meat-juice more than offsets its advantages. (8) That meat-juice is of value, as it can be administered in the form of jellies, ices, etc.

The prevalent opinion, then, of Richet's method would seem to be that it is only a better means of offering nourishment and of enabling a larger quantity of food to be given.

## RED-LIGHT TREATMENT OF SMALLPOX.

The *British Medical Journal*, June 6, is almost wholly taken up with a discussion of the light treatment of disease by distinguished men of science. The first article of the series is, perhaps, the most important, as well for its subject matter as on account of the fame of the writer. It is entitled "The Red-light Treatment of Smallpox," and is by Prof. Niels. R. Finsen.

The writer first draws attention to the fact that ten years ago he advocated red light in the treatment of smallpox, his notice having been first attracted to the matter by some old American and English reports on the injurious effect of light in smallpox. The reason Dr. Finsen gives for taking up the subject again is because he read in an American paper a short time ago that a large number of

persons had been pitted by smallpox in the course of the epidemic which has prevailed in the United States during the past four years, and also because he saw in the *Lancet* statistics showing the prevalence of and large mortality from smallpox in London during 1902. He is of the opinion that the pitting might have been avoided and the mortality might have been lessened if the red-light treatment had been followed in America and London respectively.

Dr. Finsen states that, from numerous trials, together with various simultaneous controlling experiments, it may be considered as an irrefutable fact that daylight, and especially the chemical rays, has a most injurious effect on the course of smallpox, as the suppuration of the vesicles is due to the effect of light, and that accordingly it is possible to avoid the suppuration and its consequences by protecting the patients from the action of light. Light has a most deleterious effect on smallpox, and, according to Dr. Finsen, the red-light treatment is one of the most striking results known in medicine. Even in cases of confluent smallpox, or in unvaccinated persons, the method very rarely fails, supposing, of course, that the patient comes under treatment early enough. If, however, suppuration has begun, or is on the point of beginning, the red-light treatment will not then stop it.

In the article contributed to the *British Medical Journal*, Dr. Finsen regards the matter from the standpoint of public health, indeed the main object that induced him to write was to urge upon the health authorities of Great Britain the need of reconsidering their methods of treating smallpox in the public hospitals. He holds the view that it is absolutely unwarrantable on the part of the public health authorities to treat serious cases of smallpox, in which suppuration might be expected, in hospitals where patients are exposed to daylight, while as to the private physician it must be considered a gross shortcoming if, as soon as he diagnoses smallpox, he does not make preparations to prevent the patient from being exposed to daylight. In Denmark, and in several other places, the public hospitals for infectious diseases are provided with permanent red-light wards for smallpox patients. Dr. Finsen ends his article by declaring that although irrefutable scientific evidence has been given that light is most injurious in promoting suppuration in smallpox, nevertheless if scepticism on this point still exists, he would greet with pleasure the appointment of a commission to make a thorough investigation into the matter, and that he would be happy to place himself at its disposal with all the information at his command. He further suggests that if such a commission be appointed, it should consist—in addition to smallpox experts—of dermatologists who are aquainted with the action of light on the skin.

There is no doubt but that the question is one of superlative importance, and if it can be conclusively proved that the red-light treatment of smallpox will prevent suppuration, this course should be universally followed. It is curious how some of the old-time theories as to the treatment of disease, though long scoffed at, have eventually showed themselves to be not altogether wrong. The mode of treating smallpox patients by the exclusion of light was practised by many physicians in this country and in England a great number of years ago. Pictou wrote advocating the treatment in the United States in 1832. The practice was afterward poohpoohed as having no basis of reason, and fell into desuetude. Now that the therapeutic importance of light is aserting itself, it is only in the natural order of things that the question of light and its action in smallpox should be thoroughly investigated, and the matter definitely decided.

## Carlyle and His Wife.

Froude's "Life of Carlyle," from the time it first saw the light, has evoked a storm of criticism and controversy. The biography of the celebrated Scotchman has, indeed, proved to be a bone of contention. The adherents of Carlyle have declared and still assert that Froude has grossly maligned the great man, either through malice or through possessing a too exuberant imagination. The question as to whether Mrs. Carlyle was an ill-used woman or merely an hysterical one, has been left more or less at rest for a considerable time. Now, however, the storm has again broken out with increased violence, and the literary and journalistic world of Great Britain is all agog, and even some of the medical journals are taking part in the wordy battle. The reason for this stirring of sleeping fires, is that a book has been recently published by two relations of Carlyle, containing further letters of Mrs. Carlyle, and a long introduction by Sir James Crichton-Browne. The contents of this volume purport to be a complete vindication of Carlyle and incidentally are somewhat of a vilification of Froude, or rather of the methods he used in compiling the famous philosopher's biography.

Sir James Crichton-Browne, who is the well-known British alienist, states that Mrs. Carlyle was of an extremely neurotic temperament, and that the letters in which she brings charges against her husband were merely the ordinary manifestations of such a condition. She was, moreover, addicted to some extent to the morphine habit, which, of course, is calculated to render a person irritable and suspicious. The English physician makes a strong and forcible defence of Carlyle's character, which, however, does not appear to be entirely convincing.

The *British Medical Journal*, June 13, has an article on the subject in which, while allowing that Sir James Browne makes a good case, is yet inclined to think that not all the fault lay on the wife's side, but that Carlyle was a most difficult, almost impossible, person to live with in domestic harmony and peace. The part of the article referred to reads as follows: "While we hold that Sir James Crichton-Browne has made out his case as to Mrs. Carlyle, we do not think that he has succeeded in vindicating Carlyle's character as a husband. No ingenuity in explaining away his use of the word "remorse" can wipe out the record of his unavailing contrition when he found what a tragedy he had made of her life. It would be idle to blame him; he was wrapped up in his work, and took the self-sacrifice of his wife, as he took his morning porridge, as a matter of right. Thackeray, the arch-enemy of snobs, confesses that in his heart he was himself a snob. Carlyle, less sensitively self-conscious, never seems to have suspected that he, the denouncer of shams, was himself deluded by shams, giving to poor, hopeless souls who asked for the bread of guidance the stone of a vague appeal to the veracities and silences." There is another point which

has been widely and almost shamelessly discussed by the lay press of England: the question as to whether Carlyle was physically fit for marriage. It has been hinted on many occasions and from many quarters that to his physical unfitness was due much of Mrs. Carlyle's domestic infelicity. Whether this were so or not will never be settled, and thus it is useless to debate the point. To one who has never dived very deeply into "l'affaire Carlyle," but has been simply a cursory reader of some of the literature on the subject, the unhappiness of the marriage would appear to have been chiefly, if not wholly, caused by incompatibility of temperament. There are no people more difficult to live with than those endowed with that indefinable attribute known as genius. Their mental make-up is altogether different to that of the common crowd, they do not regard most matters from the same standpoint; in a word, they inhabit a world of their own and have little sympathy with or understanding of beings of a more common clay. They are unwittingly but inordinately selfish. Now Carlyle was a genius and, in addition, a dyspeptic. Mrs. Carlyle, although not to be classed in the same category, as regards the quality of her brain, with her husband, was nevertheless a highly talented and sensitive woman of very neurotic temperament. Men of genius, especially if they are dyspeptic as well, should never marry, and when they do marry they should choose as mates, women of the fat, easy-going, lymphatic type, to whom their eccentricities and vagaries would matter nothing, and from whom their irritable or caustic words would slide like water from a duck's back.

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### Vitality of Bacteria from the Throats of Scarlet-fever Patients.

Dr. George H. Weaver of the Memorial Institute for Infectious Diseases, Chicago, writes on the above subject in the *Journal of Medical Research* for May. From clinical observations it would appear that the specific virus of scarlatina is most tenacious of its vitality, as it lives in a dark place for a considerable time. Accordingly investigations were undertaken at the Chicago Institute to determine whether any of the bacteria found in the throat of cases of scarlatina were resistant to dessication and, if so, which ones they might be. The experiments were conducted with great care, and the result of the observations showed that streptococci are more abundant early in the disease, becoming less numerous as the disease progresses, and that the streptococci resist dying as long as the other bacteria which are usually present in the throat, and in many instances outliving all the other forms. The longest time after which streptococci could be cultivated from the dried material, *i. e.* ninety days, does not correspond to clinical observations where the scarlatinal virus is said to have produced infection after lying dormant for years. With regard to the study of pure cultures of streptococci, the most valuable observations made were as to their vitality in milk. Twenty-one cultures were tested to show this property. Of these, two were dead in sixty days and four in eighty days. The remaining ones were dead after 140 to 160 days. One culture was still alive after 200 days. It was not found that life was lost sooner when the milk was coagulated. A second series of tests was made with twenty-two cultures, using in part the same, together with additional, cultures, after they had been grown on artificial media for a longer time, and after they had passed through ten to fifteen generations on various media. Of these 11 were dead in 18 days, 6 in 54 days, 2 in 76 days, and the remaining 3 were alive after 90 days. The resistance of the bacteria would thus seem to have been reduced by prolonged cultivation. The conclusions reached were as follows: (1) Streptococci are almost always, if not constantly, present in the throat in cases of scarlatina. In early stages they are usually present in very large numbers, becoming less numerous as the disease progresses. (2) The streptococci in the throat of scarlatina patients resist dying as long as the other bacteria usually present, and they often outlive all other forms, being alive as long as ninety days after the material is collected. (3) The streptococci remain alive for a long time in milk. (4) A small amount of sugar in nutrient media increases their value for the cultivation of streptococci. (5) Streptococci from scarlatinal anginas are not different from streptococci from other sources, so far as cultural and morphologic peculiarities are concerned.

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### Roman Catholicism and Leprosy.

The connection between Roman Catholicism and leprosy, to the uninitiated, is not very plain of perception, but Mr. Jonathan Hutchinson traces a very close relationship between this branch of Christianity and the loathsome disease. Fish is the connecting link. As Mr. Hutchinson is of the opinion that Christianity was responsible for the spread of leprosy in Europe, so, he thinks, that to the Catholic missions are due the increase of leprosy in the Far East. He argues thus: Figures show that a convert from Hinduism to Roman Catholicism incurs at once an enormously increased risk of becoming a leper. Conversion to any of the Protestant sects is the means of running some risk, because it removes the prejudice to animal food which, to some extent, is natural to the Hindu mind, but the conversion to a creed which imposes the use of fish on one or two days at least of every week increases that risk immensely. Mr. Hutchinson calculates that the risk to a Catholic convert is twentyfold that of one who remains in the Hindu faith, while in Bengal this ratio may amount to ninety-fold. He holds, too, that this preponderance of the disease amongst Catholic converts in India gives the *coup de grâce* to the belief in the contagiousness of leprosy. The Indian Jain, who is a vegetarian, escapes leprosy, the Catholic suffers fearfully. "How then," he says, "is it possible that a disease spread by infection could pick out the members of one religious communion and leave another untouched? Such preferential incidence can be explained only on the supposition that it is due to some difference in habits, and most probably in connection with food. The average incidence of leprosy in India, as a whole, is less than five per 10,000; but there are three local communities—Minicoy, Salsette Christian, and Kaligoan—in which it attains the frightful prevalence of 150, 50, and 500 per 10,000, and these are all places where the inhabitants live by fishing."

Mr. Hutchinson, contrary to general expectation, as a result of his visit to India, has not only retained his long-held beliefs concerning fish and leprosy, but actually seems to have strengthened them. He strongly asserts that the consumption of putrid or tainted fish is the cause of the leprosy which exists in India, and he has appealed to the Government to take the tax off salt, so that the natives may be able to cure the fish which they wish to use as food.

### The Fourth of July and Tetanus.

The fourth of July has passed by this year with about its usual quota of accidents. A few cases of tetanus have occurred as the result of injuries received chiefly from toy pistols. Dr. Connolly, the bacteriologist of the Newark Board of Health, raised an interesting point the other day when he declared that he had found the bacillus of tetanus in blank cartridges on sale for the July 4th celebration. If this be indeed so, a complete explanation will have been given of the numerous cases of lockjaw resulting from wounds inflicted by toy pistols. But the findings of Dr. Connolly will require further and more satisfactory evidence before they are accepted as conclusive. Dr. Park of the New York Board of Health made exhaustive investigations into the matter two years ago, and found no germs of tetanus in the blank cartridges he examined, and he remains convinced that the cause of infection, under the circumstances mentioned, is that fragments of skin, more or less covered with dirt, are driven into the wounds. This is by far the more reasonable interpretation of the origin of the tetanus which follows wounds produced by blank cartridges. The bacilli of tetanus abound in the dirt of the streets. At the time that a wound is inflicted by a toy pistol, or blank cartridge, the hands of the boy who uses the weapon are almost certain to be extensively soiled with dirt, some of which will be carried into the tissues. An instructive moral should be extracted from a study of the statistics regarding tetanus in the United States. More than half the cases of this disease are due to accidents on the fourth of July.

It is all very well to be patriotic, but when patriotism takes the form of giving pistols to children, who discharge them to their own danger and to the menace of the public at large, it is time to stop and to consider if patriotism exercised in this fashion is altogether worth while, or if is is not somewhat of a travesty of that noble sentiment.

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### Neurasthenia.

Dr. Guthrie Rankin, in the *British Medical Journal*, May 2, discourses on that condition so often met within this country, and which may, indeed, almost be regarded as the most characteristic affection to which the native American is prone, known as neurasthenia. The name, too, was given by a New York physician, Beard, so that the malady may be really claimed as entirely American, although it is present, in a lesser degree, in most countries of the civilized world. Primitive man knows it not, it has been one of the doubtful blessings brought in by advanced civilization, and the more advanced the people, the more does this complaint increase and flourish. Its definition is by no means easy, and it has been somewhat variously defined by different authors. Rankin defines it as a derangement of function resulting from exhaustion of nervous energy. "Wear and tear," "storm and stress" of modern life—in fact, a badly regulated life—is one of the chief causes, but inheritance is also a very important factor in its causation. "Little is known," says the writer, "of the pathological conditions underlying the disease. Bouchard attributes the disorder to abnormal fermentations in a stomach which, in virtue of heredity or congenital weakness, of its muscular coat, contracts insufficiently in the intervals between different periods of digestion. Under these circumstances he believes that soluble toxins are produced, which, when reabsorbed, impair the anatomical elements of the different organs, and notably those of the nervous centers. Another theory suggests that the disease is due directly to vitiation of nutrition, the result of imperfect digestions. The dyspepsia need not, according to the advocates of this hypothesis, be necessarily associated with gastric dilatation, but it produces, sooner or later, anæmia, which, in its turn, gives rise to depression of the nutritive activity of all the tissues of the body, and more particularly of the newer elements. Glénard has endeavored to explain both the dyspepsia and the neurasthenic symptoms by a sinking of the viscera in the abdominal cavity, but, though enteroptosis exists in a certain number of cases, it is the exception rather than the rule."

"Whatever," Rankin proceeds to say, "the ultimate nature of the pathogenic origin of neurasthenia may prove to be, the functional disturbances which the disease produces appear to depend upon some primordial alteration of the nerve cells which we do not understand. Neurasthenia is most frequently met with between the ages of twenty and forty years, attacks men more frequently than women, and is especially apt to affect those of neurotic inheritance, or those who live under conditions of mental or physical tension." The treatment of neurasthenia should be conducted on the common-sense lines of altering one's mode of living for a time. In place of the hustle and bustle of modern existence—particularly of that which prevails in America—rest and quiet must be sought in the healthy open country, where the worn and jarred nervous system will have a chance to recover its tone, and the functions to perform their work as they should. It is not only the strain of city life, however, which injures many of its present-day followers, but the manner in which they eat and drink and otherwise dissipate.

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Formaldhyde is unsuitable for the disinfection of rooms because (1) even under the most favorable conditions of temperature and moisture in general it yields only about 50 per cent. of positive results. (2) Disinfection is not equable throughout various parts of the room. (3) Where dust is visible disinfection occurs only exceptionally. (4) Dried sputum on walls or floors is rarely disinfected. (5) Disinfection of the floor almost never takes place owing to the tendency of the gas to rise. (6) Beds and mattresses are not penetrated by the gas. (7) Disinfection with formaldehyde must be followed by washing down with bichloride solution. (8) Disinfection with formaldehyde requires five to six hours and subsequent ventilation for several hours longer before the room is habitable again. (9) The use of formaldehyde complicates rather than simplifies the process of disinfection.—*Centralblatt für Bakteriologie.*

**Cockroaches as Conveyers of Typhoid Infection.**—Rose Engelmann presents the history of a house epidemic of typhoid fever that she believes was spread by cockroaches. She finds no other record of such portage in the literature. The source of the infection in the first case is uncertain, although it can probably be attributed to culinary and toilet use of the city water, that at intervals during the spring and early summer had been turned into the house mains when the artesian well pump broke down. The city water was also turned into the tank in order to wash it out. So the artesian well tank water and the house mains became contaminated. But if the infection was due in all these cases to the water supply, why was there no further incidence of the disease in the other twelve families, and why was it almost confined to the tier directly over the first case, unless the cockroach pest was in close relation thereto? The writer then traces the spread of this fever, pointing out its apparent relation to cockroaches, which swarmed through the house. She hopes that further investigations in this line will be taken up by bacteriologists.—*Medicine.*

# News of the Week.

**Report of the Illinois State Board of Health.**—This board has just issued its report of the births and deaths in the State during the year 1902, the report having been delayed on account of the failure of the county clerks to render reports to the State Board of Health in the manner required by law. In concert with all other registration States, Illinois has adopted the Bertillon classification of deaths, but this method of registration is quite complicated, and it was found impracticable to require county clerks to comply with the law. Dr. J. A. Egan, Secretary of the State Board, therefore requested the clerks to send the original death certificates to his office instead of the reports called for. These certificates have been recorded under the direction of the secretary with satisfactory results. Eighty-seven thousand two hundred and thirty-six births were reported, a rate of 17.90 per 1,000. The greatest number was reported from Lawrence County, where the rate was 31.09 to the 1,000. The rate in Cook County was 16.17 per 1,000. It is not claimed by the State Board of Health that these figures represent the actual number of births occurring in the State during 1902, for it is well known that many physicians and accoucheurs fail to report births. The results are considered satisfactory, however, for the first year of the registration law. These births were reported under a voluntary system of notification. The total number of deaths registered during 1902 was 61,144, a rate of 12.54 per 1,000. The Cook County rate was 13.84 to the 1,000, based on an estimated population of 1,968,097. The ten principal causes of deaths in the order of their importance were as follows: Tuberculosis, pneumonia, organic heart disease, accidents, kidney disease, gastroenteritis in infants, cancer, typhoid fever, cerebral congestion, and hemorrhage, diphtheria. The statistics show that 6,868 persons died of tuberculosis, this number being 11.23 per cent. of all deaths, or 1 in every 8.90 deaths. By age the destruction from this disease was greatest from twenty to forty years, 51.2 per cent. of the deaths being reported during this period. It is the opinion of the State Board of Health that the reported death rate from tuberculosis is too low, and that many deaths reported as pneumonia, bronchitis, and influenza were due to tuberculosis. These deaths were reported under the burial permit law of 1901, which required that a permit should be issued before the body could be interred. Permits were issued only on the presentation of proper death certificates. The reports, therefore, should be accurate, but it is believed by the State Board of Health that the number of deaths was greater than reported. Instances have been cited to the board in which the issuing officers failed to forward to the county clerk the death certificates presented to them. It is not known to what extent this practice has prevailed.

**Physicians as Public Health Officials.**—The wisdom of having physicians at the head of health departments is being again exemplified in the city of Philadelphia, where the director of the recently organized Department of Public Health and Charities, Dr. Edward Martin, has appointed a distinguished hygienist, Dr. A. C. Abbott, President of the Board of Health. Already these officials have taken steps to improve the water-supply and the food-supply and the sanitary conditions of the city generally, as well as the hospitals under their supervision. Public health has become a specialized field of activity, which no layman, however well equipped, is so well capable of administering as a physician.

**Philadelphia County Medical Society.**—At a stated meeting, held June 24, Dr. A. B. Kirkpatrick exhibited cases of nasal deformity treated with subcutaneous injections of paraffin. Dr. Chas. F. Nassau presented a paper entitled "Ligation of Subclavian Artery for Aneurysm of Second and Third Portions," and he demonstrated the patient.

**Vital Statistics of New York City.**—The vital statistics for the first half of the current year, recently made public, show a marked decrease in the death rate over that of the corresponding period of last year and an increase in the number of births reported. For the first six months of 1903 34,855 deaths were reported, indicating a death rate of 18.67 per 1,000 inhabitants. The number of deaths reported in the first six months of 1902 was 35,491, a death rate of 19.54 per 1,000. The births reported numbered 46,408, against 40,392 for the first half of 1902. This increase was due, in part, to the increase of population, but more probably to the more careful reporting of births, which has been strictly required of physicians and midwives.

**The Eleventh International Congress of Hygiene and Demography** will be held at Brussels from September 2 to 8 of the current year. The President is M. Beco, secretary-general to the Minister of Agriculture and chief of the Brussels Sanitary Department. The general secretary is Dr. Putzeys, professor of the Faculty of Medicine of the University of Liège, whose address is No. 1, Rue Forgeur, Liège. The hygiene division of the congress is divided into seven sections, viz., (1) bacteriology; (2) the hygiene of foods, including chemistry and veterinary matters; (3) sanitary technology, including engineering and architecture with reference to hygiene; (4) the hygiene of trades and professions; (5) the hygiene of railways, shipping, and other methods of transport; (6) administrative hygiene, including the prevention of transmissible diseases, workmen's dwellings, and infantile hygiene; and (7) colonial hygiene. The secretary of the American committee of organization is Dr. A. E. de Schweinitz, Washington, D. C.

**A Peripatetic Eye Clinic.**—It is stated in the *Lancet* that Sir Ernest Cassel has given a large sum of money to the Egyptian Government for the relief of ophthalmia in Egypt. In order to expend the money to the best advantage, it has been decided to send traveling dispensaries into the country for the relief of those sufferers who are unable to attend the already existing hospitals. There will be at first one of these dispensaries or ambulance hospitals, which will have a couple of tents with beds for patients who have to be operated upon, and for the treatment of the more serious cases. This will travel about from place to place under the direction of an ophthalmic surgeon, who will have under him an Egyptian assistant surgeon. Mr. A. F. MacCallan, chief clinical assistant at the Royal London Ophthalmic Hospital (Moorfields), has been appointed by the Egyptian Government to organize and to direct the enterprise with the title of "inspector of traveling ophthalmic dispensaries in Egypt." If this experiment is successful, other dispensaries will be organized and sent forth on their travels.

**Tetanus Bacilli in Blank Cartridges.**—Dr. Richard N. Connolly of the Newark (N. J.) Board of Health, recently examined blank cartridges such as are used in pistols to add to the noise of our Chinese celebration of the Fourth of July, and found that they contained the germs of tetanus.

**A Plague Ship at Marseilles.**—When the steamship *France*, from Buenos Ayres, arrived at Marseilles on July 1, it was found that some thirty rats on board had died of the bubonic plague. The necessary precautions were adopted to prevent any dissemination of the germs, and the crew was put under observation.

**The American Physical Education Association** held its annual meeting in this city last week. Dr. Luther Halsey Gulick, director of physical training in the public schools of New York City, was elected president.

**Hospitals Criticised by a Coroner's Jury.**—A coroner's jury in Washington, recently sitting on two cases of death by violence, added a supplemental report to its findings which severely scored the medical staffs of Freedman's and Washington Asylum hospitals. In both cases there was a fractured skull, one caused by an axe, the other by a hammer. In one case the diagnosis was nephritis, in the other it was a scalp wound, and after it was dressed the man went to his home, where he subsequently died.

**A Sanatorium Monopoly in the Madeira Islands.**—It is reported that the Portuguese government has received a proposal from Prince Francis Henry of Hohenlohe for the formation of a large company for the exclusive establishment and exploitation of sanatoria for the cure of consumption in Madeira. The proposal guarantees that one-third of the receipts shall be paid to the State, and that a forfeit of $100,000 shall be deposited with the Portuguese government. Two sanatoria are to be built within the space of two years.

**The Floating Hospital** of St. John's Guild made its first trip on July 7, leaving the foot of West Fiftieth Street, Manhattan, at 8 o'clock A.M. Only one floating hospital will be operated this summer. The service will alternate between the east and west sides of New York, and the service which has been maintained in Brooklyn for four years will be omitted.

**Radium Rays for Cancer.**—At a recent meeting of the Medical Section of the Royal Imperial Academy of Science in Vienna, a paper was read giving the details of cure of a case of cancer of the hard palate and pharynx by means of radium rays. The patient, who was treated at the University clinic of the late Professor Gussenbauer, was a man sixty-one years of age. He had long suffered from cancer of the palate and lip, and had repeatedly been operated upon, but without success, the disease returning, and each time demanding a more extensive operation for its removal. Finally, in the autumn of 1902, the surgeons of the Allgemeines Krankenhaus declared it was absolutely useless to operate again. One physician determined as a last resort to try radium rays, and treated the afflicted parts by exposing them to the light of radium bromide, the strongest radium preparation in existence. He was rewarded by a gradual and complete disappearance of the growth, which has not returned, now some eight months after the beginning of treatment. At the same meeting a case of melanosarcoma cured by radium rays was reported.

**A Convalescent Hospital for New York.**—In a building at the northern end of Blackwell's Island, formerly occupied by the Manhattan State Hospital, a hospital for convalescent patients under the care of the Department of Charities, was opened on July 1 by Commissioner Homer Folks. The building contains beds for forty men and thirty women, and the number may be increased with growing demands so as to accommodate seventy men and sixty women. Patients will be allowed to remain for three weeks under ordinary circumstances, but provision is made whereby a six weeks' convalescence can be arranged in exceptional cases.

**Orange Smallpox Hospital Burned.**—The main structure of the group of buildings erected in Orange, N. J., at the time of the smallpox outbreak, about two years ago, and used as an isolation hospital, was destroyed by fire on July 2, entailing a loss of $2,000. It was with difficulty that the destruction of the other buildings was prevented, as there are no hydrants nearby, and the fight had to be made with the chemical engine. But the firemen were enabled to save the office, laundry and kitchen buildings. There were no patients in the hospital at the time. The burned building contained several beds, linen, medical and surgical appliances, and a quantity of medicines, all of which were destroyed. It is thought that the building was set on fire intentionally.

**Medical Society of the State of North Carolina.**—At the annual meeting of this society, held at Hot Springs June 2, 3, and 4, the following officers were elected: *President*, Dr. H. B. Weaver, Asheville; *First Vice-President*, Dr. J. W. Long, Salisbury; *Second Vice-President*, Dr. John C. Rodman, Washington; *Third Vice-President*, Dr. S. F. Pfohl, Winston-Salem; *Secretary*, Dr. J. H. Way, Waynesville; *Treasurer*, Dr. Sikes, Grissom. The next meeting will be held at Raleigh in 1904.

**The Summer School in Philanthropic Work.**—The sixth annual session of this school, conducted by the Charity Organization Society of New York under the direction of Mr. Philip W. Ayres, opened on June 22, and will continue to July 31. The meetings will be held in the library of the Charity Organization Society, in the United Charities Building, Fourth Avenue and Twenty-second Street, New York, at 8.30 o'clock, six mornings in the week. The first half hour will be devoted to a discussion of the preceding day's work. The following subjects will be taught: Care and treatment of needy families in their homes; care of destitute, neglected and delinquent children; medical charities; institutional care of adults; neighborhood improvements. The Department of Medical Charities is in charge of Dr. Silas F. Hallock, and the following is the program of lectures to be given: "The Management of Contagious Diseases in New York," Dr. William Hallock Park of the New York Municipal Laboratory; "What the Charity Worker Should Know of the Treatment and Prevention of Tuberculosis," Dr. S. A. Knopf, New York; "Social Factors in the Prevalence of Consumption," Miss Lilian Brandt, statistician of the Committee on the Prevention of Tuberculosis, Charity Organization Society. If the conditions permit, Dr. Alvah H. Doty, health officer of the Port of New York, will take the members of the school on one of the days of the session to visit the quarantine station and explain its work.

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**Serum Treatment of Scarlet Fever.**—Theodor Escherich reports the use of Moser's serum in 142 cases of scarlet fever. The results fully confirm those reported by Moser at Carlsbad. The acute symptoms rapidly subsided, the effect being first noticed in from four to twelve hours following the inoculations. The so-called septic symptoms (glandular enlargement, etc.) were the least influenced, although they never became of marked severity. As a general rule it can be said that complications (nephritis, etc.) are less marked in those cases treated with the serum than in those in which the ordinary measures are employed —*Wiener klinische Wochenschrift.*

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

DEGREES IN DENTISTRY—THE UNIVERSITY OF LONDON—EPILEPSY—HOSPITAL SUNDAY—SMALL HOSPITALS—THE CARLYLE CONTROVERSY—DARWIN'S LETTERS—DEATH OF DR. BIRKBECK NEVINS.

LONDON, June 19, 1903.

THE proposal to establish dental degrees in the reorganized University of London has been shelved for the present—and we may hope permanently.

There is no need of such degrees, and if one university begins others are sure to follow, and we shall be flooded with distinctions difficult to fairly value. If a dentist has a medical qualification, that ought to suffice with his L.D.S. (License in Dental Surgery). Perhaps I should put it the other way, the dentist has his L.D.S. If he desires anything more, all the qualifying bodies are open to him if he has fulfilled the curriculum for a medical or surgical diploma.

The L.D.S. has become now fairly familiar and will not easily be superseded. Besides, it is probable the university would have to obtain Parliamentary authority for instituting dental degrees, whereas it can already confer L.D.S. as other bodies do. If it must have a finger in the pie (or the pies), let it be content to do this. Surely L.D.S., Lond., would be distinction enough.

There were two proposals made—one to confer a dental degree only on bachelors of medicine and surgery, the other to admit to examination those who had not taken the final examinations for those degrees. The resolutions adopted by the faculty were only carried by a small majority, but it is to be hoped that specal degrees in special departments of medicine will not be instituted here or elsewhere.

The university has also been much divided as to the intended changes in the curriculum. The opponents of change went so far as to try to displace Sir T. Barlow, who was, however, re-elected to the Senate. The cry of the opponents was that the changes would lower the value of the degrees, and so it was repea'ed by those graduates who grudge an equal distinction to others and would maintain an absurdly high standard of examination as the one requirement for graduation. That system is one that develops cramming candidates with facts and opinions, but can scarcely be said to be a good method of medical education. It was largely the result of that system which brought about the reconstruction of the university.

The old university neither taught nor superintended teaching. It only examined, and the only way of making its degrees difficult to obtain was to make its examinations severe. A person, therefore, with a good memory and steady application could work up the subjects from well chosen textbooks and exhibit sufficient ready knowledge to satisfy any examiner. But that knowledge was not wisdom and too often it was forgotten as quickly as it was accumulated. Cramming for these degrees developed into a regular system and eventually a plan of preparing candidates through correspondence flourished. Whatever may be the value of such preparation, it cannot be pretended that it is the same as that of a residential university training.

Dr. Aldren Turner read an elaborate paper at the last meeting of the Medico-Chirurgical Society on the prognosis and curability of epilepsy. His paper was a statistical inquiry—the figures being obtained from the records of out-patients at the National Hospital for the paralyzed and epileptic. All cases were excluded (1) which had not been under observation for two years, (2) or were complicated with hæmiplegia, albuminuria, or gross cerebral lesion, (3) pronounced cases of idiocy or dementia.

The total number of cases thus obtained reached 366. Of these 86 were said to be arrested, 105 to show some improvement, and 175 to remain confirmed cases.

Among those who became confirmed epileptics a family history was more frequently recorded, but this did not seem to militate against the prospect of arrest or improvement in any individual case. Age is more important. The most unsatisfactory cases were those in which the disease began under ten; they showed the lowest percentage of arrests and the highest of confirmed cases. Arrested and confirmed cases showed an equal percentage when the disease began between fifteen and twenty. The highest percentage of confirmed cases began between twenty-five and thirty-five. As to duration, arrest or improvement is more probable in the first five years, but some cases have been arrested after twenty to thirty years. As to frequency of fits, the highest percentage of confirmed and the lowest of arrested cases were those subject to daily or weekly attacks, while the converse may be said when they occurred only once or twice a year. Major attacks seem most tractable. Marriage and pregnancy seem without influence, but the puerperium and lactation seem rather unfavorable times.

Long remissions are of favorable prognostic value, but must not be called cures. From the statistics Dr. Turner puts a period of remission for at least nine years as the term after which a cure may be considered to be established. Adopting this term, he regards 10.2 per cent. of epileptics as curable. In the cases in which arrest took place, cessation of the fits occurred within the first year of continuous treatment in over 50 per cent.

In the course of the discussion on this paper, Dr. Fletcher Beach remarked that the statistics supported the general view as to heredity. The large percentage of confirmed cases which began in childhood was an important fact which needed explanation. Night fits being less amenable than day, the question might be asked whether treatment could turn night into day cases.

Dr. Shuttleworth, medical officer of the School Board, gave some statistics of the disease in reference to education. Out of 340 cases, 17 per cent. were able to continue their school work; 27.5 per cent. were unfit for this, but could profit in special schools; 40 per cent. were institutional cases. He had only had one recovery.

Dr. W. H. Blake remarked that the disease did not seem more tractable than before the use of bromide was general. He thought the stomach sometimes at fault and for that employed sulpho-carbolate of sodium. When fits seemed at all associated with commencing menstruation, sodium salicylate seemed useful.

Dr. G. Newton Pitt said it was clear that no greater proportion of cures had followed the introduction of bromides. Also, cases treated without benefit for a year were not likely to improve to any extent. Relapse sometimes occurred after nine years. When a patient had been without a fit for two years, should he go on with bromide, and if so, in what dose? So, after four or five years the same question requires consideration.

Dr. Batty Shaw remarked that these statistics confirmed those of Sir Wm. Gowers as to heredity.

Dr. Turner, in his reply, said he looked upon the fits as one symptom. The prognosis depended more on the mental factor. He thought the obstinacy of child cases might be due to their mental state. He could offer no rule as to giving bromides after a period of remission.

Hospital Sunday was such a drenching wet day that the churches and chapels were very thinly attended and the collections necessarily suffered. The judges and the Lord Mayor attended at St. Paul's, where £119 was collected. At Westminster Abbey the amount reached £134.16. The hopes of a record year have accordingly faded. The Lord Mayor has asked the ministers to appeal to their congregations to make up next Sunday for their absence last Sunday. There is no promise of any remission in the terrible weather that has prevailed here all the week. We can only expect the more liberal donors to send their contributions to the Lord Mayor on Saturday.

Princess Louise, accompanied by the Duke of Argyll, opened the new building of the Hospital for Epilepsy and Nervous Diseases. This institution, founded in 1866, will have, when completed, sixty beds. The Duke said there would be no lack of support because the hospital is small. "Small hospitals in different districts were preferable to large barracks."

Whatever may have been your view of the Carlyle controversy, you will scarcely fail to be interested in the aspect given to it by the publication of the "New Letters and Memorials of Jane Welsh Carlyle," which is considered the literary event of the year here. My excuse for mentioning the work is that it is edited by Sir J. Crichton-Browne, M.D., whose professional contributions I have often mentioned. He takes a very decided view as to Froude's conduct.

The book will doubtless interest Dr. G. M. Gould, whose "Biographic Clinics" has come from your side, and contains suggestions as to the ill-health of Carlyle and other literary celebrities. Dr. Gould's book offers, also, an explanation of Darwin's case, and here again further facts appear on this side which occupy two volumes, with the descriptive title of "More Letters of Darwin. A Record of His Work in a Series of Hitherto Unpublished Letters." The work is edited by Francis Darwin and A. C. Steward and contains eight plates with a number of portraits and other illustrations. Darwin was a qualified doctor, you will remember, though he did not practise the profession. But he does not seem to have studied the accommodation of his eyes as Dr. Gould now does.

Dr. J. Birkbeck Nevins, of Liverpool, died on the 11th of June, in his eighty-fifth year. He studied at Guy's Hospital, took his M.B. London with honors in 1841, and M.D., 1846. He was surgical tutor at Guy's for some two years, and took two voyages to Hudson's Bay, an account of which he published in 1843. The next year he became lecturer at the Liverpool College, where he taught for

many years chemistry, physics, botany, and materia medica. His translation of the "London Pharmacopœia" held an honored place as one of the best textbooks until the advent of the "British" superseded it. His "Prescriber's Complete Handbook," chiefly translated from Trousseau and Reveil, was greatly esteemed.

Among the numerous offices he had filled in Liverpool may be named the presidency of the Medical Institute and of the Literary and Philosophical Society. Some of his contributions illustrate the wide extent of his knowledge and interest beyond professional subjects; *e. g.* "Revision of New Testament," "Historical Facts in Relation to the Prophet Jonah," "Arrangement of the Hebrew Camp in the Desert and Those of Edinburgh, Liverpool, and Manchester," "Wales During the Tudor Period."

Dr. Nevins was also deeply interested in the question of contagious diseases, and sent a paper on the subject to the International Congress of Hygiene in 1891, and a further paper to the Brussels Congress of 1899.

## THE ADVERTISING OF OPERATIONS IN THE DAILY PRESS.

To the Editor of the Medical Record:

Sir: Notwithstanding the fact that every medical society, county, State, and national, discusses the ethics of medicine—most particularly the time-honored clause of professional advertising, strongly condemning it in every particular—we can hardly read a village or city paper and not see where doctor so-and-so suffers himself without remonstrance to be exploited for some simple operation which any tyro can do, yet which sounds almost impossibly grand under the penciler's hand.

When medical societies were few, it was less talked of than now, but tacitly understood by the profession that this kind of advertising was unfair and wrong, and in wretched taste, and was a distinct violation of the high code of honor among medical men, and this alone kept such things strictly within the bounds of professional reading—things that do not appear in medical journals, because there is no merit or skill attached to their performance, but invariably appear in non-professional periodicals. In this day of news-gathering, the modest physician is too often dragged against his will into public notice, but in too many instances the accurate description of the operation shows that some initiated person helps to mold public opinion.

It is to be regretted that physicians are not more circumspect than to permit their names to appear in this connection. Strict obedience to the code gives us a narrow limit in this direction, and justly so, as our own merit, as recognized by others, should alone advertise us. Certain members of the profession have too frequently taken advantage of the fact that newspapers have gone daft on appendicitis and *x*-ray, and are now taking up and discussing the "Lorenz method," as they familiarly call it. These gentlemen engage in the unscientific, brutal, and unsatisfactory crushing into pulp a club-foot—a species of guess-work, blindly breaking and tearing whatever resists and poulticing the job with "plaster-of-paris," and the weekly report of this work in the town paper calls it "Lorenz operation." The notice of these things, entirely foreign to the mission of the ordinary newspaper, has done much harm in causing every crossroads doctor to try to get himself advertised as a surgeon with an appendix dangling at his belt, a fair exchange for a place in Abraham's bosom, or a crown of glory on the part of the deluded victim.

The writer is aware that this is a hackneyed subject, but it is like a good many old things in medicine—too nearly forgotten for newer and less worthy ones. The masses, even among the intelligent, are woefully ignorant of medicine and surgery, and when they constantly see some shameless doctor's name in connection with these wonderful (?) things they at once conclude that he is the only man in the community who can adjust a fracture or amputate a toe, and his henchmen (for such always have them) do the rest to make it redound to his pecuniary gain. If any member of the profession protest in these secular papers against his methods, that, too, he turns to his advantage by crying "jealousy and persecution." These things are doing much to lower the standard of medicine, for they are in high as well as low places.

X. B. Haynie, M.D.

Gallatin, Tenn.

## A QUESTION OF PRIORITY.

To the Editor of the Medical Record:

Sir: On June 15 of this year my attention was called to an editorial in the Medical Record of April 11, 1903, relative to a case of pneumonia supposed to have been treated with intrapulmonary injections of a normal salt-solution in August, 1893, by one Max Schüller of Berlin; etc. To say that I was astounded at this assertion is, indeed, but weakly expressing myself, and it was certainly beyond my belief that a medical journal so well informed as the Medical Record is supposed to be, and certainly is, could have come out with a column editorial lauding this foreigner and ignoring the priority of a fellow countryman. I still believe this to be an oversight, and feel sure that you will do your utmost to place the credit for this work where it rightly belongs. For protection, I have been compelled, at a great expense, to have an abstract made of every paper written and published by Max Schüller, and there has been absolutely nothing written by this man on the intrapulmonary treatment of the pneumonic lung. I enclose letter from the Newberry library showing the facts in the case. It seems strange that this man should attempt to do such a thing as this in the face of my European demonstrations, and the case reported by me in my paper already published, *Medical News*, June 21-28, 1902. He must give the scientists and medical editors of Europe and America credit of knowing little or nothing of what has been done along these lines up to this time. In Berlin some of the most eminent men told me they thought intrapulmonary injections of a salt-solution in the healthy or non-consolidated lung would cause œdema and death, and one or two could hardly believe the needle was in the lung when I demonstrated on the dog at Hospital Mobit. The same remarks were made at the Vienna, Paris, Madrid (Faculty of Medicine after reading my paper before the physiological section and the National Medical Association section), Rome, and London demonstrations. They, of course, knew of Lepines' work on the pneumonic lung, and also knew of the bad results obtained by his method. They did not seem to understand that rapid endosmosis would prevent œdema. This was perfectly clear to them after they witnessed a twenty-pound stream from the organometer being rapidly absorbed, and too without injury to the lung tissue, as I afterward showed them. It seems almost impossible that a man could call himself a scientist (for the word "scientist" means a searcher for truth) and stoop to do so small and unmanly a trick. If science has become so degraded, I want nothing more to do with scientific research. I have no doubt that he did the work as reported in the *Klinisch-therapeutische Wochenschrift* of Vienna, but Schüller did not do this work prior to June 21, 1902.

I am at a loss to know how a man who had obtained such remarkable results as Dr. Schüller reports in his paper could wait ten long years before reporting them. The entire affair to my mind is ridiculous in the extreme.

W. Byron Coakley, M.D.

100 State Street, Chicago.

[The article to which our esteemed correspondent takes exception was based upon a paper published in the *Klinisch-therapeutische Wochenschrift* of February 15, 1903. The topic was one of scientific interest, and was commented upon for that reason, with no thought as to priority in the therapeutic principle involved.—Ed.]

**Puerperal Eclampsia; a Plea for Treatment with Veratrum Viride.**—J. S. Hammond firmly believes, from his reading and from his observation, that when veratrum viride has been fairly tested, and by that he means given in doses to reduce the pulse to 60 or below, and holding it there, that its record of cures surpasses that of any other treatment ever yet tried. It accomplishes as marked and beneficial results as morphia and in an entirely different manner. Through its active principles, veratrine and veratroidine, it lays hold of the excited circulation and controls it completely, both in the matter of frequency and tension. This goes far toward allaying that irritation which excites convulsions. But this irritation is further controlled by the muscular reaction and prostration produced by the exhibition of veratrum. As a depressant of the vaso-motor nerve-centers, and as a spinal depressant as well, veratrum has no equal, except perhaps in chloral. Its action as a spinal depressant can be carried safely to a complete abolition of reflex activity. It will also cause diaphoresis, and is an eliminative through this means, and also by catharsis. Bleeding accomplishes nothing that is not accomplished by veratrum, but what it does is at the expense of impoverishing the blood, and this, too, in a malady already characterized by hydræmia. As against the danger of all other methods of treatment and all other agents, veratrum has this great overwhelming advantage that it is admittedly safe.—*Annals of Gynecology and Pediatry.*

# Progress of Medical Science.

*The Boston Medical and Surgical Journal, June 25, 1903.*

**The Cure of Cancer by the Use of the X-ray.**—H. W. Van Allen declares that after the *x*-ray has cured a cancer, we do not know yet if it will return. Cases are on record of seyeral years' standing, with no return. Thus far the percentage of returns is not so great as with the knife for the same period. Only after years can we tell the final result. All the cases treated by the writer, excepting two, have been cases that have returned, having been cut out previously. One writer states the percentage of recurrences after operation as 52. The prospect is that in thoroughly treated cases by *x*-ray nothing like this percentage will return. While this is the great item in judging the advantage in method, we should not forget the lack of disfiguring scar, the ease of application, not removing the patient from ordinary occupation, fear of the knife, etc. Such facts present an argument too strong to be put aside by even the most radical operating surgeon.

**The Blood in the Typhoid Fever of Children; a Clinical Study.**—Frank Spooner Churchill concludes: (1) The blood in the typhoid fever of childhood differs from that of adult typhoid only in degree. (2) The erythrocytes are reduced in number, especially during the first three weeks, after which they begin to increase rapidly, reaching normal in the fifth week. (3) The hæmoglobin suffers more proportionately than the erythrocytes. (4) The leucocytes are reduced throughout the first four weeks, the lowest average being reached during the second week, except in severe and tedious cases. (5) The leucopenia is of diagnostic value, especially in children, in whom most febrile affections produce a leucocytosis. More data are needed to determine the priority of appearance of a "positive" serum reaction or a leucopenia. (6) The relative proportion of the different varieties of leucocytes varies at different periods of the disease, the greatest variations being found in the polymorphonuclears and mononuclear elements, the former diminish and the latter increase as the disease advances. The increase in mononuclears is chiefly in the lymphocytes. Analysis of large numbers of cases grouped by age and week is desirable.

*The Boston Medical and Surgical Journal, July 2, 1903.*

**Nasal Polypi: A Study of One Hundred and Forty-Seven Cases.**—J. Payson Clark declares that his greatest hindrance in the study of these cases was the difficulty of sufficiently impressing upon patients the importance of following up treatment and reporting as often as desired for observation. The usual site of these growths is in the region of the middle turbinated bone, from some part of the outer wall of the nose concealed by the middle turbinate, but more often from the turbinate itself, either from the lower border or from the outer or (more rarely) the inner surface. The writer finds no evidence of any constitutional diathesis or impairment of the general health standing in any causative relation to this affection. Heredity appears to play no part. More than half of the cases were between thirty and fifty years of age. A neglected injury to the nose might conceivably result in polyps. Suppuration of one of the accessory sinuses is another predisposing cause of the growth of nasal polypi. All but about a fifth of the cases gave a history of frequent head colds. In a large proportion of cases, obstruction to respiration is the first symptom which calls the patient's attention to his nose. Sneezing was marked in about a third of the cases. The discharge varies from watery to mucous. The writer states that probably only a small proportion of cases are caused by sinus disease (usually ethmoiditis). A local vasomotor disturbance, which may be of constitutional origin, stands in a causative relation to polypi in a certain proportion of cases. The removal of the whole middle turbinate will be found necessary in many cases when the growths are diffuse. Many cases of nasal polypi can be cured if patients will return for treatment as instructed.

**Septic Endocarditis.**—A. W. Dudley reports this case. The patient was a girl of twenty-five years, well developed and well nourished, though pale. She had had albuminuria for three or four years. The specific gravity was 1015–1020. Sediment showed normal blood. Some granular and hyaline casts. Otherwise her organs were normal. The illness began with fever, rapid pulse, and some soreness and redness of the throat. There then developed a mixed macular, papular, and hemorrhagic eruption, mostly on the hands, forearms, feet, and legs. There were frequent chills. There were fleeting joint pains and some swelling of the legs The urine became high colored. The heart was negative. Malaria could not be excluded. The spleen was slightly enlarged. The heart showed a slight systolic souffle when in violent action only. At the end of the second week malaria could be ruled out. A blood culture proved negative. The systolic souffle became more distinct, was confined to the apex, not transmitted, and heard only when the heart was in violent action. There were a few short attacks of precordial pain. About two months after the beginning of her illness, for two weeks, though often greatly depressed and somewhat exhausted, there was no fever except for two days, and then not above 101°. There were two attacks of delirium. Alcohol, strychnia, at times digitalis, morphia, and good food were given. Coffee was craved and allowed freely. Unguentum Credé, was used. This diagnosis cannot be absolute, and is arrived at by exclusion fully as much as by positive signs. Since the illness she has had "rheumatism" of the legs. The association between tonsillitis and rheumatism, and rheumatism and endocarditis, is recalled by this case starting with a sore throat, showing rheumatic symptoms after a few days, and coincident therewith the septic fever curve. About two weeks after the beginning of the illness, a three-hourly chart was kept. For three weeks the pulse followed the temperature The interval between the crests of the fever waves varied from twelve to twenty-four hours, with one exception, and the crest of the wave rose from normal to 105° as the lowest and 106.8° as the highest. Convalescence was finally accomplished. There is no demonstrable region of the heart.

*Journal of the American Medical Association, July 4, 1903.*

**Influenza in Children.**—The conclusions of W. C. Williams are as follows: (1) Children of any age, even in early infancy, are susceptible to the influenza infection. (2) Repeated relapses and grave sequelæ are frequent in cases in which the initial seizure is mild as well as when it is severe. Therefore, no attack should ever be considered as "mild" nor as recovered from until a sufficient time has elapsed. (3) Clinical diagnosis should always be supported by the evidence of the microscope, whenever possible, as the practical certainty thus obtained may be of great value in explaining future developments.

**The Boy's Venereal Peril.**—Ferd. C. Valentine repeats the plea so often made for the proper instruction of the growing boy in regard to matters of sexual hygiene. He should know two facts: (1) That of all women who die of diseases of the reproductive organs, 80 per cent. are victims of gonorrhœa, of which their husbands imagined themselves cured. (2) That of all children born with seeing eyes who became hopelessly blind within a few days after birth, 80 per cent. lost their sight because of infection by gonorrhœa of which the fathers imagined themselves cured. All such information should be communicated at the time of puberty, at which time it will make the deepest impression. Other matters to which attention should be directed are: (1) The evidences of awakening genesic tendency. (2) Masturbation and the impulses or defects that lead thereto. (3) The evil influences that mislead youths into immorality. (4) Prostitution, public and clandestine, and the mental and physical destruction they bring. (5) Gonorrhœa, chancroid, chancre, and their sequelæ. (6) Advertising quacks, nostrum venders and an exposé of the methods they employ to swindle those afflicted with real or imaginary genitourinary and other ailments. (7) The reasons why a youth with a real or fancied illness due to immorality should consult a physician whom he knows, or whom his father knows. (8) The reason why reputable practitioners do not advertise.

**Fat Necrosis of the Kidney.**—J. R. Guthrie discusses the physiological chemistry of this condition and enumerates the causes leading up to it. He adds the history of a personal case, his patient being a single woman aged twenty-two years with a tumor-like mass in the left hypochondriac region extending down to two inches above the umbilicus. There was a progressive bodily weakness. Pressure would return the mass to nearly the normal kidney site. A lumbar incision was made, and the mass being brought up into the wound was there clamped. The capsule gave way and there was discharged from the kidney a yellowish semifluid substance to the amount of 12 to 14 oz., and resembling in color an emulsion of cod-liver oil and iodoform, containing a peculiar flaky or shredded material. By digital examination it was found that, practically, the whole kidney substance had been destroyed. The kidney was stitched into the wound, leaving free and unobstructed drainage. Some of this semifluid material drained from the kidney for several days. Some of the material saved for chemical and microscopical examination was found to be composed almost entirely of an emulsion containing oil, fatty cells, together with fibrous and connective tissue. A fatty substitution had taken place in the kidney, followed by

liquefaction necrosis, which had, practically, destroyed its secreting structure.

**Pityriasis Rosacea.**—L. Weiss gives a complete general description of this disease under the conventional headings. Under the head of differential diagnosis he mentions disseminated ring-worm and seborrhœic eczema as the dermatoses with which it is especially apt to be confounded. Concerning the latter he states that he has found that it will spontaneously yield scales even in places where it is exposed to maceration, while pityriasis rosacea will do this only when scratched. Syphilitic lesions leading to confusion in diagnosis from pityriasis are roseola and the macular syphilide. With psoriasis, pityriasis can be confused only in case of recent punctate lesions in persons who perspire freely, or in summer when the lesions are naturally moist. But on scratching we have here the punctate hemorrhages. As to treatment, Weiss advises against the general malaise, a saline cathartic; against the anorexia or other gastric and intestinal disturbance, the exhibition of diluted muriatic acid and nux vomica will be in order. If itching is complained of, bran baths and mild salves, probably with the admixture of salicylic acid or resorcin, are to be recommended, or spirituous lotions of the same drugs may be applied. The much-vaunted influence of higher percentuated salves with salicylic acid, resorcin, sulphur, naphthol, with a view of their parasiticidal virtues, is absolutely *nil*. There is no fungus to kill in this affection, and whatever changes these salves may elicit on the skin—bleaching and desquamation—are due to their reductive qualities of the remedies incorporated in them.

*Medical News, July 4, 1903*

**Tuberculosis of the Middle Ear, with the Report of a Case.**—Z. L. Leonard states that when the ear is the seat of a tuberculous process, it may precede a general systemic injection which later develops in the lungs or in parts remote from this location. Usually, it is secondary to an attack in other quarters which has progressed to an advanced stage. As to the symptoms, the grayish spots in the membrana tympani before it has ruptured; the multiple perforations; the rapidity with which the bone yields to disintegration and the absence of pain, are a combination of great importance. Tubercle has been found primarily in the mucous membrane of the middle ear and in the spongy tissue of the petrous portion of the temporal bone. The aspect of the perforation through the drum is diagnostic. As a rule they are two in number, but more have been observed. These openings soon run together. Deafness is noticed early, and is progressive. The treatment must be similar to that which would be pursued in any case of purulent discharge from the ear. Antiseptic, stimulating or by using astringents. Active measures should also be taken to elevate the general lowered condition. The writer then reports a typical case in which both ears were affected. Later the lungs became affected. It should be a routine practice to submit to the microscopist for diagnosis and verification the products of an unhealthy discharge not alone from the upper-air passages, but from the ears as well.

*New York Medical Journal, July 4, 1903.*

**Black Chromidrosis with Hysterical Paralysis.**—J. W. Putnam reports the case of a woman aged nineteen years well nourished, but with complete loss of power of both arms and legs, and cutaneous anæsthesia of arms, trunk, and legs. Patellar and plantar reflexes were preserved and not exaggerated. The Babinski sign was absent. There was no loss of bladder control, but the region of the spine was excessively irritable. Pressure over the ovaries caused pain. There was no tenderness at the supramammary and inframammary points. The face and neck muscles were not involved. The skin of the eyelids and malar regions, and the upper portion of the nose was inky black; as, also, was the edge of the mucous membranes of lips. The sensation of the skin was normal. The patient declared that these symptoms came on suddenly, when she was being stared at because of her peculiar appearance. Electricity was employed in various ways as well as suggestion treatment. Under this plan, together with general hygiene, she made a gradual recovery. Menstruation had been in abevance for some months, except for a few hours at the regular time of each period. The total period of amenorrhœa was fourteen months; that of chromidrosis nine months, and there were six attacks of recurring hysterical paralysis in that time at irregular intervals.

**The Hook-worm Disease in Alabama.**—E. D. Bondurant believes that uncinariasis is very common in Alabama, especially in the country regions and among the poorer classes of whites. The most prominent symptom is anæmia. The blood shows a diminution of hæmoglobin percentage out of all proportion to the reduction in number of the red cells. An excess of eosinophile cells has also been found. Almost as characteristic as the anæmia are the associated mental and physical feebleness, apathy, indifference, and inability and disinclination to work. Normal development is checked, the patients are generally undersized, and the growth of hair is scanty. Hæmic heart murmurs are frequent. Œdema of the feet and eyelids is often met with. The appetite is capricious, sometimes ravenous, and a liking for clay, chalk, dirt, and other indigestibles is shown. The bowel symptoms are not characteristic. There may be constipation or diarrhœa, or no abnormity. In many instances the fecal matter is blood stained, or colored by altered and partly digested blood which has oozed from the wounds made in the intestinal mucosa by the parasites. The "dirt eaters" of the sand hills are excellent examples of this disease, and any one who can recall the appearance and mental characteristics of a little, stupid, tallow-faced, dirt-eating boy, has a typical picture of uncinariasis. The diagnosis is confirmed by the finding in the discharges the ova of the hook-worm. Treatment calls for male fern or thymol as anthelmintics, and a persistent tonic regimen.

**The Treatment of the So-called Diabetic Gangrene of the Extremities.**—H. Lilienthal would group these cases as follows: (1) Patients with good general condition, no acid intoxication, variable amount of sugar; one or more toes or fingers with or without phlegmon not threatening the usefulness of the member. Here treatment should be conservative. The affected fingers or toes should be removed and the phlegmon freely laid open. The wounds should be packed and wet dressings applied, the tendon and fascia being allowed to slough away. (2) General condition good; no acetone or diacetic acid in the urine; local condition such as to threaten the usefulness of the affected member. Here the ablation of the limb high above the upper level of the disease is the proper course. When the disease is in the foot it is best to make the amputation well above the knee, because at the knee-joint there is so much tendinous tissue that necrosis is extremely apt to appear in the stump and defeat the aim of the operation. In the upper extremity the amputation need not, however, be above the elbow for a mere gangrene of the hand. All flaps should be made of skin and muscle instead of being composed of skin alone. (3) General condition of the patient poor or comparatively good; sugar in variable quantities; acid poisoning present; disease threatening or not, the affected part. Treatment here should be palliative until the acid intoxication with its impending coma shall have passed off. If, in spite of all our efforts, this cannot be brought about, the very poor prognosis should still deter us from radical operative procedures. Naturally, this does not mean that no efforts to promote drainage should be made. On the contrary, the free incision of tissues impeding the free evacuation of phlegmonous spaces must be practised in any event. But no more than is absolutely necessary should be done. Above all, no radical operation.

*American Medicine, July 4, 1903*

**Prophylaxis and Treatment of Baldness.**—Albert Bernheim presents the following conclusions on this subject: Bladness should not be treated as a joke, especially by the physician. Baldness is infectious and contagious. It can be prevented by prophylaxis. It can be cured in a treat number of cases in persons under fifty, and a trial is worth while in persons above this age. Patience in the patient is a condition *sine quâ non*, and in the physician is an absolute necessity. The etiology of baldness is not clear. Probably the exclusion of light and air from the hair has much to do with the predisposition to baldness. The writer's treatment is as follows: Time, patience, and tar soap. The soap is made from a prescription which contains about forty parts of birchwood, tar, or, better, beechwood tar to a soap mixture of sixty parts. With this tar soap the scalp should be shampooed every day for at least eight weeks, later on every other or every third day for another four or eight weeks. Shampooing must be thorough. The hair is patted dry, not rubbed. The scalp should now be rubbed with a solution of mercuric chloride, 1.0 to 300.0; glycerin and cologne spirits, each 100.0. The rubbing should be done with soft woollen tissue. Then the skin is rubbed dry for an another five minutes with a solution of beta naphtol, 1.0, and absolute alcohol, 200.0. After this the following hair oil is very freely used: Salicylic acid, 2.0; benzoin tincture, 3.0; neatsfoot oil, 100.0.

**The Early Diagnosis of Pregnancy.**—J. J. Gurney Williams states that the majority of patients consult a physician on account of amenorrhœa. He discusses this subject under three heads: (1) Menstruation has never been established. (2) Menstruation has been suppressed. (3) Retention of the blood within the

uterine cavity or vagina, as from an imperforate hymen. In those women in whom menstruation develops late, it is often found that there has been no sign of the menses till after marital relations have taken place. Change of climate often causes temporary amenorrhœa, as will also a fear of impregnation in the single, and desire for offspring in the newly married. In hard-working college girls, and in those who are musical and practise for hours, menstruation is often delayed. Amenorrhœa, arising from any cause other than pregnancy, usually shows itself in some constitutional disturbance as anæmia, general debility, and weakness. The mammary signs of early pregnancy are not constant and are often misleading. The nausea of pregnancy is usually of sudden onset, appearing when first assuming the upright position in the morning, or when awakening; it is generally of short duration, and accompanied by a feeling of dizziness. Some patients feel it only before retiring. The most important and reliable objective symptom of early pregnancy is found in the change of shape in the uterus. The uterus, which is not the seat of an ovum, feels like a funnel, the cervix broadening gradually into the broader fundus, whereas in the pregnant uterus the finger appreciates flattening of the lower uterine segment. This is felt on all sides, but far more distinctly, laterally. This sign can be felt as early as the fifth week, but it can only be appreciated between uterine contractions. Two other important symptoms are a cervix lower than the normal, and increase in weight of the uterus. Hagar's sign is at times misleading, and not always felt. Examination must be made for ectopic pregnancy. In the vast majority of cases an exploratory incision will not harm a normal pregnancy, but it will start us on the only road for saving life in an ectopic gestation.

*The Lancet, June 27, 1903.*

**Respiratory Crises in Graves' Disease.**—Two cases are given in detail by J. G. Sharp. In both the respirations succeeded each other with great rapidity, not less than sixty per minute, the conditions being not unlike those seen in atropine poisoning. It is found that opium has a marvelous effect in quieting these crises. The author would explain them on the supposition that in Graves' disease a poison is thrown into the system which under ordinary circumstances is excreted and produces only the ordinary symptoms of the malady. When an accumulation of the poison occurs, either from excessive formation or lessened excretion, we have a gastric crisis. When the accumulation is less or the excretory organs are unable to eliminate it, and it gets to the respiratory center, we have a crisis in breathing. Presumably the poison is its effects on the respiratory center analagous to strychnine. To this action, that of opium is antagonistic; hence the good effect of the latter remedy under the conditions specified.

**On the Diagnosis of the Cause of Jaundice.**—Sidney Phillips says that the first step in the diagnosis is to determine whether or not there exists obstruction of the common duct. Such obstruction is evidenced by (1) absence of bile from the stools, (2) enlargement of the gall-bladder, and (3) enlargement of the liver. He thus enumerates the causes giving rise to obstruction: (1) Morbid conditions involving the duct or its orifice in the duodenum: (*a*) catarrh; (*b*) duodenal ulcer; (*c*) duodenal cancer; and (*d*) stricture of the duct. (2) Foreign bodies in the common duct: biliary calculi, pancreatic calculi, and parasitic structures. (3) Pressure on the duct from without: (*a*) by perihepatitis and resulting adhesions; (*b*) by tumors, aneurysms, or enlarged glands in the portal fissure; and (*c*) by disease of the pancreas. Several illustrative clinical cases are given. Jaundice without obstruction in the common duct may be referred to (1) poisons circulating in the blood, such as phosphorus, toluylendiamin, etc.; (2) toxins resulting from certain diseases—yellow fever, the exanthemata, pyæmia, etc.; (3) congestion of the liver; (4) hepatitis; (5) acute atrophy of the liver; and (6) conditions of the nervous system.

**Note on the Persistence of the Gruber-Widal Reaction in Convalescence from Typhoid Fever.**—H. S. Brown and K. E. Crompton give a table of sixty-eight cases of typhoid fever showing the serum-reaction at various periods after recovery. Only three cases gave a positive reaction and of these one was obtained only two months after the attack. This is a much smaller proportion of positive reactions than is given by other observers, but the difference is due to the inclusion by the latter of cases, in which only a few weeks had elapsed since the original attack, and partly to the low dilutions used by them. The authors state that if they had considered a positive reaction with 1 in 10 sufficient their list would have shown eight more positive reactions, bringing our proportion up to 11 out of 68. While, however, they have no doubt that the reaction with the low dilution shows that the blood in some cases retains for a long time the specific agglutinating action on the bacillus typhosus, yet they wish to insist that this need lead to no error of diagnosis provided that sufficiently high dilutions—*i. e.* 1 in 20 or 1 in 50—are proceeded with in cases in which there is any doubt. Elsberg states that he found no relation between the severity of the attack and the duration of the reaction. Their own observations are in accordance with this. Many of their negative results were obtained from cases which had had severe attacks, often with relapses, while the patient in whom the only positive result, which cannot be explained on other grounds, had been obtained suffered from a mild attack without complications or sequelæ. They incline to a belief in the theory that the persistence of the reaction is due to the continued presence of the bacillus typhosus in the gall-bladder and elsewhere long after the original attack of fever.

**The Prevalence of Pneumonias in Infancy.**—S. V. Pearson believes that it is now generally recognized that croupous pneumonia in infants is far more frequent than was formerly supposed. Its recognition is importance from the point of prognosis, for the latter is better in infants than is the case with bronchopneumonia. Pearson goes so far as to say that croupous pneumonia is more common in infancy than at any other age. At the Shadwell Hospital in East London during the three years 1899–1901 311 patients were admitted suffering from croupous pneumonia. Of these 121—*i. e.* 40 per cent.—were under two years of age, 137 were between two and six years (a large proportion of these were patients between two and three years of age) and 53 were between six and fourteen years. It is obvious, says the author, from these figures that amongst children the commonest age-period for croupous pneumonia is during infancy. During the same period 230 cases of bronchopneumonia were admitted. Of this number 172 were under two years of age, 56 were between two and six years, while only two were over the latter year. These figures are from an institution in which very few infectious diseases are treated. Consequently the relative frequency of croupous pneumonia appears higher than is actually the case. Pearson sees no reason why the pneumococcus may not set up a broncho- as well as a croupous pneumonia. Some cases of pneumonia diagnosed as croupous, more especially in those babies who die, are really cases of primary bronchopneumonia; for in the primary bronchopneumonia sometimes the disease spreads so rapidly and signs of consolidation become evident so soon that it may simulate very closely acute croupous pneumonia, especially should the signs be limited chiefly to one lobe. The likelihood of mistaking a primary bronchopneumonia for croupous pneumonia is further rendered possible by its occasionally having a quite sudden onset, by its being sometimes associated with fever of the continuous type, and by the fact that it is usually of pneumococcic origin. But the opposite error of mistaking a croupous pneumonia in an infant for a bronchopneumonia is equally common, and probably outside of hospitals for children it is the commoner mistake. Moreover, another difficulty arises sometimes from the occurrence of intermediate forms. In the majority of these, in all probability, both varieties of pneumonia are present in different parts of the same lung or in opposite lungs at the same time.

*British Medical Journal, June 27, 1903.*

**Chickenpox Eruption on the Conjunctiva.**—Allan C. Pearson reports this occurrence in a child of two and a half years. It was in the form of a distinct pock on the bulbar conjunctiva at the outer canthus of the right eye. The eruption was present on the mucous membrane of the mouth, and there was marked enlargement of the lymphatic glands all over the body. The disease ran its usual mild course.

**Turpentine in the Treatment of Pneumonia.**—W. Thomas has used this drug in these cases for years, and regards it almost as a specific. After an efficient dose of calomel, he gives the following mixture: Ol. terebinth. pur., ℥ii to ℥iv.; pulv. trag. co., ℥i.; spt. amm. arom. and spt. chloroformi, ää ℥ii; aq. ad. ℥viij. M. sig., two tablespoonfuls every four hours. The virtue of the drug probably lies in its antiseptic properties, and the ease by which it is absorbed. It is a safe and most effective remedy in this, one of the most fatal of acute diseases.

**Potassium Permanganate in the Treatment of Lupus.**—J. Hall-Edwards has recently treated several cases of lupus with potassium permanganate, and has been surprised at the results. In several typical cases of large areas of lupus, in which the centers of the patches had undergone cicatrization, while the edges had been marked by a thick line of dry crusts, two applications caused the crusts to fall off, leaving a dry, healthy scar behind them. This treatment appears to have little or no effect upon those

indurated, shiny, non-ulcerative, slowly growing patches, which are so difficult to treat with either light or the *x*-rays. As an adjunct to *x*-ray treatment the writer considers potassium permanganate invaluable. He has not noticed any staining.

**Etiology and Treatment of Mucomembranous Colitis.**—Bottentuit states that mucomembranous colitis occurs at all ages. Doubtless constipation plays an important part in the affection. Faulty digestion is an important agent of infection and auto-intoxication. All persons of an arthritic diathesis are subject to catarrhal irritation of the mucous membrane. This affection is sometimes a sequel of enteritis and dysentery. The diet ought to be the same as is given in gastrointestinal dyspepsia or in dilatation of the stomach. One of the best laxatives is castor oil. In case of diarrhœa, bismuth salicylate should be used, and the intestines should be washed out and mild antiseptics given; when there are paroxysmal crises, hot compresses on the abdomen, poultices, and frictions with belladonna, should be prescribed. Baths are also a source of great relief. In the treatment of this affection the special indications must be considered, to which the different complications give rise.

**The Etiology of New Growths.**—Keith W. Monsarrat sums up his paper as follows: (1) Cell activity and cell type must always be the resultant of biochemical reaction of the principles of which the researches of Ehrlich and others have enabled us to obtain some information. (2) Cell proliferation as a form of cellular activity is always the resultant of such reaction. When it takes place as the result of increased availability of normal food material, the new cells produced conform to the type of the parent cells. When it follows the action of assimilated materials of abnormal constitution, new cell types are evoked, variants on the type of the parent cells. (3) Cell proliferation of the latter type takes place in certain microparasitic infections. (4) The new cell types thus evoked exhibit various degrees of instability. (5) In the granulomata their stability is considerable; in certain growths which result from infective agents (for example, condyloma) the equilibrium of the new type appears to be stable. (6) In the so-called true tumors, cell-types arise as variants on the normal cells of the organ or tissue of origin. The ways in which such cell variants may be evoked is not discussed, but that they may result in some cases from the action of microparasites, is a reasonable view. (7) These cell types are stable; their stability is due to the capacity of the particular variant to attach to itself and assimilate material in conformity with its type. (8) In the simple tumors they are only locally stable, and are not immune to reactionary influences outside the tissue of origin and the normal relationships of parenchyma and connective tissue. (9) In the malignant growths they possess a wide range of stability and immunity, and the degree of this is the measure of their capacity to form metastases, while local infiltration, the other histological characteristic, is dependent on the principle of chemiotaxis, the cells extending in those directions in which their variant and aberrant biochemical affinities enable them to annex material conformable to the building up of their characteristic type.

*Deutsche medicinische Wochenschrift, June* 11, 1903.

**The Latest Operation for Incurable Vesicovaginal Fistula.**—Edm. Rose reviews the literature of the operative treatment of vesicovaginal fistula, and gives as his most recent method a procedure which involves (1) the longitudinal obliteration of the vulva, and (2) the production of the so-called "large intestinal urethra," which means that the bladder is drained into the large intestine, and the urine evacuated per rectum. By this method, permanent results are obtained, and the sufferers are transformed from chronic invalids into persons capable of pursuing their ordinary avocations. Three cases are reported which substantiate the views advanced.

*Berliner klinische Wochenschrift, June* 15, 1903.

**Treatment of Phthisis.**—Th. Sommerfeld is enthusiastic concerning the use of the fumes of eucalyptus, sulphur, and charcoal in the treatment of pulmonary tuberculosis. The results following this inhalation are in the majority of cases beneficial. The cough and the night sweats are the first symptoms to be affected, and these are much lessened in intensity within a very few days after treatment has been begun. Following this there is a rapid reduction of the bodily temperature, and a gradual but progressive increase in weight. While this remedy cannot be regarded as an antituberculous specific, it is, nevertheless, of great value in the symptomatic treatment of phthisis, and the author thinks it is certain to win its way to extended use.

*Münchener medicinische Wochenschrift, June* 16, 1903.

**Acute Intestinal Obstruction Caused by Ascaris Lumbricoides.**—M. Schulhof's case was attacked with typical symptoms of appendicitis and was operated upon therefor. Upon opening the abdomen the appendix was found to be normal. After closing the wound the patient began to vomit ascaris, and within a short time, twenty-two of these worms were thus evacuated to be followed by a complete cessation of all symptoms and rapid recovery.

**Babinski's Tendon Phenomenon.**—Alexander Richter, after the examination of many hundreds of healthy and sick persons, says that the diagnostic value of this phenomenon is certainly very great, although it can by no means be regarded as absolute, since in 500 normal individuals it was found positive in 1.8 per cent. Its presence in any given case signifies the probable existence of alterations in the functions of the pyramidal tracts. The author is not able to decide as to whether by its means organic may be differentiated from functional paralyses, because of his inability to test it on any cases of hysterical paralyses, but the observations of Tumpowsky, König, and Cohn show that the same is extremely doubtful.

**A Malignant Epidemic of Scarlet Fever.**—Günther relates his observations of 150 malignant scarlet fever cases, which occurred in the recent epidemic at Höchstadt. The epidemic was remarkable for the high age of the patients attacked (many being adults), for the short duration of the fatal cases, and for the pronounced nervous symptoms present. Many cases died within twenty-four hours from the time attacked, and before the appearance of the eruption. The initial symptoms were vomiting and profuse diarrhœa, accompanied by high fever. Delirium and convulsions soon developed, to be rapidly followed by coma and death. The chief subjective symptom was pain in the throat, and intense tenderness of the neighboring glands. In those cases which survived until the appearance of the eruption, the same was scanty and of a dark, dusky color. In the non-fatal cases, kidney complications were extremely frequent during convalescence. Several cases are reported in detail.

*French and Italian Journals.*

**Lesions of the Nervous System in Human and Experimental Tetanus.**—G. Padoa concludes that in fatal cases of tetanus there may be no lesions or only very insignificant ones of the nervous system. The major lesions found cannot be held to be specific to tetanic intoxication, because of their inconstancy and the absence of all special characteristics. They may often, in fact, be due to certain phenomena that frequently accompany tetanus, such as asphyxia, uræmia, hyperpyrexia, etc.—*Rivista Critica di Clinica Medica*, June 13, 1903.

**Obesity from the Point of View of Life Insurance.**—M. Norton holds that an obese person, with perhaps the exception of a Jew, is an extra hazardous risk, his expectation of life being less than that of a normal individual. Women are as poor risks as men under these circumstances. Each applicant should be judged individually, the personal and family history being taken into consideration. If the obesity is due to alcoholism, although the alcohol be taken in small amounts but continuously, the applicant should be rejected.—*La Médecine Moderne*. June 17, 1903.

**The Treatment of Renal Lithiasis.**—An editorial states that the first rule to be followed in the treatment of this affection is to constantly examine the urine; if it is acid, prescribe alkalies and a vegetable diet. If alkaline, stop the medication and return to a meat diet. If there is too much urea, diminish the amount of food, and let what is taken be vegetable. If the amount of urea is too small, prescribe exercise and a suitable diet. If there is too scanty urine, give diuretics. Regulate the digestive apparatus by laxatives, care for the nervous system by hydrotherapy, and watch out in every way to see that the patient is suitably placed as regards mental and moral hygiene.—*La Tribune Médicale*, June 13, 1903.

**Atrophic Coryza.**—E. J. Moure has found that in cases of ozenatous atrophic coryza in the active stage, submucous injections of paraffin may be tried with a view to the reconstruction of the turbinated bones. This remedy has also proved of use in diminishing the secretion as well as the disagreeable odor. The secretion gradually becomes modified, and then as the patient is able to clear the nose with less difficulty there is no further formation within the nose of the offensive crusts. There is little doubt that paraffin treatment is destined to render great assistance in the management of the atrophic forms of coryza.—*Journal de Médecine de Bordeaux*, June 14, 1903.

**Migraine.**—M. Kovalefsky holds that the pathological hereditary predisposition to migraine is simply a per-

manent and excessive excitability of a certain number of vasomotor and sensory centers in the medulla oblongata, manifesting itself on one or the other half of the head, and often exaggerated by illness, cachexia, gout, etc. His radical treatment consists, in the first place, of a vegetable and milk diet, carried on for a period of years, early rising and plenty of sleep; no tobacco. Every day or two there should be galvanization of the cranium in an ascending direction. Hydrotherapy is a valuable adjunct. Bromide of sodium should be administered with interruptions of the treatment at intervals, for a period of two years, in doses of not less than two grams a day, associated with the tincture of strophanthus, and with cocaine.—*Tablettes Médicales Mobiles*, June 16, 1903.

**Bacteriuria.**—Luigi Ferrannini examined the urine of a rabbit and of six dogs under various conditions. Microorganisms were found in all the specimens. Sixteen different species of bacteria were isolated, one, *Micrococcus candidus*, having been found in two cases. The one pathogenic microörganism (*Micrococcus tetragenus*) was found in a dog whose urine had the greatest number of species, and which had been reduced to the death point by injections made to induce glycosuria. None of the animals had cystitis. Some of the dogs had urethritis, but their urine did not show a greater number of bacteria than that of the other animals. It is therefore evident that microorganisms are to be found normally in the bladder. As to whether they originate in the urethra, the kidneys or the blood, that will have to be determined by further experimentation.—*La Riforma Medica*, June 10, 1903.

**Adrenal Extract.**—G. A. Weill advises the use of adrenal extract with cocaine (1 to 200 or 100 solution of cocaine to a 1 to 2,000 or 1,000 solution of adrenal extract) in minor surgery, giving it hypodermically. The action of the cocaine is greatly increased while the condition of ischæmia induced by the adrenalin extract permits of a dry operation. The adrenal preparation also prevents absorption of the cocaine. A solution of adrenal extract, 1 to 1,000, is suitable for application on mucous surfaces. It arrests hemorrhage and to a great extent reduces hypertrophy of the tissues. As a general therapeutic agent its indications are limited to accidents due to chloroform, and to certain deeply-seated hemorrhages due to a morbid condition of the hæmatopoietic organs. It is better to administer it intramuscularly than through the stomach. Should the drug cause syncope the patient must be placed in a recumbent position, with loosened garments. Should more serious accidents follow, subcutaneous injections of ether are to be administered, and energetic friction of the body.—*Revue de Thérapeutique*, June 15, 1903.

**The Association of Appendicitis and Cholecystitis.**—G. Dieulafoy bases his remarks upon the study of about thirty cases in which these two affections occurred. The question is, are they really simply simultaneous in appearance, occurring from some one cause, or does one affection induce the other, and if so, which is the first to occur? The author's conclusion, after reviewing the evidence, is that the infection is not an ascending, but a descending one, and that the cholecystitis is the cause of the appendicitis. In twenty-five out of the thirty cases the symptoms of the biliary lesion were the first to appear, those of appendicitis being secondary, and coming on in a few days, weeks or even months. A new chapter is thus added to both diseases, and the physician must be continually on the watch in case of cholecystitis, lest while he is taking his time to treat this affection, the far more dangerous one may be insidiously making its appearance, and suddenly complicate matters by its toxi-infectious accidents, compromising the life of the patient and calling for prompt surgical interference.—*La Presse Médicale*, June 17, 1903.

**The Use of Vanadic Acid, More Especially in Gynecology.**—M. Le Blond and Ch. David have found that chemically pure vanadic acid is a medicine which deserves high rank among medicaments. While antiseptic in its action, it has the quality of assisting cicatrization to a marked extent, which renders it superior to all other dressings in the treatment of cutaneous wounds. 0.05 gm. to a liter of water is the proper proportion for this purpose. It gives good results when used topically in gynecology, and while it cannot be said that it is superior to all other known substances in use, it should be given the preference because of its absence of odor, and because it is better tolerated. The best solution for this use is obtained by adding to a volume of oxydasine (the commercial name of the 0.5 solution used by the author), two volumes of glycerin, this corresponding to a solution containing gm. 0.17 of the active agent per liter. In general practice, this substance is a valuable adjuvant in the treatment of pulmonary tuberculosis, the dose consisting of two tablespoonfuls a day of a solution containing gr. 0.015 to the liter.—*Bulletin Général*, June 15, 1903.

**Respiratory Insufficiency in Pulmonary Tuberculosis.**—M. Mendel has for several years treated tuberculosis by tracheal injections of the essential oils (essence of thyme, of eucalyptus, etc., in a solution of olive oil, preference being given to eucalyptus). A study of the results of this treatment has convinced the author that the irruption of the medicament in the respiratory passages of a tuberculous patient has for its immediate result a considerable enlargement of the thoracic respiratory area. This dilatation, under continued treatment, becomes permanent. In some cases this result is not obtained; the sensation of the patients themselves may serve as guide, for in the cases which are likely to receive benefit from the treatment, there is a speedy sense of well-being, and a power of larger breathing capacity, and of exercising without breathlessness. The cases treated by the author were all in Paris, not in any mountain or sea resort. The air of a large city is all-sufficient for these invalids, providing that the respiratory apparatus is in fit condition to receive and use it. It stands to reason that the best results obtained are in cases which are subjected to treatment before too large an area of pulmonary tissue has become involved.—*Archives Générales de Médecine*, June 16, 1903.

*Annals of Surgery, May, 1903.*

**Contribution to the Literature of Old Irreducible Dislocations of the Shoulder-joint.**—Seven cases are detailed by A. F. Jonas. His plan of treatment consisted chiefly of, first, manipulation. Using the forearm as a lever, rotating outward and inward, abduction and adduction, never forgetting for a moment a possible accident to the axillary vessels and nerves, and the possibility of fracturing the humerus. If this plan failed, second, through incision the capsule and all cicatricial tissue were extirpated. All muscular attachments that offered a restraint were severed, the axillary vessels were protected with a broad, flat retractor, and the head of the bone was brought into place by means of an elevator assisted by manipulation and traction. To avoid infecting the wound in this last manœuvre, it is advisable to firmly wrap the entire arm and hand with wet sublimate towels. Dry towels are liable to slip and become displaced, making it possible for the operator's hands to become infected. If the head cannot be replaced, then, third, the head of the humerus should be resected. This is an operation to be avoided when possible, on account of the resultant flail-like condition of the arm, and yet must be done (*a*) when the humeral head and neck become too extensively stripped of their attachments, experience having shown that necrosis may occur in 16 per cent. of the cases; (*b*) when osseous union has occurred between the head and the ribs; (*c*) when, after a division of all the restraining, soft parts, the head rests against the point of the acromion process.

**Hepatic Syphilis from a Surgical Standpoint.**—C. G. Cumston discusses the symptomatology and differential diagnosis of this affection and says that before surgical intervention should be seriously considered, the medical treatment should be thorough. The patient should use one gram of the ointment and take three or four grams of the iodide daily. When this treatment remains unsuccessful, even if we are in the presence of a gummatous liver, it is because the gummata are so old and the tissues have become so changed that medical treatment is without avail, and under these circumstances the question of surgical interference may very properly be considered. It is hardly necessary to say that not all gummatous tumors of the liver which have resisted all treatment can be removed by operation, because, in order to be able to extirpate them, the tumor must form a single mass, and numerous deposits scattered here and there in the liver substance would render it impossible to remove them all. Besides this, the location of the tumor in an accessible point is nesessary—that is to say, either in the left lobe or on the convexity of the right lobe. What is particularly essential is that the tumor be not profoundly situated in the hepatic parenchyma, because in this case its removal would necessitate such a destruction of the organ that the patient's life might be in danger. But in those cases in which the gumma is only covered by a thin layer of parenchyma, resection is without danger, and relatively an easy matter. In cases of pedunculated gumma the operation is fairly easy when the growth has sprung from under the surface of the liver, for little or no injury is done to the hepatic tissue, and consequently with a good ligature there is practically no danger of hemorrhage. Several illustrative cases are given.

# Book Reviews.

MUCOMEMBRANOUS ENTEROCOLITIS. By MAURICE DE LANGENHAGEN, M.D., London: J. & A. Churchill, 1903.

THE present monograph deals with membranous enteritis, a disease which is not very rare and in which the author seems to have had vast experience. According to Langenhagen, gingival aphthous manifestations are particularly frequent in membranous enteritis. When the malady is very serious, gingivitis is almost a permanent symptom: when the malady progresses—as it generally does—by fits and starts, each renewed attack of the complaint is accompanied by a corresponding attack of gingivitis. And this is so constant that I am almost tempted to say that, if the lingual mucous membrane is the mirror of the stomach, the bucco-gingival mucous membrane is the mirror of its congener, the intestine. With reference to treatment Langenhagen lays much stress on a very rigorous bland diet, forbidding fruits and vegetables. Occasionally he keeps his patients principally on milk. In this respect the writer of the book is not in accord with many modern clinicians, as, for instance, von Noorden, Ewald, Einhorn, and Boas, who permit a very liberal diet.

A SYSTEM OF PHYSIOLOGIC THERAPEUTICS. A Practical Exposition of the Methods Other than Drug giving Useful for the Prevention of Disease and in the Treatment of the Sick. Edited by SOLOMON SOLIS COHEN, A.M., M.D., Senior Assistant Professor of Clinical Medicin in Jefferson Medical College; Physician to Jefferson Medical College Hospital. Volume X.

PNEUMOTHERAPY, Including Aerotherapy and Inhalation Methods and Therapy. By Dr. PAUL LOUIS TISSIER, One-time Interne of the Paris Hospitals; Assistant Consulting Physician to Laennec and Lariboisiere Hospitals; Chief-of-Clinic in the Faculty of Medicine of the University of Paris. Philadelphia: P. Blakiston's Sons & Co., 1903.

PNEUMOTHERAPY is a branch of physical and physiological treatment which has not received much attention in this country. For this reason more space is devoted to the history of its development in the opening chapters than one finds similarly utilized in the volumes which have preceded. Divergent views are stated and discussed in relation to many subjects connected with pneumatic cabinet treatment, the effects of high altitudes, and often a quasi-judicial decision of the merits of a controverted subject is given. Inhalation methods in connection with certain aspects of pharmacology are carefully considered, showing a desire not to antagonize, by the methods proposed, valuable and discriminating treatment by drugs. The greater portion of the chapter has to do with conditions under which inhalations prove valuable and methods of preparing and administering the varied inhalants. It requires 478 pages to put before the reader what Tissier deems necessary for him to know concerning these matters. There is much of great interest in pneumotherapy and aerotherapy, and the mind of any practitioner will be broadened and strengthened by reading what the author has to say.

THE PRACTICAL APPLICATION OF THE RÖNTGEN RAYS IN THERAPEUTICS AND DIAGNOSIS. By WILLIAM ALLEN PUSEY, A.M., M.D., Professor of Dermatology in the University of Illinois; Member of the American Dermatological Association, and EUGENE WILSON CALDWELL, B.S., Director in the Edward N. Gibbs Laboratory, University and Bellevue Hospital Medical College, New York; Member of the Röntgen Society of London; Associate Member of the American Institute of Electrical Engineers. Philadelphia: W. B. Saunders & Company, 1903.

THIS work is divided into two parts; the first containing 215, the second 355 pages. The first, after an introduction, presents chapters on the essentials of an *x*-ray equipment; *x*-ray tubes; induction coils, interrupters and their management; static machines and their management. Fluoroscopy; radiography; the photographic materials and their manipulation; the choice of an *x*-ray outfit. While the apparatus is described with a master-hand, one feels a slight disappointment in the text relating to the use to which it is all put. The application to diagnosis is dwelt upon to a greater extent than the means of employment of the different forms of apparatus for the cure of disease. In part second many interesting questions are discussed. "The causes of the phenomena observed in tissues after exposure to *x*-rays," "What is the property in *x*-rays that affects tissues?" "How far should *x*-ray effects be carried," "Indications for the therapeutic use of *x*-rays," all this and many other topics are carefully considered. The author then gives his personal experience. The histories of numerous cases are given and the general conclusions to be drawn from them. The authors have conjointly added not a little to the literature of the subject, and as the contributions of each represent a certain proportion of actual original work done their words are entitled to an attentive aud ence.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles. By leading members of the medical profession throughout the world. Edited by A. O. J. KELLY, A.M., M.D., with the aid of various collaborators. Vol. I. Thirteenth Series. Philadelphia: J. B. Lippincott Company, 1903.

ON glancing over the contributors one sees that the same well-known men continue to work in the interest of this serial—Keen, Osler, Ballantyne, Finger, Wilcox, Satterthwaite are among the number. A review of the progress of medicine for the year by E. W. Watson presents the advances in a concise manner.

The special articles are by King on "Functional Reversion and Its Import in Medical Practice;" and by Ballantyne on "The General Principles of Embryology."

There are the usual number of illustrations, some showing interesting features of blastomyces and the dermatites it produces. The clinical reports, both medical and surgical, contain much new matter of practical interest and are well presented.

TRAVAUX DE CHIRURGIE. Anatomoclinique par HENRI HARTMANN, Professeur agrégé de la Faculté de Médecine avec la collaboration de: CUNÉO, ROGER, SOUPAULT, LUYS, LECÈNE, LEBOY, PRAT et DELAAGE. Voies Urinaires—Estomac. Paris: Georges Steinheils, 1903.

THIS is a collection of works whose scope is indicated by the title, emanating from the hospital service and laboratory, with clinical and statistical data, illustrated with one hundred and thirteen figures and cuts.

The first portion dealing with hospital arrangement and equipment will interest all hospital workers. Those interested in pathology will find many important reports. The surgeon will find well-illustrated methods of procedure, and he who looks for end results will find reports extending from the ward through the dead-house to the microscopical laboratory—but also reports of cures traced long after discharge of the patient. It is an unbound volume of 360 pages, on good paper. The contributors to both the genito-urinary part and to that dealing with stomach affections are to be congratulated on this result of their labors.

TRANSACTIONS OF THE AMERICAN RÖNTGEN RAY SOCIETY. Third Annual Meeting, Chicago, December 10 and 11, 1902. Louisville Courier-Journal Printing Co., 1903.

THERE are fourteen papers all on subjects of interest connected with radiography or radiotherapy. A list of about 250 members is given. The discussions are of much interest and many new points in the rapidly developing light-science are brought out.

PRACTICAL HANDBOOK OF THE PATHOLOGY OF THE SKIN. An Introduction to the Histology, Pathology, and Bacteriology of the Skin, with Special Reference to Technique. By J. M. H. MACLEOD, M.A., M.D., M.R.C.P., Assistant in the Dermatological Department, Charing Cross Hospital, Physician to the Skin Department Victoria Hospital for Children. With eight colored plates and thirty-two black and white plates. Philadelphia: J. Blakiston's Son & Co., 1903.

THIS is intended as a working book for students, and is based upon work and demonstrations in the laboratory. Not only will the student here find the patholigo-histology or the histopathology, but the flora of the skin, and the rules for obtaining results in individual investigation. The word "introduction" in the sub-title is well chosen, for it is not the intention to offer here a substitute for any complete work on skin pathology—did one exist. The book stands by itself and fills the place it occupies. Elementary anatomy is sufficiently entered upon to prepare a basis for the comprehension of subsequent chapters. If this should prove a stepping-stone to an anatomico-pathological nomenclature the work, done upon it will have been well spent. The author deserves praise for producing such a work, and all interested in the skin should become familiar with its subject matter.

THE CARE OF THE BABY: A Manual for Mothers and Nurses. By J. P. CROZIER GRIFFITH, M.D. Third edition. Philadelphia: W. B. Saunders & Co., 1903.

ACCORDING to the author, endeavor has been made in this volume to furnish a reliable guide for mothers anxious to inform themselves as to the best way of caring for their children in sickness and in health. The hygiene of pregnancy is first discussed, followed by a description of the characteristics of a healthy baby, together with the growth of its body and mind. Toilet, clothes, sleep, and feeding are all considered, much attention being naturally given to feeding. Under the head of sickness are considered such subjects as colic, prolapse of the bowel, hernia, worms, jaundice, croup, pneumonia, con-

vulsions, various deformities, and the infectious diseases.

MANUAL OF BACTERIOLOGY. By ROBERT MUIR, M.A., M.D., F.R.C.P.Ed., Professor of Pathology, University of Glasgow, and JAMES RITCHIE, M.A., M.D., B.Sc., Reader in Pathology, University of Oxford. American Edition from the third English Edition by Normana Mac Leod Harris, M.B. (Tor.), Associate in Bacteriology, the Johns Hopkins University, Baltimore. New York: The MacMillan Company, 1903.

THE American edition of this well-known manual is perhaps one of the best and most comprehensive, up-to-date handbooks for the student published in the English language. The treatment of the doubtful questions is to be commended. The investigations of each observer and the conclusions are stated with as little bias as possible. Where conclusions are not justified the facts are stated without advancing to a conclusion. Due prominence is also given to the recog nition of the facts which tend to show that many of the pathogenic organisms are members of a closely related group of bacteria. Several new illustrations and subjects have been added to this edition. These include a new chapter on the bacteriology of air, soil, and water. The chapter on immunity has been modified and extended, and consists now of a judicious statement of the experimentally ascertained data on this subject; the different abstruse conceptions of the nature and mechanism of this subject are skilfully handled, and unwarranted deductions from the many theories of immunity are avoided. An appendix furnishes a compact outline of the principal literature on the different subjects. This outline deals chiefly with the original works found in the foreign languages. Suzor's compilation on hydrophobia and a number of other references of value to the student who is not familiar with the foreign languages are omitted. The alterations and additions to the chapter on media, filtration of cultures and the miscellaneous methods, such as the use of the celloidin sacs for the study of the action of microorganisms when within the body, are very useful. The chapters on diagnosis, animal inoculations, the bacilli of the typhoid-colon group, and tetanus, also contain notable additions.

LE TRAITEMENT RATIONNEL DU DIABÈTE. Par M. le DOCTEUR A. LORAND, Médecin consultant aux eaux de Carlsbad. Paris: C. Naud, Éditeur, 1903.

THE various measures for the treatment of diabetes mellitus advocated in this attractively written essay are more or less those propounded by the modern German school. The author, a médecin consultant aux eaux de Carlbad, of course, gives preference to the mineral-water treatment at the spa, maintaining that it may not only favorably influence the pathological substratum of the disease, but also eventual complications, such as hepatic diseases, gastrointestinal catarrhs, etc. The author opines that as long as we do not know the real cause of diabetes, the mineral waters afford its most rational treatment.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY. By GEORGE M. GOULD, M.D., and others. Volume on Medicine. 691 pages. Philadelphia, New York, London: W. B. Saunders & Company, 1903.

IT is not surprising that it has been found advantageous to continue the experiment of publishing this work in two volumes, a medical and a surgical, and of selling these separately. The ponderous tomes of former years were cumbersome and annoying to the reader, while those who were interested exclusively in either medicine or surgery naturally objected to the amount of space devoted to subjects which they did not care to study. The union of the departments of laryngology and otology under the editorship of Dr. D. Braden Kyle and Dr. George Fetterolf will be appreciated by many. In the department of general medicine, which occupies 248 pages, the infectious diseases, the conditions affecting the constitution of the blood and the diseases of the stomach are treated in a satisfactory manner. The next largest division, that of pathology and bacteriology, deals with numerous topics of importance, among the most interesting of which are intoxications, immunity, hæmolysis, the etiology of carcinoma and the general pathology of tumors. In the department of dermatology the novel and, for the present at least, absorbing topic of the therapeutic use of the *x*-ray and of the Finsen light receives due attention.

CHRONIC HEADACHE AND ITS TREATMENT BY MASSAGE. By GUSTAV NORSTROM, M.D., of the Faculty of Stockholm. New York and London: G. E. Steichert, 1903.

THE writer of this essay has had considerable experience in treating cases of migraine by massage, and his results have induced him to place his methods before the profession. Although we cannot accept without reserve his theoretical explanations of the causes of this obstinate malady, still the results which he has obtained compel attention to his method of treatment. To avoid misunderstanding of the classes of headache which have been cured, the author appends case-records and careful descriptions together with the outcome.

A SYSTEM OF CLINICAL MEDICINE, Dealing with the Diagnosis, Prognosis, and Treatment of Disease. For Students and Practitioners. By THOMAS D. SAVILL, M.D., London. Physician to the West End Hospital for Diseases of the Nervous System; Physician to St. John's Hospital for Diseases of the Skin, London; Formerly Medical Superintendent of the Paddington Infirmary; Medical Officer of the Paddington Work-House, and Post-Graduate Lecturer to the London Post-Graduate Association; Assistant Physician and Pathologist to the West London Hospital; Examiner in Medicine and Clinical Medicine in the University of Glasgow, and Medical Officer to the Royal Commission on Vaccination. Vol. I.: Local Diseases and Microbic Disorders. London: J. & A. Churchill, 7 Great Marlborough Street. Philadelphia: P. Blakiston's Son & Co., 1903.

THE first volume of this system, which will soon be completed by a second, approaches the subject of diagnosis by the way of symptomatology; in other words, the author means to help the student or the practitioner in his efforts to interpret the evidences of disordered health; and starting with some signs and symptoms, he may refer to this work and obtain valuable hints for further search. In addition to this index of symptoms a brief account of separate diseases, is added with their prognosis and treatment. We regret to notice, however, that no mention is made of the Brand bath in the treatment of typhoid fever, this being the accepted method in America, where a mortality of 10 per cent. in unselected hospital cases compares very favorably with the 15 to 20 per cent. which he quotes. However, the work accomplishes its purpose in being a friend in need when puzzling symptoms present themselves. It is a work quite unlike the usual textbook in teaching the reader to weigh his evidence for or against a certain diagnosis. Useful and practical charts and illustrations add to a text in itself well worth reading.

THE RÖNTGEN RAYS IN MEDICINE AND SURGERY. As an Aid in Diagnosis and as a Therapeutic Agent. By FRANCIS H. WILLIAMS, M.D. (Harv.), graduate of the Massachusetts Institute of Technology, Visiting Physician to the Boston City Hospital, etc. With 428 illustrations. Third edition, with enlarged appendix. New York: The Macmil ian Company, 1903.

THE first edition was reviewed in these columns in 1901—the second in 1902, and now it becomes our pleasure to look over a rewritten appendix in which is recorded 150 of the author's personal cases with a discussion of the therapeutic value of the Röntgen method. There are also twelve pages of bibliography, bringing the whole number of pages up to 757, or an addition of over 50 pages. To say that there has been advances made in the development of *x*-ray science is to put it mildly—both in the fields of diagnosis and therapy, as well as in apparatus and technique, improvements are constantly being made, and, to keep pace with them, necessitates frequent reconsideration. Professor Williams continues to reflect in his added pages the great amount of personal work and research of which his first edition gave abundant evidence, although nearly the whole of the new matter relates to the way as a therapeutic agent. Still the subject is of such growing importance that one feels that still more could be written upon it. Little or no change has been made in the body of the work.

UTERINE AND TUBAL GESTATION. By SAMUEL WYLLIS BANDLER, M.D. New York: William Wood & Co., 1903.

THE modern views concerning the processes antedating uterine gestation, the embedding of the ovum and the development of the embryo, are here presented in a clear and interesting manner, great prominence being given to the trophic influence of the ovary and the part played by its internal secretion in governing the development of the uterus, genitalia, and breasts, and in regulating menstruation. The origin of the syncitium is discussed at considerable length, and attention is called to the probability of the placenta being a gland possessed of great potentiality by reason of its secretion. The portion dealing with the etiology, histology, and usual course of ectopic gestation has already appeared in the *American Journal of Obstetrics*. The concluding chapter describes chorioma, perhaps better known under the name of deciduoma malignum. All of the subjects covered are admirably presented, and in this the author has been materially aided by the introduction of ninety-three illustrations.

# Society Reports.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION ON SURGERY.

*Stated Meeting, Held May 11, 1903.*

ROBERT T. MORRIS, M.D., CHAIRMAN.

**A Consideration of General Anæsthesia, with a Presentation of Instruments.**—Dr. FREDERIC GRIFFITH presented this paper. He said that anæsthesia was produced by a direct action upon the cerebrospinal nerve centers. The indications for an anæsthetic were to relieve the pain of an operation or of childbirth; to overcome the general spasm of strychnine poisoning, traumatic tetanus, puerperal infection and uræmic convulsions; the muscular spasm in fractures and dislocations, and the passage of gallstones and renal calculi.

**Selection.**—In selecting anæsthetic, the ether should be the one of choice when the administrator was inexperienced; also in atheroma and organic heart disease. As a rule, loud cardiac murmurs denoted power in the cardiac muscle, and were, therefore, of better omen than low murmurs, which pointed rather to poor compensation. Chloroform should be selected for brain and eye surgery upon persons having either lung or kidney disease. Nitrous oxide was useful as a preliminary to other general anæsthetics in cases of atheroma or aneurysm, and when it was desired to restore motion in ankylosed joints. Bromide of ethyl was very prompt in its action, and did not depress the heart.

**Administration.**—It should be remembered that no two individuals took an anæsthetic alike, and that the skilful anæsthetist was one who recognized this fact and acted accordingly. Ether might be more carelessly given than chloroform without ill effect. The anæsthetist was often more important than the operator, and at all times the operator should keep him well informed as to the progress of his work. Twenty-four hours before the administration of an anæsthetic the patient's bowels should be flushed out by giving calomel, one-fourth of a grain, every twenty minutes until two grains had been taken, and following this by a dose of Epsom salts. A high soap-and-water enema should be given on the morning of the day fixed for the operation. Of course, the patient's heart, lung, and urine should be carefully examined. At the time of the operation all superfluous garments should be removed, remembering, however, carefully to conserve the body heat by blanketing. Anything loose in the mouth should be removed, and note should be taken of the dental work. The patient's eyes should be protected by gauze or a towel, and, following the suggestion of Bodine, he should be instructed to listen to the anæsthetist's voice and keep the hands tightly clasped. There should be no conversation or other noise in the room while giving the anæsthetic to induce narcosis. Besides the inhaler, the anæsthetist should have a wooden screw, a mouth-gag, tongue forceps, curved needle, swabs on sticks or forceps, and a sterile hypodermic syringe. When a hypodermic injection was required the application of tincture of iodine would sterilize the skin for the puncture. The speaker said that he personally made use of a single-ear stethoscope, placed over the precordium, in order to keep informed of the condition of the heart. Strychnine, morphine, and atropine should also be near at hand. The collection of mucus in the throat was not necessarily due to poor anæsthetization. Because of the complications liable to arise from psychical erotism it should be the rule never to anæsthetize a female when unattended. Vomiting in an early stage was often due to the use of too little ether, but later on was usually caused by giving too much ether. When the latter was the case, the ether should be stopped, the patient's head turned to one side, the tongue and jaw brought forward and the mouth cleaned out. When using ether with the bag inhaler, the addition of fresh ether often caused vomiting; the remedy was to have a sufficient supply of ether. More ether was required in summer than in winter because of the greater evaporation.

**Poisoning.**—Poisoning due to idiosyncrasy was rare, and an overdose of ether was likewise rare. Lividity and pallor of the face, dark blood and a thready pulse indicated that the ether should be stopped, and the patient be given more air, or perhaps stimulated by the application of wet towels to the chest or by the use of artificial respiration, rubbing with ether, or the inhalation of ammonia or oxygen. For hypodermic use one should give $\frac{1}{15}$ of a grain of strychnine or $\frac{1}{150}$ of a grain to $\frac{1}{100}$ of a grain of atropine sulphate. The author was of the opinion that nitrite of amyl was useless.

**A New Inhaler.**—Dr. GRIFFITH then presented his inhaler. This was designed to meet the demand for a single instrument for the safe combination of anæsthetics. It consisted of a metallic face piece which would not collapse during respiration, and which fitted closely to the patient's face by means of a pneumatic cushion. By means of a single valve the gas was delivered in increasing proportions until, without a struggle or any sign of apparent discomfort, the patient was thoroughly anæsthetized in a period of time varying from thirty seconds to three minutes. A supply of fresh air was constantly admitted to the mixing chamber in any desired quantity by means of slide openings at the top of the receptacle for liquid. Although ether was commonly used in combination with nitrous oxide gas, chloroform could be just as readily employed. Should the supply of gas run short before the patient was completely anæsthetized, re-breathing was provided for by the use of a stopcock fitted to the reservoir gas-bag.

**Modification of Esmarch's Chloroform Dropper Aimed to Secure Reliable Dropping.**—Dr. VICTOR C. PEDERSEN read this paper. He said that he wished to deal with chlorofrom narcosis without claiming any advantage of one anæsthetic over another, but rather the right use of all. Chloroform was the immediate cause of death in a great number of cases, but ether killed nearly as many by producing kidney disease or pneumonia. Chloroform and ether were classed with the stimulants and depressants, the action of one or the other depending upon the dosage. In administering chloroform several points had to be borne in mind. In the first place, a proper mask must be used, for in giving chloroform it was necessary to give it with 95 to 97 per cent. of air. For practical purposes any metal frame would answer, but it should be covered with from two to four thicknesses of gauze, the redundant edges of the latter being turned into the hollow of the mask. In the next place, a suitable chloroform dropper was very important. The ordinary Esmarch dropper acted well when the glass stopper was well ground, but when this was not the case two or more drops would flow out just when they should not. By having the opening at the mouth of the dropper at a right angle to the tube this excessive dropping would be prevented. The diameter of the chloroform tube should be so proportioned as to allow half air and half chloroform. Chloroform should be literally given drop by drop, and in case coughing occurred it should be stopped momentarily. The administration of chloroform should not be hurried, and at least five minutes should be taken to induce narcosis. No stertorous breathing should occur. The pulse should be from 75 to 80 per minute, compressible and slightly increased. If the pulse rate rose to 90 he would personally change from chloroform to ether. The condition of the capillary circulation constituted one of the most valuable indications as to the reaction of the nervous system, though the condition of the heart and the color of the blood were important. Feeble breathing was not always a sign of great danger. Pallor of the face and

nose generally meant beginning shock, though pallor alone might be followed by some respiratory difficulty. The response of the eye to light should never be entirely abolished. A widely dilated pupil meant slight narcosis When the pupil did not react to light for one or two minutes it was an indication that the chlorofrom narcosis was profound, and it should not be carried further. It was important to have the room in which the anæsthesia was induced perfectly quiet and brightly lighted. In certain circulatory conditions, as for example those connected with organic disease of the heart, he favored the use of a combination of ether and chloroform, but in inorganic heart disease and anæmia he used chloroform alone. When there was some respiratory affection ether alone was contraindicated, and chloroform, or a combination of chloroform and ether, should be selected. Nervous patients did not take chloroform well. The operations in which the anæsthetic had to be stopped for a few minutes at a time, *e. g.* operations on hare lip, adenoids and tonsils, ether should be selected because the the narcosis would last longer.

**A New Nitrous Oxide and Ether Inhaler.**—Dr. NATHAN W. GREEN presented this inhaler. He said there was a tendency at the present time to make use of the combination of nitrous oxide and ether, and with this inhaler the comfort of the patient was increased while the time of anæsthetization was reduced. The apparatus was simple and compact, and could be held in one hand and worked with the fingers of the same hand. It consisted of a metallic cone with three valves on one side, one valve for the air, another for the nitrous oxide, and a third for the ether. These valves were arranged and operated after the manner of the stops of a cornet, and without any motion which would attract the patient's attention.

Dr. J. T. GWATHMEY exhibited another inhaler in which the upper chamber of the Bennett inhaler had been discarded, and that instrument further simplified.

Dr. MARTIN W. WARE, referring to ether pneumonia, so-called, said that at the last meeting of the British Association of Anæsthetists the consensus of opinion was in favor of considering this an aspiration pneumonia. The fatalities from nitrous oxide gas had been more numerous during the last ten years than in the two decades and a half preceding. He had used nitrous oxide gas anæsthesia in operations of minor surgery, and had given it five thousand times before witnessing a crisis or fatality; then, in connection with an operation for the incision of a bubo, the patient became cyanosed, but was rallied after stopping the gas. One reason nitrous oxide gas was not more generally used by the profession was the large quantity of the gas required, and the expensiveness of the inhaler. Dr. Ware said he had used ethyl chloride anæsthesia from 1,000 to 1,200 times, and it possessed certain advantages over nitrous oxide. The expense was not much below that of the latter, and it was not quite so safe, but the patient was more relaxed and never became cyanosed. A special mask was necessary for its administration. Its mortality was said to be one in twenty thousand. Ethyl chloride was superior to ethyl bromide because with the latter cyanosis was marked, and the mortality was greater.

Dr. PEDERSEN closed the discussion. He said that up to the present time he had not had any cases of ether pneumonia, and this good record he attributed to the fact that the ether mask was always boiled and the patient's mouth washed out with peroxide of hydrogen or some other antiseptic solution. This precaution seemed a proper one when bacteriologists told us of the frequent presence of pneumococci and other organisms in the mouth. He had only used ethyl chloride once, in a vigorous colored person, but as the patient became rigid and cyanotic, and presented a somewhat alarming condition, he had not felt inclined to give this agent a further trial.

## NEW YORK COUNTY MEDICAL ASSOCIATION.

*Stated Meeting, Held May 18, 1903.*

ALEXANDER LAMBERT, M.D., PRESIDENT.

**Carcinoma of the Rectum and Uterus.**—Dr. FREDERICK HOLME WIGGIN presented several specimens. The first one had been removed from a woman, fifty years of age, who had ceased menstruating three years before. Three months before coming under observation the menstrual flow had apparently returned. The attending physician thought the mass projecting from the cervix was a polypus, and could not be a cancer because it was so soft. After operation the specimen was submitted to the pathologist, Dr. F. M. Jeffries, who reported that it was a peculiarly malignant type of carcinoma. The specimen was presented in order to emphasize the fact that the absence of induration did not necessarily exclude malignancy.

The second specimen had been removed by operation from a woman who had been operated upon about six months previously for a scirrhus of the breast. She died shortly after operation with evidences of acute suppression of the urine. The pathologist reported the tumor to be a carcinoma invading the body of the uterus.

The third specimen was a carcinoma of the rectum involving the posterior vaginal wall and the vulva, and more than one-half of the labium majus on each side. The disease was removed by operation with a very satisfactory result.

**Sarcoma of the Neck.**—The next specimen was a large mixed-cell sarcoma of the neck. At the operation it was found that the external carotid artery was involved in the growth, but after ligating the common carotid it was comparatively easy to extirpate it. The operation had been done a week before, and in spite of the apparently desperate nature of the case at the time of the operation the patient was doing well. When the patient had sufficiently recovered he would be advised to submit to a course of *x*-ray treatment.

**Large Mass of Varicose Veins.**—The last specimen presented was a very large mass of varicose veins, which had extended from the ankle to above the knee, and which had been successfully removed by operation.

**Etiology, Serum Diagnosis, and Serumtherapy of Dysentery.**—Dr. W. H. PARK presented this paper. The speaker said that for many years amœbæ had been found in the stools of tropical and chronic dysenteries, and these stools produced in animals symptoms resembling those of dysentery. It was almost certain that tropical dysentery and some of the dysentery occurring here in temperate regions were partly at least dependent upon the presence of these amœbæ. Until the work of Shiga very little had been added to our knowledge of this disease. Some observers were of the opinion that many forms of dysentery were due to colon bacilli of special virulence, and this seemed to be perfectly possible. In 1897 and 1898 Shiga, working in Kitasato's laboratory, thought he would not only examine the stools but would apply a serum test. He found in practically every case examined a bacillus, which up to that time had not been clearly defined. These bacilli for practical purposes might be considered as belonging to the colon group, although they differed in certain important particulars. These bacilli were found from the first days of the disease up to convalescence in all of the acute cases, and they were not present in the normal stools of children and adults except here and there in localities in which an epidemic was raging, and then just prior to the onset of the disease in these individuals. Subsequently a number of investigators went from the Johns Hopkins University to Manila to study dysentery. They found that although in a great number of the worst cases the amœbæ appeared to be the cause, there were many other cases of acute dysentery, and some of subacute or chronic dysentery in which no amœbæ were found. They then examined for the Shiga bacillus, and thought they found this bacillus in many of the cases in

which the amœbæ were absent. Coming back to this country, Flexner set several of his students, particularly Vedder, Duval, and Bassett, to work upon this subject. Last year it was found that the ordinary type of summer diarrhœa in Baltimore was a mixed type of diarrhœa and dysentery, and that in these cases the Shiga bacilli were uniformly present. Dr. Park said that he had then undertaken to investigate the infantile diarrhœas occurring in New York City last September. On inquiry he had learned from Dr. Frank W. Shipman that there had been an epidemic of dysentery in Mount Vernon and Tuckahoe, which was very much like that observed in Japan. In the bacteriological study of these cases unexpected difficulties were encountered. At length it was discovered that the bacilli in different localities had special cultural characteristics. The bacilli were most abundant in the early days of the disease, but they had been known to persist for six weeks. These groups of bacilli were found to differ in serum reaction, cultural tests, and bactericidal properties. In the vicinity of New York City the dysentery was associated with an indol or colon type of bacillus. Further study showed that in chronic intestinal disorders in human beings one could not absolutely rely upon the serum reaction. In little children they never obtained a reaction above one in ten if they were free from intestinal disease and otherwise healthy. In children under four years of age one was not apt to find the agglutinins of these bacilli. In adults it was learned that any reaction under one in twenty was not safe to rely upon. If there was any intestinal disease, such as appendicitis, chronic diarrhœa or chronic dysentery, the reaction became useless. In the Mount Vernon and Tuckahoe cases it was found that when the disease was mild the reaction was not usually obtained in over one in ten; in the moderate cases it was present in one in thirty or forty, and in the severe cases in one in fifty or one hundred. The subject was to be very thoroughly studied this summer. He was personally very skeptical of the use of the serum for therapeutic purposes outside of the diphtheria antitoxin or of the tetanus antitoxin for immunization. Both Shiga and Dr. Kinyoun had expressed the opinion that when the serum treatment was employed quite early in dysentery all of the symptoms abated so promptly that there seemed to be no question about the relation of cause and effect. It should be remembered that dysentery was usually a comparatively local disease, being confined, for the most part, to the lower portion of the rectum. The serum treatment had been employed in this city in about fifteen hospital cases with no very striking results, but it was quite possible in these cases that the results were interfered with by mixed infections. The Health Department would provide this serum this summer for those who would carefully observe its effect and report upon the same.

**Clinical Observations on an Epidemic of Dysentery.**—Dr. Frank W. Shipman of Mount Vernon read this paper. He said that the epidemic referred to occurred in the valley of the Bronx River, extending for a distance of eight miles north and south and one mile in width, the center of activity being Mount Vernon, N. Y. The epidemic lasted from June to September, and in Mount Vernon this disease showed no respect for persons and did not spread through the intercommunication of any particular class. There was abundant evidence that the outbreak was not due to infected water or milk. There were five different water supplies, and the sources of milk were equally varied. Prodromal symptoms were not usually present, and when they were they lasted but a short time. Vomiting when present occurred during the first few days. The stools consisted at first of fecal matter, and in twenty-four hours changed to the characteristic dysenteric stool of blood mucus. At first, the blood was of a bright red color, but later it became dark. Very soon the rectal tenesmus became distressingly severe, and the disease was at its height in forty-eight hours, the pulse being about 120 and the temperature 102°F., the abdomen retracted and the patient greatly prostrated. In some of the severer cases toxic symptoms supervened, as evidenced by subnormal temperature and collapse. The pathological process consisted of an inflammation of the mucous coat of the colon with ulceration and more or less hemorrhage. The treatment generally followed was an initial dose of calomel or castor oil followed by salines. Occasional irrigations of the bowel were employed. Large and repeated doses of opium were sometimes required to control the severe tenesmus. The greatest relief was afforded by the external application of heat or the irrigation of the bowel with warm water. The usual antiseptics were prescribed, but apparently without benefit.

**Surgical Treatment of Dysentery.**—Dr. Charles L. Gibson read this paper. He said that, according to his experience, severe cases of dysentery usually involved the greater part of the large intestine. The surgical relief of colitis consisted in the establishment of an artificial anus to give physiological rest of the affected part and allow of its proper cleansing with or without antiseptics. In 1900 he had devised an operation for the relief of the condition, which was briefly as follows: A small intermuscular incision was made over the caput coli and a tube was introduced and unfolded in the cæcal wall in such a way as to guarantee against leakage. After the tube had been in place a week it was removed and the artificial valve then became operative. The tube should be introduced from two to four times a day and the colon flushed out with normal saline solution and with nitrate of silver solutions of gradually increasing strength. The opening would quickly close on ceasing to insert the tube. The treatment involved only a ten days' stay in bed and no subsequent and severe operation. With the operation just described the results had so far been very satisfactory.

Dr. John W. Smith of Tuckahoe, N. Y., presented a few notes of the epidemic as seen by him. It began in Tuckahoe about the middle of July, attained its height by the middle of August and diminished rapidly in September, so that there were no more cases by October 1. The first case occurred in a filthy tenement-house situated near a pool of stagnant water. The drinking water used by the Italians in this tenement was taken from a well situated between the house and the stagnant water. New cases rapidly developed, for the most part within a radius of one thousand feet. The evil effects of overcrowding were evident here. The speaker believed with Dr. Shipman that dysentery should be recognized by our boards of health, and that compulsory notification of it should be required. It was worthy of note that recovery uniformly took place unless the vitality was manifestly below the normal. Sulphate of magnesia or castor oil was given at the outset, and was repeated when there was not a proper evacuation of the small bowel. Calomel, opium, and ipecac were given to adults, but this medication did not seem to be of benefit in children. Lavage with normal salt-solution was used.

Dr. O. L. Austin of Tuckahoe said that he saw 234 cases during this epidemic of which he had kept records. Diarrhœa with bloody stools was present in every case. In 85 per cent. diarrhœa was the first symptom; in only 3 per cent. was it developed as late as thirty-six hours after the onset of the pain, vomiting, and fever. The number of stools varied greatly in different cases and in the same individual at different times. The average number of stools was eight for the first day, fifteen for the next six or seven days, and then three or four a day. A marked change in the stools rarely took place until near the close of the disease, a reliable indication of approaching convalescence being the presence of some solid fecal matter. Blood appeared early, at first as a few bright specks, after which the amount increased rapidly. If the quantity of blood was not great the stools were black

and tarpy. As a rule, there was very little odor from the dejecta. Next to diarrhœa tenesmus was the most striking intestinal symptom, though in fourteen cases it was not present, and in thirty others it was only slight. Constipation was common during convalescence. Fecal incontinence was present in twelve cases, young children, and occurred only after the disease had lasted some days and the exhaustion had become marked. Abdominal pain was present in every case, and sometimes was out of proportion to the other symptoms. During the first day it was colicky in character, but later on a paroxysm of pain often immediately preceded the stool. The pain soon became localized and diminished rapidly after the disease had reached its height. Tenderness over the colon was uniformly present, and persisted after the other symptoms had subsided. In infants, vomiting was the rule. It occurred in 16 per cent. of the other cases. The temperature was relatively low, being between 99° and 102° F. even in severe cases. In eleven instances, all presenting toxic symptoms, the temperature was subnormal. The pulse in the adults was usually between 125 and 130, and in children under four years of age, 140. This rapid and feeble pulse developed quite early in the disease. Marked prostration appeared early, was a prominent feature from the outset and was out of proportion to the other symptoms. Emaciation in children was extremely rapid, being more marked in a few days than was usually observed in three weeks of a severe gastroenteritis. In four cases there was prolapsus ani; in seven there were very sluggish bedsores; in two an endocarditis developed; in thirteen cases bronchitis occurred, while pneumonia was not observed at all. The average duration of the disease was five days for the mild cases, and four weeks for the more severe ones. The mortality among his cases was about 2 per cent.

Dr. Morris Manges said that the type of the disease presented was certainly very little known among practitioners in this vicinity. He had had a personal experience with four cases of chronic dysentery treated surgically. Anyone who was familiar with these cases knew how pitiable was their condition and how welcome would be almost any method that held out hope of relief. He knew of one case of chronic colitis upon which colostomy had been performed by Dr. Gerster, and death had resulted in twenty-four hours. He knew of two other cases that had died a longer time after the operation, and of one that had been cured. From what he had seen it was evident that these patients were very poor subjects for surgical operation, although the results might be better if the patients came under the surgeon's care earlier in the disease. Boas had recently reported a case in which an artificial anus had been made, and it had taken a whole year to effect a cure. Ewald had reported a case upon which he had operated six years before, and upon which Trendelenburg was compelled to operate subsequently before it was cured. It was noted, however, by these observers that although a cure was not effected the patients improved very greatly under surgical treatment. He thought in many of these cases the valve-like method suggested by Dr. Gibson would not suffice, and that the ordinary artificial anus would be required.

Dr. Frederick Holme Wiggin reported a case treated surgically in the City Hospital. The patient had contracted dysentery in the Philippines, and on examination of the stools amœbæ were found. The abdomen was opened, the appendix brought to the surface and fastened by a few stitches. For the first week large colonic irrigations were given. Saline solution was used at first, and subsequently a weak solution of permanganate of potassium. The man recovered from the dysentery, and some time afterward the appendix was removed, and he eventually left the hospital entirely well.

## AMERICAN NEUROLOGICAL ASSOCIATION.

*Twenty-ninth Annual Meeting, Held at Washington, D. C., May 12, 13, and 14, 1903.*

FIRST DAY—TUESDAY, MAY 12.

Dr. J. W. Putnam of Buffalo, President, in the Chair.

**Address of President.**—The Congress of American Physicians was founded because the interdependence of the different branches of medicine was recognized by the master minds of the profession. The time had come when specialists needed to broaden their interests and enlarge their views of the field of medicine. Specialism is so engrossing that its devotees are in danger of becoming narrow in their interests and their activities.

The range of diseases we are called upon to treat is so large and so varied that it would seem impossible for us to become narrow.

The chronic cases of paralysis with deformities from various cerebral spinal and peripheral causes, form a large and hitherto hopeless class. For years those afflicted with diplegia, hemiplegia, and spastic paraplegia have sought medical aid in vain. Tendon transplantation and the principles which govern the operation should find a place in our chapters on treatment. It should be taught to the student from the neurological standpoint as well as from the surgical. We have long ago made common cause with the surgeon in cerebral and spinal operations; let us extend it to the domain of surgery of the neuro-muscle machine. To the surgeon belongs the technique. To us belongs the duty of selecting cases for operations and of enlarging its field of usefulness. The after-care of the patient is as important as the surgical. The operation must be followed by an education, both mental and physical, which we must direct. It is only through coöperation that the best results will be obtained.

Hitherto the relation of neurology to obstetrics has not been sufficiently appreciated nor emphasized. The effect of prolonged labor upon the child is being studied and requires much more careful investigation in order to determine the effect of cranial birth injuries upon the brain. The obligation rests with us to sound the note of warning in season and out of season that epilepsy is in a large number of cases due to cranial birth lesions. The lesson must be so impressed that it will be a rule with accoucheurs to examine the head for fractures or undue depression after severe labor. When this practice has become a rule, and the cranial injuries are treated early and carefully, we may see as a result a diminution in the number of cases of epilepsy, idiocy, and cerebral birth palsies.

**The Sign of the Orbicularis.**—This was the title of a paper by Dr. George W. Jacoby of New York. The sign of the orbicularis is a symptom which consists of the inability of a hemiplegic voluntarily to close the eye upon the paralyzed side except in conjunction with the other eye. Thus, in cases of hemiplegia the temporofacial branch of the facial nerve is often so slightly affected as to lead to doubt whether the upper facial territory is involved at all. If in such a case the hemiplegic be asked to close both eyes together, he is able to do so without difficulty. He is also able to close the eye upon the sound side while keeping the eye upon the affected side open, but he is unable to reverse this procedure and close the eye upon the paralyzed side while keeping that upon the unaffected side open. This sign has hitherto been supposed to occur in central paralysis only. It was claimed by Jacoby that in many cases of peripheral paralysis this sign is present, and can be found if sought for at the proper time. These observations formed the basis for the following conclusions: (1) The statement of Board that the sign is invariably lacking in peripheral facial paralysis and is therefore a distinguishing mark of central affection, is incorrect. (2) The presence of the sign in peripheral paralysis is further proof of the existence of commissural fibers between the nuclei of the seventh nerves. (3) The

sign is of clinical value in so far as its presence in peripheral paralysis shows that complete recovery has not yet occurred. (4) The secondary over-action in the orbicularis palpebrarum which is late in appearance, and always coincides with some recovery in power, does not occur in those cases in which the sign having been present has passed away.

Dr. G. L. WALTON of Boston thought it important to bear in mind that unilateral control of the lid movements differs on the two sides in health. More individuals can close the left eye alone than can close the right eye alone. This may be due to the better education of the left cerebral hemisphere, for the education consists in learning to hold one eye open, not to close one eye.

Dr. JACOBY said that the independent closure of each eye was entirely acquired, and that in countries where a great many pursuits are followed which necessitates the independent closure of the eyes, is much greater than in countries where those pursuits do not exist.

**The Achilles Reflex and the Front-Tap.**—This was the title of a conjoint paper by Drs. GEORGE L. WALTON and W. E. PAUL of Boston. It was stated that the Achilles-jerk has been extensively studied, but has not taken the place it should as a routine test of equal importance with the knee-jerk; the front-tap has not been extensively studied. The Achilles-jerk is practically of equal constancy with the knee-jerk, is more uniform in excursion and requires less skill than the knee-jerk. In tabes, the writers have found it absent more constantly than the knee-jerk. The kneeling posture is preferable in most cases. In 500 cases without central nervous disease this reflex was wanting on both sides in only one instance; on one side, in four. Sluggishness of the tendon reflexes in health may be due to prior toxic affection, as diphtheria. In epilepsy the Achilles-reflex and knee-jerk are active except during the attack. The Achilles-jerk is sometimes absent in osteocarthritis with sciatic pain. The writers explain the front tap as allied to ankle-clonus though not of its sinister import. The foot being dorsally flexed by the examiner puts the calf muscles on the stretch, and the tap upon the tibialis anticus, by tending to dorsally flex the foot still further, suffices to produce contraction of the calf muscles. This reflex was present in 40 per cent. of 500 individuals healthy or suffering from no nervous disease. In epilepsy, hysteria, neurasthenia, and other neuroses it was found present in about 75 per cent. It was never found present in tabes or other hypotonic affections.

**The Reflexes in Long-distance Runners.**—This was a paper by Drs. PHILIP C. KNAPP and J. J. THOMAS of Boston. They had made a comparative study of the knee-jerk and allied reflexes in the participants in the "Marathon" run of twenty-four miles taken before and after the run, showing the influence of severe physical exertion combined with mental excitement upon the reflexes. In some cases the knee-jerks were lost. In all, the plantar reflexes were more or less exaggerated.

These two papers were discussed together.

Dr. F. W. LANGDON of Cincinnati said he had made it a rule to test the ankle-jerk in tabes and other conditions. He had not found it uniformly absent in tabes, but had seen a number of cases of tabes with the knee-jerk and ankle-jerk preserved. In sciatic neuritis it is either markedly diminished or absent on the affected side.

Dr. JOSEPH COLLINS of New York found the ankle-jerk more frequently absent in tabes than the knee-jerk, the ankle-jerk sometimes disappearing earlier than the knee-jerk, which is a more constant manifestation. In the depressed or vasomotor type of neurasthenia he had found the "front tap contraction" diminished or absent in a large proportion of cases.

Dr. C. L. DANA of New York said that the ankle-jerk was absent in one-half the cases of so-called sciatica. It is not so easy to test the ankle-jerk as Dr. Walton has stated. It may also be elicited by reënforcement.

Dr. H. T. PATRICK of Chicago had been in the habit of testing the ankle-jerk in every case, and had noted a difference in the two sides more frequently than in the case of the knee-jerk. In some cases of tabes, the knee-jerk disappears first. In others, the ankle-jerk is the first to disappear.

Dr. PHILIP ZENNER of Cincinnati had observed a number of instances in elderly individuals in whom the ankle-jerk was absent. The nervous system appeared to be normal.

Dr. JACOBY said that in cases of tabes when the ankle-jerk is present a careful examination will show that the knee-jerk is also present, but that we may have the ankle-jerk absent and the knee-jerk present. The loss of the ankle-jerk usually precedes the loss of the knee-jerk.

Dr. KNAPP agreed with Dr. Walton in his conclusions regarding the ankle-jerk. He thought that the front-tap contraction seemed more or less associated with ankle-clonus. It has considerable significance as an indication of exaggeration of the tendon reflexes.

Dr. WALTON, in closing the discussion, said that probably those cases of sciatica with loss of ankle-jerk result from pressure on the nerve-trunks by the products of osteoarthritis of the spine, or possibly from neuritis. He had been surprised to find how persistent the ankle-jerk and the knee-jerk are in advancing age. There is no invariable rule regarding the priority of disappearance of the knee-jerk or ankle-jerk in tabes.

(All of the speakers agreed that the best method of obtaining the ankle-jerk was to have the patient in a comfortable kneeling position on a chair during the examination).

**Primary Sarcomatosis of the Central Nervous System.**—This was the title of a paper and the report of cases by Drs. WM. G. SPILLER and WM. F. HENDRICKSON of Philadelphia. In the first case the symptoms were those of brain tumor and of transverse lesion of the thoracic cord. Multiple sarcomata of the brain and spinal cord were found. In the second case the symptoms were those of cerebellar tumor, and operation was done. Many tumors, some large and some small, were found in the membranes and nerve-roots of the brain and spinal cord. In the third case the symptoms were those of a transverse lesion of the thoracic cord. A primary sarcoma of the spinal cord substance was found. Attention was called to the comparatively few symptoms present in Case 2, notwithstanding the extensive sarcomatosis. The resemblance to syphilis of the nervous system was also discussed. The occurrence of a tumor in the cerebello-pontile angle in many of these cases of sarcomatosis was mentioned, and the question of operation was raised. The importance of the recognition of sarcomatosis of the central nervous system was emphasized, especially as regards surgical intervention when the symptoms seem to indicate that only one tumor is present, as in Case 2.

**Spinal-cord Tumor Treated by Operation.**—Drs. JAMES J. PUTNAM and J. W. ELLIOT of Boston reported three cases of tumor involving the spinal membranes.

The first case was noteworthy because the tumor, which proved to be a sarcoma, involved the axis and atlas and had caused a generalized paralysis, together with marked impairment of the respiration.

The growth was not sharply delimited, but was removed, so far as possible, with the curette.

In spite of the serious nature of the disease the patient has improved so much that he is now keeping a small store.

Three years have now elapsed and there has been no recurrence of the disease.

In the second case, a new growth, which was likewise of sarcomatous character, formed a collar about the spinal cord and dura at the junction of the cervical and dorsal region. The removal was successfully accom-

plished, but the respiration became much impaired even during the operation. The next day the temperature began to rise and continued to mount rapidly until the patient's death on the second day.

This result recalled one of the rarer effects of spinal injury. No cause could be ascertained for it, unless it were that the dura was punctured slightly at the time of operation.

In the third case, which was one of secondary cancer, involving the vertebral column and membranes in the lower dorsal region, the operation had been undertaken distinctly for the relief of pain. The growth was discovered at the expected point and was removed so far as possible. The main point of the operation, however, consisted in the cutting of two spinal nerve-roots, which were involved in the tumor. As a result of this, the patient's condition was considerably ameliorated for a number of weeks, at the end of which time she was seized with convulsions and other signs of involvement of the brain, and died shortly afterward.

The last two papers were discussed together.

Dr. W. A. Bullard of Boston said that where we have to deal with the dura and the membranes of the spinal cord, laminectomies are not so harmless as one might suppose. In a recent case in which there was anterior dislocation of the fourth cervical verterbræ, laminectomy was done for pachymeningitis. The operation was successful surgically, but after forty-eight hours fever developed, and the patient died without apparent cause. He had seen the same result in other cases.

Dr. B. Sachs of New York believed that cases of general sarcomatosis are not so very rare. He had seen a case of multiple gliosarcoma in a child which ran a rapid course. In a man forty years of age, a tumor appeared on the frontal bone. On account of the multiplicity of symptoms the question was raised whether the disease was of syphilitic origin or sarcomatosis. The case terminated fatally, and proved to be a general sarcomatosis. He did not think special credit was due any one for making a correct localization for spinal cord or brain disease. The question of greater importance is to be able to determine before operation the character of the morbid process. In this connection, he cited a case in which all the signs of spinal-cord tumor were present, and an accurate localization recorded. Upon operation no growth was discovered. The patient died two weeks later. Macroscopically the cord appeared normal, but on microscopical examination a number of small tubercles were found in the dorsal and sacral roots with tuberculous infiltration of the cord.

Dr. H.T. Patrick of Chicago reported a case in which a tumor apparently sprang from the auditory nerve. The patient had gradually become quite deaf, this having been preceded by rhythmic tinnitus. The tumor was very easily removed, and proved to be an osteosarcoma of the petrous portion of the temporal bone, the deafness being due to protrusion of the growth into the internal ear. Death took place shortly after the operation.

Dr. Wm. C. Krauss of Buffalo referred to a successful case of removal of a spinal-cord tumor from the cervical region which he reported at last years' meeting of the association. Five months after the operation the patient died. The tumor was a small round-cell sarcoma.

Dr. M. A. Starr of New York asked Dr. Putnam if there had been any respiratory difficulty during the operation for tumor of the axis. In a case of fracture of the third cervical verterbra there were distinct pressure symptoms upon the cord. During etherization he stopped breathing. Artificial respiration was kept up. The second time, chloroform being used, all voluntary respiration ceased. With artificial respiration during the entire operation a considerable amount of bony callus was removed with the relief of pressure. The boy is now in perfect health at the end of five years. He thought Dr. Spiller has done great service in presenting the subject of multiple tumors of the brain and spinal cord. He referred to a case in which a tumor was localized in the motor zone, but at the operation no tumor was discovered. The patient was tuberculous and lived four months. At the autopsy eight tumors were found scattered around in different areas of the brain, none being located in the motor zone. One tumor had absorbed about one-half of one lobe of the cerebellum for which no symptoms at all had been present. The medullo-pontal junction is a favorite point for tumors. He had seen five cases. In all of those operated upon death resulted. Sudden death is very common in all brain tumors. He recently had two cases of tumor of the cerebellum. Both patients died suddenly.

Dr. G. J. Preston of Baltimore spoke of malignant cerebral tumor following disease in the breast, and reported a case in which the growth was localized in the parietal region, but was found in the ponto-bulbar region.

Dr. Collins referred to a case of sarcoma in the abdomen which terminated fatally. Multiple sarcomata were found in the brain and spinal cord.

Dr. C. L. Dana said that a few years ago he saw a patient in whom a sarcoma was successfuly removed from the cervical portion of the cord. Improvement followed. In a case of removal of a tumor from the pontine angle the patient died. He called attention to the fact that cerebral softening from arterial fibrosis sometimes stimulates brain tumor exquisitely.

**Brain Tumor.**—Dr. C. Eugene Riggs of St. Paul reported two cases of brain tumor (endothelioma) with characteristic symptoms of involvement of the left motor area. Both were submitted to operation and terminated fatally.

Dr. Charles K. Mills of Philadelphia spoke at length in regard to operation for brain tumors. He believed that the cause of failure in operation was often due to imperfect methods of procedure. In Philadelphia they had gradually evolved more and more rapid methods of operation. He recommended the large osteoplastic flap made by a combination of the use of the trephine with the dental engine. He considered this method of valus on account of the saving of time. In the last operation, the skull was opened in eight minutes without shock. He believed strongly in operation for brain tumors in the majority of cases, if they were at all accessible.

Dr. Starr said that the best method to use was Doyen's electrical apparatus, and he considered it as rapid as the method spoken of by Dr. Mills. By this means it was possible to cut through the skull in fifteen seconds. He cosidered this a great improvement upon the old-fashioned way of cutting with chisel and hammer.

Dr. Dana had seen the instrument mentioned. He thought there was a good deal more in the surgery than there was in the burr. In one of the prominent hospitals in New York, with this burr he had known it to take over an hour to get through the bone. With the best instrument the surgeon must be trained in its use.

Dr. Sachs thought the question of time scarcely entered into the technique. He did not consider the fatal issue in so many cases the result of the modern operation.

Dr. J. W. Putnam of Buffalo was opposed to the statement that slowness makes no difference. He did not believe it possible to settle on one form of operation, because different surgeons will find that their own speed differs with the instrument.

(To be continued.)

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**Massachusetts Vaccination Law before the Supreme Court of the United States.**—The case of Heming Jacobson of Cambridge, Mass., vs. The Commonwealth of Massachusetts was docketed in the United States Supreme Court on June 29. The point involved is the constitutionality of the Massachusetts law making vaccination compulsory. The law was upheld by the State courts.

# New Instruments.

## A NEW MODEL OF THE CLINOSCOPE.

By GEORGE T. STEVENS, M.D. Ph.D.,
NEW YORK.

For the purpose of making certain investigations and experiments in physiological optics, I found it necessary to modify my earlier model of the clinoscope, with the result that the newer model serves not only for physiological experiments, which can not be made by the earlier form, but it proves in several respects an advance on that form.

By reason of some changes in the mechanism the instrument can be made at materially less expense, it is more portable, being less than half the weight of its predecessor and the objectives are better seen.

As a result of the modifications in the design the

tubes are shorter and smaller. This permits of a convergence of about 15° for each tube for physiological experiments. When in ordinary practical use the tubes are restored to parallelism.

The reduction in the size of the tube does not reduce the apparent size of the objectives, since, owing to the diminished length of the tube, the image is apparently larger than in the larger tube of the earlier model.

The objectives are attached to the tubes in such a way that they may, with any dip of the tubes, remain in the vertical plane, an essential in examining the normal rotations of the eyes in convergence with depression of the plane of regard.

The posterior halves of the tubes do not rotate, and thus do not cause any variation in the level of the two sight holes. These last also, by being made very small, render the use of refracting glasses in general unnecessary. The anterior halves of the tubes are rotated on their axes by levers which replace the screw-gear, and thus substituting frictional in the place of the screw-adjustment.

After using the new model for three months in connection with and in constant comparison with the original instrument, I find it in all respects the equal of the earlier form and in some respects superior to it, besides being adapted to purposes of research beyond those to which the other was fitted.

In general, the principles of the original instrument are retained. The accompanying cuts represent the modified instrument, which has been skilfully made for me by Mr. E. B. Meyrowitz.

22 East Forty-sixth Street.

## THE MOUNT BLEYER ULTRAVIOLET CROOKES' TUBE FOR GENERATING THE VIOLET LIGHT.

By J. MOUNT BLEYER, M.D., F.R.A.M.S. L.L.D.
NEW YORK.

This communication is the forerunner of a series of experiments now under way to determine the exact clinical value of the ultraviolet light as produced from a Crookes' tube. Up to the present moment it is only my intention to register my discovery. I will say beforehand that already I am well satisfied with the results that I have thus far achieved and which I shall print later on. However, all those who have more or less tested the value of ultraviolet rays know their value in therapeutics.

I wish to bring this new method of generating these ultraviolet rays to the notice of the profession. I do so with the assurance that I am the first to make known the fact that these rays as I produce them in vacuum tubes have all the advantages over, and none of the disadvantages as compared with the Finsen electric-arc light, with all its costly and complicated accompaniments.

There are other new improved lamps for generating these ultraviolet rays, but I believe that there is no lamp which will give more quality and quantity of ultraviolet light than this Crookes' tube. I introduce this vacuum tube with the greatest of faith and hope it will prove itself as I represent it.

During my experimental research I put this tube through every sort of physical test known to us, and must say that the reaction tests found were very satisfactory to me.

The ultraviolet vacuum tube has many good qualities; it is a cold light and can be worked on either a coil or a static machine; it runs noiselessly, and no burns or marks are left on the patient after lengthy exposure; it will be found to be operated in the most simple fashion, and anyone having the slightest experience in *x*-ray work, can at once generate these ultraviolet rays; as the method of application is the same.

The color of the light that this tube gives differs in color from the Röntgen light, it being dark purple instead of the green *x*-ray.

The construction of this tube and the exhaustion of its gases also differ; the tube has a long life and can be operated for a long time without any deterioration to its rays.

Any one having given any time to the study of the physics of the vacuum tube knows the laws that these ultraviolet rays obey. My only object in this communication is to introduce to my colleagues this new ultraviolet vacuum tube with which I have been experimenting and now turn over to them for further clinical experience in the various diseases in which the ultraviolet rays are applicable. It is more than useless to take up more space or go into a detailed discussion of the physical laws which surround this ultraviolet light, as it all can be found in numerous works on this subject.

Physicists have done all that patient technical labor can do to formulate the true laws that govern these vacuum tubes, as far as we know.

To describe this ultraviolet Crookes' tube: It is exactly the same shape as an ordinary round,

x-ray tube, differing only in the quantity of the gases exhausted and the placing of the poles. It can be connected with either coil or static machine in exactly the same manner.

460 Lexington Avenue.

## Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending July 4, 1903:

| | Cases. | Deaths. |
|---|---|---|
| Measles | 360 | 12 |
| Diphtheria and croup | 325 | 47 |
| Scarlet fever | 157 | 14 |
| Smallpox | .. | .. |
| Varicella | 58 | .. |
| Tuberculosis | 247 | 123 |
| Typhoid fever | 45 | 9 |
| Cerebrospinal meningitis | .. | .. |

**The Paris Academy of Sciences.**—There is only one German among the members of the Paris Académie des Sciences—Prof. Robert Koch, who was elected in the place of the late Rudolf Virchow. Of the other six foreign members Austria and America contribute one each—Suess and Newcomb—and England four—Kelvin, Lister, Stokes, Hooker.—*Evening Post.*

**Sickness at Naval Stations.**—The sickness reported at the naval stations due to the overcrowding of the enlisted force on account of insufficient accommodations of the receiving ships, was predicted by Surgeon-General Rixey several months ago. While Congress was in session he recommended to the Secretary of the Navy that the receiving ship system be abolished, and that land barracks be erected at various naval stations for the preliminary training of recruits, and he expressed the opinion that epidemics were brought about by the crowding and other conditions existing on board of the receiving ships. Congress, however, failed to make the appropriation asked for, but better things are expected from the new Congress. —*New York Tribune.*

**The Strange Effect of a Bullet.**—A few days ago—according to the *London Mail*—M. Lecuier of Sugny, in the Ardennes, an old pensioner, who was wounded on the field of battle during the Franco-German war, and suffered from a tumor caused by a shot in the leg, underwent an operation. The bullet had been extracted in 1870, but the tumor continued, and, finally, Lecuier could not walk. The surgeons were greatly surprised in the course of the operation to find imbedded in the wound a coin of 10 centimes (a penny) bearing the effigy of Napoleon III, and the date 1856. The penny is believed to have been carried into the thigh by a German bullet, which had first struck the soldier's purse. The coin was bent in two and covered with powder on one side. It will be placed in the local museum.

**Brain Weights.**—Dr. Matiegka, in his extensive studies recently published on the weights of human brains, gives the following data, among many others: From 235 brains belonging to persons whose occupations during life were known, he makes a table of brain weights, arranged according to occupation, dividing the cases into six groups:

| | Class. | No. | Av. Wt. (Grams.) |
|---|---|---|---|
| I. | Day laborers | 14 | 1,410 |
| II. | Workmen | 34 | 1,433.5 |
| III. | Porters, watchmen, etc. | 14 | 1,435.7 |
| IV. | Mechanics, tradesworkers, etc | 123 | 1,449.6 |
| V. | Business men, teachers, clerks, photographers, professional musicians, etc. | 28 | 1,468.5 |
| VI. | Scholars, physicians, college men, etc | 22 | 1,500 |

Coachmen and truck drivers (14), showed 1,445.7 grams locksmiths, blacksmiths, and metal workers (21), showed 1,476.7; brewers, tavern-keepers, waiters, and others employed in making and selling liquors (16), showed 1,416.9—a low figure.—*The Sun.*

**A Russian Peerage Held by an Englishman.**—One of the most curious peerages and the only Russian one held by a British commoner is the Barony of Dimsdale of Essenden Place, Hatfield. The great-great-grandfather of the present holder of the title, Dr. Thomas Dimsdale, was specially retained to vaccinate Catherine of Russia, and performed the operation so much to her satisfaction that she gave him £12,000 ($60,000), and an annuity of £500 ($2,500), while she made him a councillor of State, and created him, in 1712, Baron Dimsdale with the prefix of Honorable. The late Lord Mayor of London belonged to this family.

**Health Report.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U S. Marine Hospital Service, during the week ended July 4, 1903.

SMALLPOX—UNITED STATES.

| | | Cases. | Deaths. |
|---|---|---|---|
| Alabama, Mobile | June 20–27 | 5 | .. |
| California, San Francisco | June 14–21 | 2 | .. |
| Illinois, Belleville | June 22–29 | 5 | .. |
| Indiana, Indianapolis | June 20–27 | 1 | .. |
| Louisiana, New Orleans | June 20–27 | 4 | 1 |
| Massachusts, Fall River | June 0–27 | 3 | .. |
| Taunton | June 20–27 | 1 | .. |
| Michigan, Detroit | June 20–27 | 7 | .. |
| Flint | June 20–27 | 1 | .. |
| Grand Rapids | June 20–27 | 3 | .. |
| Port Huron | June 20–27 | 10 | .. |
| New Hampshire, Manchester | June 20–27 | 2 | .. |
| New Jersey, Bordentown | June 6–27 | 24 | 5 |
| Trenton | June 20–27 | 1 | .. |
| Ohio, Cincinnati | June 19–26 | 3 | 2 |
| Cleveland | June 20–27 | 1 | .. |
| Toledo | June 13–20 | 2 | .. |
| Pennsylvania, Altoona | June 20–27 | 1 | .. |
| Johnstown | June 20–27 | 1 | .. |
| Philadelphia | June 20–27 | 26 | 4 |
| South Carolina, Charleston | June 20–27 | 2 | .. |
| Wisconsin, Milwaukee | June 20–27 | 2 | .. |

SMALLPOX—INSULAR.

| | | | |
|---|---|---|---|
| Philippines, Manila | May 2–9 | 9 | .. |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Austria-Hungary, Prague | June 6–13 | 4 | .. |
| Belgium, Antwerp | June 6–13 | 4 | 1 |
| Brussels | June 6–13 | .. | 8 |
| Brazil, Rio de Janeiro | May 24–31 | .. | 1 |
| China, Hongkong | May 2–16 | 12 | 1 |
| Shanghai | May 9–16 | .. | 2 |
| Colombia, Bocas del Toro | June 9–16 | .. | 2 |
| Great Britain, Bristol | June 6–13 | 1 | .. |
| Cardiff | May 2 | 28 | .. |
| Dublin | June 6–13 | 15 | 1 |
| Dundee | June 6–13 | 2 | .. |
| Leeds | June 13–20 | 12 | .. |
| Manchester | June 6–13 | 9 | 1 |
| Newcastle-on-Tyne | June 6–13 | 1 | .. |
| Sheffield | May 30–June 6 | 9 | .. |
| Sunderland | June 6–13 | .. | 1 |
| India, Bombay | May 25–June 2 | .. | 44 |
| Calcutta | May 23–30 | .. | 1 |
| Karachi | May 23–30 | 3 | .. |
| Madras | May 23–29 | 1 | .. |
| Japan, Kobe | May 23–June 6 | 5 | .. |
| Mexico, City of Mexico | June 7–14 | 18 | 12 |
| Russia, Moscow | May 30–June 6 | 2 | 2 |
| St. Petersburg | May 30–June 13 | 41 | 10 |
| Warsaw | May 16–24 | .. | 2 |
| Switzerland, Zurich | June 6–13 | 1 | .. |

YELLOW FEVER.

| | | | |
|---|---|---|---|
| Colombia, Panama | June 15–22 | 3 | 1 |
| Costa Rica, Limon | June 11–18 | 2 | .. |
| Ecuador, Guayaquil | May 2–23 | .. | 6 |
| Mexico, Merida | June 1–20 | .. | 5 |

CHOLERA—INSULAR.

| | | | |
|---|---|---|---|
| Philippines, Manila | May 2–9 | 44 | 38 |
| Provinces | May 2–9 | 343 | 242 |

CHOLERA—FOREIGN.

| | | | |
|---|---|---|---|
| India, Calcutta | May 23–30 | .. | 52 |
| Straits Settlements, Singapore | May 2–9 | .. | 72 |

PLAGUE—INSULAR.

| | | | |
|---|---|---|---|
| Philippines, Manila | May 2–9 | 6 | 2 |

PLAGUE—FOREIGN.

| | | | |
|---|---|---|---|
| Brazil, Rio de Janeiro | May 24–31 | .. | 1 |
| China, Amoy | May 16 present | .. | .. |
| Canton | May 16 present | .. | .. |
| Hongkong | May 2–16 | 215 | 184 |
| Egypt | May 23–30 | 4 | 4 |
| Germany, Berlin | June 5 | 1 | 1* |
| Germany, Berlin | June 5–18 | 1 | .. |
| India, Bombay | May 23–June 2 | .. | 186 |
| Calcutta | May 23–30 | .. | 52 |
| Karachi | May 24–31 | 105 | 100 |
| Mauritius | May 21–28 | .. | 1 |

* Contracted in Laboratory work.

# Medical Record

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## Original Articles.

### THE STRUGGLE OF SCIENCE WITH OLD AGE.

BY J. BANDALINE, M.D.,
PARIS, FRANCE.

For if any such thing may be found out, Medicine shall not be honour'd only for Necessity, but for a Guift, the greatest of earthly Donations that could be conferr'd on Mortality, whereof men, next under God, may be the Dispensers and Administrators.—BACON.

I.—IN one of Victor Hugo's charming poems, the "Légendes des Siècles," Hercules takes Satire, despised and derided by everybody, by the ear and brings her before Jupiter. Satire, prickly, black, disgusting, but calm, appears before the bar of Olympus evoking loud laughter from all the gods. Mercury presents her with a flute, and all urge her to sing. She sings of the sufferings of mankind. Phœbus gives her the lyre, Satire takes it and at once becomes great like humanity; she addresses herself to the frightened gods and cries: "*Place à tout! Je suis Pan. Jupiter, à genoux* "

Does not modern science remind you of Satire in the "Légendes des Siècles?" Miserable, despised by everybody, dressed in rags, "*ancilla generis humani*," it suddenly rose, took the lyre and began to sing its song of human suffering and of a brighter future. Like Satire, Science at once became greater and exclaimed: "*Place à tout! Je suis Pan. Jupiter à genoux!*" And modern humanity, upsetting all its idols, turned its eyes toward science, expecting it to vanquish suffering, old age, death. What a charming illusion, what a sweet dream to think of the freshness and the joys of the first twenty years of our life being added to the experience and the wisdom of mature age!

We all, however, know the inevitable approach of old age, and are ready, like Faust, to give our soul to the devil, if he will free us from the burden of our years, and but few people obediently subordinate themselves to this inexorable law. Cicero in his first book of the "Tusculana" relates that old Silen, the prisoner of King Midas, used to say that the first and greatest blessing for him would have been, not to have been born at all, and the second would be to depart from life as soon as possible.

An ancient sage, La Mothe de Vayer, says in his letters, that he would never have consented to come into the world if he had known before hand to what Providence had predestined him.

But however burdensome and tedious life may be, in spite of all the suffering and adversity it may bring, man and every living being in general clings to it and loves it. To live! To live! this cry comes from every heart.

And just as the love of living is the most profound and insuperable instinct of man, from times immemorial the desire to keep and prolong it has been paramount in scientific investigations: the short time of youth, this period of beauty and development of force, the age of highest earthly happiness, they have tried to prolong indefinitely.

Where are the wise men that, like Lavoisier and Chénier, would not express their regrets at being compelled to die without being able to communicate to the world the thoughts agitating their minds, or to leave it the discoveries that they foresaw? What a loss to science, thought, and art has been the premature death of such men as Archimedes, Mozart, Raphael, Descartes, Pascal!

To prolong human life would tend toward the development of science, the increase of our glory, and the ultimate perfection of humanity. At the dawn of civilization man tried all means within his youthful imagination to discover the elixir of youth. David thought that a young girl, sleeping with him in his royal bed, would be able to render him youth. Galen and Paul of Ægina believed in putting a healthy man on the stomach of old men, as the surest way to rejuvenate them. Arabian medicine considered the bezoares (a hard round substance found in the stomach of ruminants) the best antidote against infectious disease. The Chaldeans looked to the stars and different magical manipulations as a means of prolonging life. According to Suetonius, alchemy made its appearance in the second century B. C. owing to the efforts of Caligula. Related, as it was, to cabalistic teachings, it at once aroused great enthusiasm and many became adepts. Shrouded in mystery, having recourse to hieroglyphs, and being propagated by secret societies, alchemy counted among its adherents many eminent persons. During the long period of the Middle Ages we meet such names as Roger Bacon, Pica de la Mirandola, Raymond Lulle, Kircher, Van Helmont, Cardinal Richelieu, and the celebrated Arabians Avicenna, Avenzoar, and Averroes.

The alchemists of the Middle Ages zealously tried to discover the philosophical stone that was supposed to change all metals into gold. Since the thirteenth century, however, this stone was also supposed to be able to cure illness and prolong human life. Ever since that time the alchemists may be divided into two schools: the one represented by Raymond Lulle and Nicolas Flamel, forever seeking means of changing base metals into gold; the other trying to find out a special life potion, a remedy for all sorts of ills, attempting to cure by science all evils that man is heir to.

For thousands of centuries, they said, the sun had been pouring out his vivifying rays without being exhausted. Does not gold also, in a similar manner, retain its inalterable clearness? The earth, dying with each winter, arises to new life every spring, finding within itself a new source of fecundity. Is not nature, with its mystical power of retaining its own products, able to preserve youth and to increase life in sweet and undisturbed longevity?

These alchemists were the forerunners of future exponents of our new biology. They wanted to wrest the principle of life from Nature herself, imagining to revive old people by means of gold and to communicate to them a new soul and temperament. The ancients knew of the exciting action gold exerted on all the functions of the organism and made good use of it by combining it with phosphoric

acid. They were acquainted with the action of gold on scrofula, an illness described by Phracastor. In the eighth century the alchemist Geber compounded a red elixir from gold for the purpose of rejuvenating old people. During the Renaissance gold still held its place, being given even to children.

Under the name of "alcahest," Paracelsus brought out a liquid, a product of second distillation of a preparation of quicksilver, the immortal water (ignis aqua), gold of the horizon (ens primum), reduced, according to its inventor, to its finest molecules without decomposing it, and representing a universal remedy against all illness and even against death.

But these men, although the inventors of such potent remedies, did not possess the art of prolonging even their own life. Paracelsus died at forty-seven, Geber at fifty years of age.

To escape death there must be some change from the very first moment of birth. As the American biologist, Minot, says, old age is a phenomenon, beginning to make its appearance from childhood. Modern cytology teaches us that the cell nucleus consists of a series of granules—caryomicrosomes—made up of a peculiar mucous substance, rich in phosphorus (nuclein). These nuclein granules that readily take up various anilin dyes are united among each other by linine, which does not stain with these colors. The nucleus atrophies from our youngest age to old age. It constantly diminishes in volume, whereas the protoplasm becomes more abundant. In the perpetual consumption of the nucleus is revealed the reason of our getting old and dying. "From our youngest years we are dying day by day," remarks Bichat.

Humanity has always felt instinctively that great secret of life contained in the cell-nucleus. The people of legendary times devoured newly-born children as though they knew that the embryonal principle of the living world contained in itself the substances necessary for rejuvenation.

Modern science and biology have again returned to the cell and its nucleus. Schiller aptly remarks, in his philosophical letters: "*Wir gelangen nur selten anders als durch Extreme zur Wahrheit, wir müssen den Irrtum zwar erschöpfen, ehe wir zu dem schönen Ziele der ruhigen Weisheit gelangen.*"

During one of his last lectures at the Hôpital Necker, Huchard, that eminent clinician, exclaimed: "*On revient toujours aux premiers remèdes*" and highly recommended the use of yolk of egg as a subcutaneous injection. Owing to its ingredient of phosphorus, good results have already been obtained by this treatment in all conditions associated with subnutrition, like anæmia, phthisis, rhachitis, and diabetes of pancreatic origin. Instead of the yolk Lancereaux uses subcutaneous injections of lecithin (from 0.1 to 0.2 centigr.). This substance is found in the blood, the yolk, the sperma, and in general in all tissues possessed of great vital energy.

Desgrez and Zaky[1] prepared lecithin from hen's eggs by the classical method. Their lecithin is a combination of olein, stearic acid with glycophosphoric acid and with choline containing 8.62 per cent. of phosphoric acid and identical in its results with those obtained with lecithin by Danilewsky. Dogs that received lecithin by injection or per os very quickly increased in weight (in twenty-seven days a dog doubled his weight from 2,100 to 2,400 g.); the excretion of urea and nitrogen were increased, whereas phosphoric acid was decreased.

Clinical observations completely confirmed the experiments made in the laboratory. Patients that received lecithin noticed a marked improvement of the appetite with rapid increase in weight. According to observations of Bergnignan, from Huchard's clinic, an anæmic patient with an ulcer of the stomach gained about seven pounds in weight in fifteen days.[2] Without adhering to the cannibalistic customs of the ancient legends, medicine tries to obtain from nature a substance contained in the embryonal tissues of the organism, *i. e.* the cell and its nucleins, principles that possess the power of restoring new life. In its evolution, the fight against old age has passed many stages and was subject to many changes.

This problem, old as civilization itself—in fact, owing its origin to it—has been the cause of many dreadful errors, according to Schiller, until in our day it has worked its way "*zu der ruhigen Weisheit,*" turning to the cell as the origin of all mysteries of life and death.

II.—Our body is composed of an innumerable quantity of cells, each of them living its own life and keeping its own individuality. Each substance, says Goethe, is not a unit that is indivisible, but a collection of living beings, acting each by itself.

Life pulsates in every cell and is not confined to any one organ. All the physiological, pathological, and toxic phenomena are caused by cell changes, and there is no reason to suppose that death, disturbing the equilibrium and harmony between immensely small units, condemns them to non-existence. We know of marvelous experiments proving the vitality of various organs of an individual already dead.

Brown-Séquard cut off the head of a dog that had lived a long time in his laboratory and called him by his name. His eyes, though blinded with blood, immediately turned to the illustrious physiologist: the true animal knew his master's voice.

According to the principle of division of work, each cell has its own duties and does its part for the prosperity of the whole organism; the cell plays a rôle in heredity, it is the origin of new tissues, the motor of life acting on our organism.

The cells are our physiological "I"; they are born, develop, and die. The constant and unceasing decay of these cells constitutes the chief condition of our life.

Without the death of the cells of the salivary glands there can be no saliva, one of the chief factors in digestion, and, of course, of our life.

But with the death of each cell a part of our own being dies. Looked at in this way our organism constitutes a great cemetery, and our life processes a series of continual funerals. The division of work does not at all disturb the solidarity nor the unity of the cells. Just as in a well-organized State every citizen has his rights and duties, every cell fulfils its functions, sending out stimuli and receiving them, being at the same time connected with the nervous system, the slightest excitation of one cell immediately calling out a reaction in the whole organism. Living their own life the cells constitute the principal part of our "I," of our body; and whenever any of them die, a part of our "I" dies with them.

The cells of our organism live together, says Engelmann, but die separately. Nevertheless these partial deaths take place in our organism without any appreciable disturbance. Therefore death becomes the inevitable result of life. The individual is born only to die. The ovum, the muscles, the bones and the nerves are organs in which the life of these of other cells is expressed, and by developing and fostering these organs they become subject to a greater degree of disorganization and destruction.

The development of each being is nothing else but the constant invisible touch of death. Those actions that allow us most readily to distinguish the living organism from the dead are most intimately bound

to death. Thus anger, causing a sharp contraction of the muscles, the laugh that makes the face shine, the thought that wrinkles the forehead, the æsthetic joy that causes the heart to beat faster, are all accompanied by organic destruction—the death of cells. Without destruction there is no regeneration of life. Without death there is no life. Forever and everywhere life and death embrace one another.

Therefore, as though fulfilling the words of the Greek philosopher "*πόλεμος πατὴρ πάντων*," our life is a constant struggle with the various elements of which we consist, and on the result of this struggle depend the normal equilibrium of our organism, our health, our illness, life and death.

Schiller says:

"Mir gefallt ein lebendiges Leben,
Mir ein ewiges Schwanken und Schwingen und Schweben
Auf der steigenden, fallenden Welle des Gluckes.
Denn der Mensch verkummert in Frieden
Müssige Ruh ist das Grab des Muthes."

Another great German thinker, Kant, justly remarks: "*Dank sei der Natur für die Unvertragsamkeit, für die missgünstig wetteifernde Eitelkeit für die nicht zu befriedigende Begierde zum Haben oder auch zum Herrschen! Ohne sie würden alle trefflichen Naturanlagen in der Menschheit ewig unentwickelt schlummern. Der Mensch will Eintracht, aber die Natur weiss besser, was für seine Gattung gut ist; sie will Zwietracht.*"

Old age, according to what has been said, is nothing else but the triumph of one sort of element over the other.

But what kind of elements are they?

In the beginning of the nineteenth century the curtain of this mystery was raised a little by the naturalists. Flourens said that some organisms possess the individual and effective force of productivity. Tremblay investigated the regeneration of polyps, Bornet of the worms, Réaumur of the crawfishes, Cuvier of deer, Flourens of salamanders. All these authors had the vague idea that old age is actually the stopping of the production of certain cellular elments.

Later on, Roux of Breslau expressed the marvelous point of view that in man two great systems—the mesoderm and the ectoderm—are in a constant struggle. After him, Demange, Bastein, Chacot thought that senility of the brain consisted in atrophy of the parenchymatous and hypertrophy of the interstitial tissues. Golgi and Weigert have shown that the nerve cells become the prey of the neuroglia.

By brilliant and detailed experiments Metchnikoff showed that the view of Bastien and Charcot was the true solution of this problem and that old age is an atrophy *sui generis* appearing in the triumph of the mesoderm—common elements—over the ectoderm—noble elements.[3]

Noble elements being specific for every organ (liver, kidney, spleen, heart, and brain) are better differentiated than the common elements. Besides they are the foundations upon which the functions of life rest, they constantly elaborate and secrete poison, and on account of this they soon get exhausted and lose their vitality earlier.

There is nothing astonishing in the fact that finally they become the prey of the common elements, especially of the elements of the mesoderm that are more vigorous and numerous.

In adolescence and manhood the equilibrium is maintained between them, because the noble cells secrete an antitoxin that neutralizes the pernicious influence of the hostile elements. But in the long run this antitoxin diminishes in quantity and the greedy common elements of the mesoderm, the so-called mononuclear macrophagues begin their attack upon those elements, the polynuclear microphagues, and destroy and displace them, the conscious defenders of the noble elements of our organism. The latter therefore disappear, tired of the unequal struggle and deprived of the help of the microphages that succumbed to their enemies. The latter being coarser and stronger displace them and quickly develop in every direction. The epithelium disappears from the liver and the kidney and the nerve cells from the brain. Cirrhosis of the liver, kidneys, and heart develops and the functions of these organs become impaired. Finally the two great systems of the organism (the vascular and the nervous system) yield to the enemy and the common elements overrun the noble ones. Then arteriosclerosis, this "rust of life," sets in—it marks the turning point in man's life. But we will let Victor Hugo, the illustrious author of the "*Feuilles d'automne*," express his sentiments on this point:

"Effacer de son front des taches et des vides,
Vieillir enfin, vieillir! comme des fleurs fanées,
Voir blanchir nos cheveux et tomber nos années,
Rappeler notre enfance et nos beaux jours flétris,
Boire le reste amer de ces parfums aigris,
Etre sage et railler l'amant et le poète.
Et lorsque nous touchons à la tombe muette,
Suivre en les rappelant d'un œil mouillé de pleurs
Nos enfants qui déjà sont tournés vers les leurs.
Ainsi l'homme, o mon Dieu! marche toujours plus sombre
Du berceau qui rayonne au sépulcre plein d'ombre."

It is clear that an exact knowledge of the elements participating in the above struggle would probably enable us to paralyze the efforts of the common elements as far as biological laws will permit. The macrophagues being a source of danger to our organism and the only cause of old age, ought to be eliminated from our system. We must deprive them of their capacity for pernicious influence upon the greatest good—human life. An antiphagocytic serum, prepared in this sense, has produced its demolishing effect not only upon the macrophagues, but also upon their enemies, the useful microphagues.

If the enemy, *i. e.* the common cells, is able to overcome so easily the noble cells, it shows that the latter do not react against the enemy like in youth and manhood. When full of vigor and freshness, the noble elements successfully repel the enemy, thanks to the toxins which they secrete.

Instead of striking at the macrophagues directly, Metchnikoff conceived the idea if possible to fortify the noble cells, help them in their struggle, make them sufficiently resistant. It is the cells of the liver, kidney, and brain, etc., that are especially in need of this help. Thus Metchnikoff arrived at this method, the essence of which is founded on the nature of the cytotoxins—cellular poisons—a method that at present attracts the attention of the whole medical world.

III.—Since antiquity, blood has been used as a potent remedy in various hopeless ills. While the audience in the Colosseum listened to the salutation of the dying gladiators, "*Ave, Cæsar, morituri te salutant*," Roman women hastened to the arena to drink the blood of these victims in the hope of recovering from epilepsy.

It is said of Louis XI. that in order to escape old age he used to drink a child's blood, brought to him fresh daily. Transfusion of blood was the next logical step. The first mention of this procedure is in the work of the celebrated Libarius, who died in Coburg in 1610. The discovery of the circulation of the blood by Harvey in 1619 and communicated to the world in 1628 gave renewed impetus to the expectations and hope placed in blood transfusion.

The first authors spoke enthusiastically of the new method, destined to cure hopeless illness, to restore youth to the aged, and to prolong life indefinitely.

Wren in England and Masion in Germany promulgated this new doctrine. In England the first trials were made on animals. Later Emmerets and Denis in Paris took the risk of the operation in a man, other physicians, however, like Le Martinière and Perault, protesting against it. Lower, King, Riva, and Manfridi, however, followed the example of Denis, one physician even submitting himself to the procedure. On June 15, 1667, blood was for the first time transfused into the body of a young man of sixteen, who was in a state of great prostration owing to copious bloodletting. After operating on him by Denis's method the patient at once became conscious, his power, memory, and good humor returned to him.[4]

Soon after this a serious occurrence attracted the attention of all Paris. A maniac, Antoine Mauroy by name, who for seven years had been subject to attacks of insanity, after having been treated by various means without result, including eighteen venesections, consented to pass through the operation of blood transfusion. Denis and Emmerets made the transfusion on December 19, 1667, in the presence of a great number of physicians and others. The operator was unable to transfuse more than six ounces of calf's blood, as he was obliged to stop on account of great weakness of the patient. On December 21 the operation was repeated. After the infusion of a pound of calf's blood, the patient's hands became warm, his pulse stronger, and a profuse perspiration set in. After the removal of the cannula he fell into a sound sleep. Two days later he had profuse nose-bleed and the urine became black. A third transfusion was done at the end of January, but the patient died during the night. His wife began an action against Denis, the result of which was that the tribunal on April 17, 1668, prohibited, under pain of criminal responsibility, the operation of blood transfusion, as not being approved by the faculty of medicine. For more than 150 years this method was forgotten, when Blundell, Dieffenbach, and Magendie again revived it.

The work of Oré of Bordeaux shed some light on the theory of blood transfusion. The infusion of artificial serum, corresponding as it did to the same laws, but being less dangerous than blood transfusion, nearly entirely replaced the latter.

The discovery of the cytotoxins, these poisons of animal origin, belongs to a period when transfusion of blood was made from mammals to man. The fatal result that occasionally accompanied these transfusions and the very serious complications that frequently followed, as coagulation of the blood, the formation of thrombi and infarct in the lungs, occurred, according to Panum, Ponfick, Hayem, and Landois, because of the decomposing effect exerted by the blood of an animal of another species on the red and white blood cells of man. But as blood transfusion was no longer practically used, the discovery of the cytotoxins, made twenty-five years ago, was quite forgotten.[5]

Inquiries into the bactericidal properties of blood sera of various animals again revived the question concerning the cytotoxins. In 1889 Metchnikoff showed the analogy between the bactericidal power of the sera and their property of decomposing the red blood-cells.

The labors of Daremberg and Buchner definitely determined that the destruction of the bacteria and the red blood cells by sera is subject to the same law, and proceeds according to the same mechanism. The discovery of artificial cytotoxins was made much later.

Belfanti and Carbone for the first time in July, 1898, noticed the existence of a toxin, developed in the serum of animals, cured by the blood of animals of another species. Thus the serum of a horse into whose peritoneum a quantity of rabbit's blood had been injected, became virulent to the rabbit. The serum of a dog that had been treated with the blood of a rabbit, was a still more potent poison for the latter. Belfanti and Carbone found that these sera are very poisonous for animals giving us blood for injection, and not at all so for animals giving serum only.

Bordet working under the guidance of Metchnikoff was brought to the same result as the Italian investigators. Bordet proved a complete analogy between the bactericidal force and the hæmolytic nature of artificially prepared sera. In both cases it is the question of specific poisons, consisting of two substances, the first of which, alexin, is preformed in a normal animal, the other one, the so-called "substance sensibilisatrice," is formed by injection of the blood of one animal into an animal of another species or by bacterial products.

"Thus," says Metchnikoff, "the theory that there are two substances united for the formation of a poison for both the erythrocytes and the bacilli cannot be doubted."

The German savants, Ehrlich and Morgenroth, in their remarkable articles on hæmolysins, confirmed this theory. According to them Metchnikoff's "substance sensibilisatrice," called by them "Zwischenkörper" or "intermediate substance," exerts an energetic action on the hæmolytic ferment—the alexin: the Zwischenkörper themselves are not able to decompose the red cells, but attached to the alexins they attain great hæmolytic power. These fundamental facts concerning hæmolysins led Metchnikoff[7] to suppose that it would be possible to prepare artificial cytotoxins that would be specific for all sorts of elements, and by their means to regulate the functions of the abnormal cells.

If you inject the spermatozoa of a bull into the peritoneum of a porpoise, the spermatozoa will be eagerly attacked by the small white round cells—the microphagues and the macrophagues. As a result the peritoneal fluid and the serum of the porpoise become a poison for the bull's spermatozoa, stopping their movements. Thus Landsteiner obtained the spermatoxin. If you inject into the peritoneum of a porpoise the emulsion of a rabbit's kidneys, it suffices to inject a little of the resulting serum into a rabbit, in order to provoke a severe albuminuria and death by uræmia. On autopsy, necrosis and great changes in the tubuli contorti are found. This is the nephrolytic serum obtained by Lindemann. If a duck is injected with emulsion of dog's liver, a serum very virulent for the liver cells of the dog is obtained; the injection of this serum into a dog rapidly causes the death of the animal, with all the signs of hepatic insufficiency (diminution of uric acid and increase of ammonium salts). The post-mortem findings resemble those of acute yellow atrophy, or of phosphorus poisoning. We have to deal in this case with a hepatolytic serum.[8]

If the emulsion of a rat's spleen is injected under the skin of the porpoise, a serum will be obtained, according to Metchnikoff, that will decompose the leucocytes of the rat.

All these cytotoxins are specific; they decompose those elements from which they originate. Thus the nephrolytic serum attacks the kidneys, leaving

all other organs intact; the hepatolytic serum attacks only the liver.

The discovery of artificial cytotoxins awoke the idea in Metchnikoff, whether it would not be possible to profit by them through the regulation of certain cellular functions during illness and old age.

Are small doses of cytotoxin able to exert an exciting influence upon the corresponding elements? It has long been known that small quantities of certain poisons have a stimulating effect on organs that are paralyzed by higher doses. In the third volume of Duclaux's treatise "Micrologie," a series of examples is given in which fermentation proceeds more quickly owing to the presence of small doses of poisons like alkaloids and antiseptic substances. Schultz has shown that many substances poisonous to yeast, like mercury, iodine, arsenic, if added in small quantities, hasten fermentation. Effront made use of this fact to increase the production of alcohol. He subjects yeast to the action of hydrofluoric acid, and thus enhances the fermenting power of the yeast.[9] Laboratory experiments with small doses of cytotoxins were attended with the following results: The injection of small doses of hæmolytic serum, prepared by the injection of rabbit's blood into the peritoneal cavity of a porpoise, increases the quantity of hæmoglobin in a rabbit. The injection of small doses of leucolytic serum, prepared by introducing into the peritoneum of a porpoise an emulsion of mesenteric glands of the rabbit, causes in the rabbit a perceptible hyperleucocytosis. All these facts combined induced Metchnikoff to use the hæmolytic sera on man, especially for the cure of leprosy.[10]

Carrasquilla, in 1891, treated lepers with horse serum, obtained through the blood of a leper, with a resulting general amelioration of their condition.

Laverde obtained the same results from the serum of a goat, which he had injected with the expressed and filtered juice from human leprosy tubercles. Assuming that the good results obtained by Carrasquilla and Laverde were not dependent upon the products from Hansen's bacillus, but upon the cytotoxins elaborated in the system on account of the injection of human blood or human tissue, Metchnikoff injected lepers with a hæmolytic serum, obtained by treating a goat with defibrinated blood. This treatment incited stronger hæmatopoiesis, and caused an increase of hæmoglobin.

Relative to this, Dieulafoy says: "*Il n'est même pas téméraire d'affirmer que l'application de faibles doses de cytotoxines peut bouleverser de fond en comble la thérapeutique.*"

New horizons open for medicine through these sera, direct reconstructors of the noble cells. Long prior to most of these discoveries, in 1889, Hayem exclaimed prophetically: "*L'avenir est à l'hématologie. C'est elle qui nous apportera la solution de grands problèmes nosologiques.*"

It is more than twenty years since Hayem published his remarkable work, "*Du sang et de ses altérations anatomiques*," in which, on the strength of clinical experience and exact observation, he lays down the following law: Every chronic anæmia is accompanied by a corresponding diminution in the quantity of blood. There is no doubt that the different forms of anæmia, like chlorosis, pernicious anæmia, bothriocephalus and anchylostomium, anæmia, hidden tumors of internal organs, cachexia, are really different kinds of lowered hæmatopoietic power, dependent upon the variety of poison and the organ affected.

We regret to say, that we do not as yet know hæmocytic formulas corresponding to various diseases like the leucocytic formulas proposed lately by Vidal and Ravaut, for the distinction of different pleuritic fluids.[11]

These authors show the possibility of discerning whether, in a given case, we have to deal with a serofibrinous inflammation of the pleura, due to the tubercle bacillus or the pneumococcus, or with a hemorrhagic infarction, or with an exudate developing in persons afflicted with heart trouble or disease of the kidneys, or cancer.

In the first case we find in the pleuritic fluid exclusively small lymphocytes and red blood cells; in the second case, a great number of polynuclear and a certain quantity of mononuclear cells, that, like real macrophagues, contain in their protoplasm polynuclear cells. It is clear that in the fluid of a pneumococcus pleuritis the process of attack and defense should be well marked. In the third case we find degenerated polynuclear lymphocytes, with dividing nuclei and changed neutrophilic granulation.

In his lectures on January 15, 22, and 29 of this year, Dieulafoy, discussing this question, showed a series of cases in his clinic at the Hotel Dieu where these cytodiagnostic points were of the greatest value. It would hardly be necessary to speak of the value of employing this measure in forms of pleurisy of obscure origin in young people, when, if the tuberculous nature should be disclosed, proper individual hygiene will save the young life.

With blood diagnosis it looks somewhat different. During disease the blood may be changed as to its physical, chemical, or histological qualities. The changes of physical and chemical constitution are not as yet well known. Concerning the histological changes, the credit belongs to Hayem, of having paved the way to a diagnosis of doubtful cases. Increase of the polynuclear elements, diminution of the hæmocytes and loss of hæmoglobin constitute the principal changes.

Two months ago, Milian[12] addressed a communication to the Medical Society of Paris, regarding the differential blood diagnosis between epithelioma and sarcoma. The author found that in round-celled sarcoma there is no leucocytosis nor anæmia; on the contrary, the number of erythrocytes rises to six or seven million per c.mm. According to Tuffier, persons suffering from sarcoma, but not yet cachectic, are never pale.

Picchi and Pieraccini, in their investigations on typhoid-fever patients, try to give a hæmocytic formula for that disease.[13] Tuffier places great confidence in their article, and concludes his "notes hématologiques" with the following significant words: "*L'hémodiagnostic et le cytodiagnostic sont des méthodes qui doivent aujourd'hui remplacer la laparotomie exploratrice, ou tout au moins en réduire considérablement les indications.*" It remains for the chemist and the bacteriologist to decide the question of the relation between different pathological processes and changes of the hæmocytes regarding their form, number, physical and chemical qualities, and, on the base of this relation, to connect different chemical pictures with certain forms of changed hæmopoiesis.

Probably it would be possible to enhance the hæmatopoietic powers in different pathological processes by means of specific hæmolytic sera, as was shown for leprosy by Metchnikoff and Besredna.

IV.—Stimulated by Metchnikoff's work on old age as an atrophy *sui generis*, Marinesco made a series of interesting observations on the nerve cell which plays such an extremely important rôle in all vital processes.

Normally, nerve cells of the gray matter and of

the ganglia, so-called somatochromes, contain in their protoplasm elements that stain deeply with the basic aniline dyes. These elements, that Nissl called chromophiles,[4] look sometimes like irregular little blocks dispersed without order in the cell body, and sometimes like rods, or merely like a series of simple granulations. They are principally disposed around the nucleus extending into the protoplasma branches up to the first bifurcation. They are not found in the branches of the axis cylinder. They are not present in the embryonal nerve cell, and appear only when the cell begins to perform its proper function. Marinesco called them kinetoplasma, on account of their dependence on physiological cell activity. These elements represent the storehouse upon which the nerve cell may draw when in need, their quantity changing according to the repose or activity of the nerve cell.

In old people, especially those that have died of old age, Nissl's chromophiles are diminished in size and quantity, looking sometimes like granulations. This last change Marinesco calls chromatolysm of old age, taking place at or near the nucleus and involving the entire mass.[5] Besides this, there is in the cytoplasm a greater or smaller quantity of pigment representing the product of disorganization of evolution of the cell itself. As the individual gets older the pigment increases, and, coincidentally, the respiratory and nutritive functions of the nerve cells diminish; their prolongations decrease in number and their ramifications disappear. Gradually total cell atrophy sets in, and thus pigment transformation is complete.

In all his specimens Marinesco never saw macrophagues demolishing the nerve cells. Still, in 1896, he found that nerve cells injured in their vitality became the prey of the neuroglia cells, and he therefore called them neuronophagues. In some pathological cases these neuroglia cells start the whole destructive process. Thus Nissl never found leucocytes in the perilymphatic spaces of paralytics while meningitis or encephalitis was present; neither did he meet with any in the cytoplasm of nerve cells. The nuclei found in groups near these cells are undoubtedly those of neuroglia, according to the investigations of Ramon y Cajal and Lugard.

It is evident that in the nerve cell, just as everywhere else, a struggle takes place during our entire lifetime. For all vital processes and the proper performance of all essential functions of the nerve cells, the equilibrium of the nerve cells and the neuroglia is necessary.

Marinesco observed the remarkable fact that the tissue and cells of neuroglia of old people are more developed than those of a young man, proving the existence of an antagonism between these two different cells.

The nerve cells and neuroglia cells of an embryo develop progressively in number and size.

Marinesco found that the neuroglia cells of newly born children were larger than those of adults; as the children grew older, these cells gradually diminished in size, dwindling down to a small nucleus surrounded by a small amount of protoplasm.

The neuron elaborates the toxin that checks the development of the neuroglia cell and preserves the nutritive equilibrium in the central nervous system. Whenever the chromophiles of the nerve cells have lost some of their vitality the neighboring neuroglia cells increase and attack the nerve cells. This has been experimentally produced, by Ballet and Duthil, by pressure on the aorta (*vide* article by Soury) and also by cell death.

Marinesco tries to explain the atrophy of the cell not only by its struggle with the neuroglia, but also on the ground of insufficient chemical synthesis of the nerve cells.[6]

The normal life of the nerve cells takes place owing to the equilibrium between the processes of chemical synthesis and functional destruction of the effete elements.

If this equilibrium is disturbed, if after the process of chemical decomposition phenomena of chemical synthesis do not occur to replace sufficiently the loss of substance, morphologic disorganization of the nerve cell begins. The cell decreases in size and a diminution in the number of chromophiles takes place, chromolysis and pigment transformation of old age set in.

As a practical result of his investigations Marinesco thinks that it is necessary to keep up chemical synthesis of the nerve cells. For this purpose he offers a dynamogenic substance like the serum of young animals or the juice of very young organs: "*Ainsi' du reste, que l'a proposé Metchnikoff, le suc emprunté à des organes tres jeunes et le sérum des animaux jeunes pourraient stimuler l'énergie affaiblie des éléments nobles et retarder dans une certaine mesure les phénomènes de la sénescence*," —says the author at the end of this report to the Academy of Sciences.

Thus we see that modern biology has one clear and well-defined aim in its struggle with old age: to restore the equilibrium between the noble and the common elements. "Restore this equilibrium," says Metchnikoff, "and you will take away the dread of death. The necessity of dying will then become more endurable and the expectation of a natural death, which is nearly always absent at present, will then develop freely."[7]

Life undoubtedly would become easier and less austere, if this instinct were well developed. Justifying the proverb of Confucius, "A long life is a long chain of suffering," mankind, arrived at a certain age, lives constantly in fear of death, this by itself injuring the nervous system.

"Pallida mors aequo pulsat pede
Pauperum tabernas, regumque turres."

The necessity of dying is constantly before the mind and worries it at all times. It would be better to follow the example of Themistocles, who answered a sophist proposing to teach him mnemonics, that it would be better to learn the art of forgetting.

The coming generation must develop in itself the instinct of natural death and indifference toward it. Metchnikoff has indicated the way that will bring people earlier or later to this ideal.

Nearly three centuries ago, Descartes, the celebrated author of the "Méditations," wrote: "*Au lieu de trouver un moyen de conserver la vie, j'ai trouvé un autre bien plus sûr; c'est celui de ne pas craindre la mort.*" Metchnikoff arrived at the same conclusion, but the microscope enabled him not only to confirm the philosophy of Descartes, but also to indicate the ways and means of realizing it.

V.—Modern science plays a great rôle; its consoling results and its ingenious applications in practical life will become to humanity as much a necessity as the oxygen that we inhale and the bread that we eat. Man is made up of a biological federation of cells constituting his personality.

Food must be introduced into the stomach to enable the heart to beat for everything human, noble, and grand; food is necessary in order to allow the brain to comprehend and accept everything that human genius discovers, to enjoy the charm of science and art, because human life should not give rise to weeping and sorrowing. Life, the bond that unites the naturalist and the Philosopher,

must look to science for its further development, its prolongation, and its gradual perfection.

To the modern biologist, the partisan of experimental science, the study of life ought to be a source of joy and delight for body and soul.

Life ought not to condemn a man to eternal suffering and a burdensome old age. The progress of hygiene and serum therapy, that has already revolutionized medicine, gives us the privilege to think that, although not desiring the long life of Methusalem, we still have no reason to agree with Tacitus when he says: "*Vita humana non est longi-evi spatium.*"

When plenty of fresh air disperses the foul odors of large towns; when electricity will make life easier by quieting its suffering; when universal peace will eliminate death on the battle-field; when humanity will lay aside its wild martial instincts, inherited from Roman civilization; when it will find its ideal not in the weakening principle of hate, but in the vivifying force of common love—then the longed-for reign of longevity will come, governed by natural laws. Two thousand years ago Aristotle, the father of philosophy, the greatest biologist and perhaps the first among the sociologists, said: "Whoever travels much can convince himself how everywhere men love one another and sympathize with one another." It has been shown that the length of human life constantly increases, and who knows but what the prospect of a centenarian existence, that now falls only to a chosen few, may not in the twenty-fifth century become a general law?

But how many centuries of work and indefatigable labor remain to men before they will view the promised land? Nearly thirty centuries have passed since under the sky of Lebanon's cedars the second chapter of Isaiah was first pronounced. But neither our children nor our grandchildren will see this happy time—the triumph of science, the highest incarnation of truth. That recalls a little story. In a small Italian village a doctor explained to the peasants the possibilty of curing completely many contagious diseases and the future triumph of science over death. An old man with white hair approached the lecturer and squeezed his hand passionately. "I will not see it, it is true," he said, "but I will die more tranquilly since I am persuaded that the coming generation will suffer less."

We hold ourselves responsible before our descendants, and that is the reason why we are obliged to develop our brain for the amelioration of the destiny of posterity, whom we will not see, but to whom we are responsible.

But will this really require centuries? The world's evolution follows the law of progressive and hastened movement.

It required millions of years to change the foggy spots into harmonious solar systems. It required hundreds of thousands of years before our earthly rind passed through different geological epochs. It took hundreds of years before we passed from one historical epoch to another.

And in history we see what follows: What required hundreds of years in humanity's childhood is realized nowadays during a century, sometimes during a half century, at times during ten years, because the inventions of human genius have worked wonders in the struggle with nature.

Modern man in ten years can do more than his ancestors could in a century. That is the mechanical law of progressive and hastened movement that burns in our soul like a powerful fire.

With foolish rapidity we are flying on the feathers of Pegasus; we dream of skies higher than ours, of a Far West not known to geographers or astronomers.

We have in mind that Excelsior where all noble ideals will meet, as well as all those whose souls, according to Shakespeare, are full of "the milk of human kindness."

Not only will the various periods of our life become longer, but old age itself will become more quiet, more worthy of human personality, and the approach of death will hardly be perceived. It will come like sleep to the tired workman.

Science gradually reveals to us the intimate relation that binds the whole creation to its Creator, and humanity will understand the law of community of interest in the relations of all the elements of the world. Light-heartedly man will reconcile himself with death coming to him like a quiet sleep, making an end to his conscious life. Returning to earth, we return to the first source of our life According to the poet:—

"Souvent dans l'être obscure habite un dieu caché
Et, comme un œil naissant couvert par ses paupières,
Un pur esprit s'accroit sous l'écorce des pierres."

And then the great words of the Bible will be clear to us: "And they did tell each other of the clemency of the Creator, passing from grave to grave."

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# THE CLINICAL IMPORTANCE OF ALBUMINURIA.*

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NOTWITHSTANDING the frequency with which the subject has been discussed, there seems to be a marked difference of opinion in regard to the value of albuminuria as a sign of present or future changes in the kidneys. A decided degree of indifference is evident to the writer as well as to others whose work brings them into correspondence with physicians throughout the country, the communications received showing that albuminuria is often considered to be trivial and unworthy of attention. This brief contribution is based upon thirteen years of experience in life-insurance work, and is given with the hope that the importance of albuminuria may be emphasized by the presentation of the subject from a somewhat different standpoint than that from which it is usually considered. It is probably well known that in insurance companies all information is carefully and systematically filed, each individual record being added to, perhaps for years, and it often happens that some very interesting histories are brought to light when the death claims come in. It is from such material that the writer has endeavored to glean a few facts in regard to topic under discussion. It frequently happens that some heretofore unsuspected condition is discovered in its early stages by the life-insurance examiner, which may have made such progress as to become a serious matter before the notice of the patient or his medical adviser is directed to it. Perhaps no class of cases is more benefited in this way than those mentioned by Osler in a recent article. He refers to the business men who, as a rule, work under pressure early and late, leading a strenuous life, combined, probably, with three hearty meals a day, two or three glasses of spirits, and anywhere from five to ten cigars. After fifteen or twenty years of such life, the "waste-pipes," as Osler calls the kidneys, are often the first to show signs of ill-usage. Such a man receives a rude shock when his application for insurance is rejected and he is informed by his physician, to whom he has been referred, that his urine contains a trace of albumin and a few hyaline casts. Osler cites several cases in which such patients, having accidentally learned about their physical conditions, began to lead a new and rational life at the age of fifty years, and were still living after a lapse of ten to fifteen years, though a trace of albumin and an occasional tube cast were still present in the urine.

That we have been steadily gaining in knowledge as to the prevalence of Bright's disease is suggested by the tables of Dr. E. J. Marsh, who has compiled the mortuary statistics of one of our large companies. In the first 1,000 deaths of the company, beginning in 1843, it was not once given as a cause of death. In the second 1,000 only 11 deaths were recorded, while now, even among those under forty-five years of age, there is a proportion of 3.5 per cent. of the total mortality in that period of life, and a proportion of 6.66 per cent. in all ages. These figures do not indicate that the disease is more frequent now than forty or fifty years ago, but that we have become better able to recognize the nature of the ailment. It is a well-recognized fact, also, that the above figures would be considerably augmented did they include the cases in which the patients dying of acute, or even chronic, diseases, had unsuspected nephritis which was either the chief or contributing cause of death; for instance, deaths from apoplexy, arteriosclerosis, and cardiac disease are often reported as such, though kidney disease happens to be the chief or causative factor. Dr. S. O. Vanderpoel, in discussing an article read recently by Dr. Edward Lambert, is reported to have said that though many applicants refused fifteen or twenty years ago on account of albumin are still alive, a careful collation of the statistics of such cases shows that from four to five times more of these rejected applicants are dead than ought to be, according to the normal expectation of life in men of their years; and, further, that albuminuric individuals seldom live out more than one-half their expectation of life. This statement is important, as it is based upon facts and not theory, Dr. Vanderpoel representing a company which has spared neither trouble nor expense in investigating its rejected risks for the purpose of classifying its substandard rates.

Preventive treatment is justly looked upon as one of the most important features of modern medicine; when, then, there are any danger signals to warn us of even a possibility of future trouble, it seems strange that any physician should neglect one which might be the precursor of such a grave disease as Bright's. Yet members of the medical boards of our insurance companies are in daily receipt of opinions from physicians in good standing that some individuals who have been rejected on account of albuminuria are quite healthy, having satisfied themselves to this effect after no more observation than the chemical examination of one of possibly two samples of urine. In many instances this is partly the fault of the patient who fails to be impressed with the importance of further observation of his case, or does not wish to incur much expense. The careful and painstaking physician will refuse to waste time in such instances, knowing that only extended observation of the disorder will be of any value. Dr. F. E. Sondern of this city has assured the writer that he has found signs of incipient kidney disease in from 60 to 70 per cent. of the patients who came to him after rejection on account of albuminuria. This would seem to be a large proportion, but even were it much less, there would still be enough to justify the most careful observation on our part. It is, of course, quite true that a great many of these cases will recover without medical advice or aid, especially when the exciting cause is a temporary one and the individual leads a temperate life without mental or physical stress, for there is every reason to believe that spontaneous cure may occur in albuminuria or even in incipient Bright's disease just as it may in incipient phthisis.

It is quite conceivable that the terms "functional" and "physiological" albuminuria have led to misconception as well as to indifference; the latter term at least should be avoided, as in the present state of our knowledge all albuminurias are pathological, being due to some disturbance or faulty process in some part of the human economy, even though the kidney tissues are still intact. According to the theories of Semmola and his school, functional albuminuria is caused by an excess of diffusible and unassimilable albumin in the blood (hetero-albuminæmia), this condition being due to some failure in metabolism. This unassimilable albumin is eliminated chiefly by the kidneys, and, unless checked, gradually produce irritation and parenchymatous and interstitial changes in their structure. The above-mentioned investigators found that blood from albuminuric patients contained an excessive

*Read before the Society of the Alumni of the City Hospital, April 8, 1903.

amount of diffusible albumins; that the injection of this blood into dogs caused albuminuria in direct proportion to the amount of diffusible albumin contained in the blood injected. Sir W. Roberts practically supports this theory in his statement that a solution of hæmoglobin in the serum precedes its appearance in the urine, and that the symptoms of kidney affection which are sometimes present are caused by the irritation of the hæmoglobin passing through these organs. These views would explain the fact that albuminuria can be greatly reduced or cured so long as it remains functional, and that it is influenced by diet, the amount of albumin excreted being proportional in a considerable degree to the amount ingested. On the other hand, if nothing is done, the attacks are liable to continue, becoming more and more serious as the patient advances in age and the metabolism becomes less and less active. Thus the metabolic albuminuria, which at first was paroxysmal and functional, will become organic, and structural changes will take place owing to the constant irritation, the condition then passing into one of fully developed Bright's disease. Strümpell believes that almost every pure albuminuria is a direct sign of an abnormal perviousness of the walls of the glomeruli due to pathological changes in the epithelium. These changes are induced by disturbances of nutrition in the epithelium of the glomeruli, such as arise from anomalies in the circulation (as arterial or venous stasis) from toxic or infectious influences which have reached the glomeruli, or from other circumstances. In these cases the changes in the glomeruli, says Strümpell, are not always of a severe or permanent nature, and consequently we often see a slight albuminuria appear under widely differing conditions and rapidly pass off again. Osler also believes that in all cases the presence of albuminuria indicates a change of some sort in the glomeruli, the nature, extent, and gravity of which it is difficult to estimate; so that other considerations, such as the presence of tube casts, increased arterial tension, the general condition of the patient, and the influence of digestion upon the albuminuria, must be constantly kept in mind.

This paper is too brief to allow of a thorough presentation of all the theories with their modifications which are held, but it was thought admissible to give a superficial view of the leading ones in order to show that, however much they differ in other ways, they agree at least in the fact that the structure of the kidneys is liable to permanent damage when albuminuria is allowed to go on without interference. It is admitted that albuminuria may sometimes come and go spontaneously, but it should not be called physiological for that reason any more than an acute coryza or indigestion should be considered physiological. The patient recovers from his albuminuria in such cases without aid, perhaps, more from good luck than from good management, the exciting causes having probably been dietetic errors, over-exertion, cold bathing, or excesses of any kind.

When albuminuria is associated with high arterial tension, thickened arterial walls or hypertrophy of the heart, and renal casts are found, we may be sure that organic changes have taken place. Usually, the first of these signs to appear is a high-tension pulse, and most writers are reluctant, if not absolutely unwilling, to believe that no structural changes exist when this sign is wanting. No less an authority than Osler writes that after the age of forty, the state of the arteries is far more important than the condition of the urine. While this holds true in perhaps the majority of cases, the writer, as well as others, interested in examining for life insurance, has met with many cases of well-marked albuminuria with granular casts, in which none of the above-mentioned train of concomitant symptoms has appeared at the time of examination, nor for years after, as will be shown in some of the cases to be cited later. This has occurred so frequently that the writer does not hesitate to assert that it would be as excusable to wait until cavities had developed before making a diagnosis of tuberculosis of the lungs, as to wait in all cases for a long train of symptoms in addition to albuminuria before making an effort to prevent chronic nephritis or to retard its progress, if already existent. Dr. Bradford, perhaps, accounts for this by his statement that the arterial changes in some forms of chronic nephritis are restricted to the vessels of the kidney itself. In these cases the kidneys are shrunken and fibrous, the capsule is thickened and leaves a granular surface on stripping, and there is comparatively little hypertrophy or arterial change to be noticed except in the renal vessels.

The following cases have been selected to illustrate the points which we desire to emphasize, and also because they have come under the observation of some of the most competent and well-known life-insurance examiners.

Case I.—Merchant, born 1837. Albuminuria detected May, 1890, but applicant was accepted in June, 1890, after the satisfactory examination of several specimens of urine, the heart and blood vessels having been found to be normal. Died July, 1900, of Bright's disease of two years' standing, according to the report of the attending physician. It may be permitted to say that the disease has existed for some time in most of these cases before becoming grave enough to attract attention.

Case II.—Merchant, born 1852. Examined January, 1883, and found to have albuminuria, a pulse of 108, and a sharp metallic click with both sounds of the heart audible at the apex and transmitted around to the axilla. Re-examined July, 1893, and accepted, as there was then no albuminuria nor indication of heart trouble. The attention of his attending physician was called to the case in December, 1898, and a diagnosis of Bright's disease was made at that time. Died August, 1900.

Case III.—Merchant, born 1851. First examined June 3, 1898, at which time albumin and hyaline casts with a few red-blood cells were found. On June 7, 1898, was considered by another company and accepted, as the urine was found to be normal. This company, on learning the condition found at the first examination investigated the case further on June 28, and again found the urine normal. On February 28, 1900, the applicant once more applied for insurance and was again declined on account of albumin and casts. Still another examination was made December 26, 1900; no casts were found this time, but there was a trace of albumin, and in several specimens of urine examined the specific gravity ranged from 1010 to 1015. Immediately after his first rejection, June 3, 1898, the applicant consulted his medical adviser, who made an examination and, obtaining negative results, merely expressed the opinion that the examination for insurance had taken place at an unfortunate time. The patient died in March, 1903, of chronic nephritis, still attended by the same physician who stated that he first discovered albuminuria and cardiac weakness in September, 1901.

Case IV.—Bank President, born 1849. First applied for insurance in November, 1878, at which

time albumin was found in his urine during a period covering several days, the specific gravity remaining about 1028. In March, 1893, the applicant was again rejected, as traces of albumin were found in samples obtained on five different days, the specific gravity ranging from 1020 to 1022. The heart and blood vessels were found to be normal at both examinations. Died February, 1897, of Bright's disease after a period of unusual excitement and nervous strain.

CASE V.—Capitalist and railroad president, born 1840. Applied May, 1891. Rejected on account of a trace of albumin with a few hyaline casts. The application was for a large amount in several companies, and consequently examinations were made by a number of physicians, who agreed as to the condition of the urine and the normal state of the arteries. There was, however, a division of opinion regarding the heart, some holding that there was an almost inappreciable enlargement. In December, 1895, the urine was found to contain hyalo-granular casts, but the reaction was doubtful in regard to albumin. Another company had issued insurance to this man just previous to this last examination, the applicant assuring the medical directors that he was leading a much less strenuous life and intended to continue doing so. It may be added that at this time the heart and blood vessels were found to be normal in all respects. In May, 1900, the urine was examined chemically and albumin was found. No further examination was made at this time, as there was no formal application. During the summer of 1902 the applicant was reported in the newspapers to be a very sick man, and death occurred in January from chronic nephritis with heart complications.

CASE VI.—Merchant, born 1868. Applied at different times to four companies, which, for the sake of convenience, will be designated by numbers: Company No. 1 declined, in December, 1900, on account of albuminuria, reconsidered and approved in November, 1901, and rejected a second time in May, 1902, as albumin was again found. Company No. 2 discovered albumin and casts in January, 1901, but reconsidered and approved in April, 1902, the urine being found normal. During the preceding month Company No. 3 had rejected the applicant on account of albumin and numerous hyaline casts. The applicant sought insurance from Company No. 4 in March, 1903, and the examiner reported the urine normal chemically and the heart and blood vessels free from any pathological changes. The urine, however, had a specific gravity of 1017. In April another examiner also reported the urine free from albumin, but discovered hyaline and granular casts in two different samples. The latter finding was corroborated by the former examiner a few days later, who also found the specific gravity to be 1012 and 1010 in two specimens. On closer questioning the applicant admitted passing large quantities of urine, and that he had recently been under treatment. A diagnosis of chronic nephritis was made, though circulatory disturbances were absent.

CASE VII.—Bookkeeper, born 1848. Accepted in December, 1882. Allowed policy to lapse and applied for reinstatement October, 1891, at which time albumin was found in two samples of urine. In April, 1892, he was examined again and albumin found to be still present. He then placed himself in charge of a physician, who wrote that the applicant was a healthy man and that the trouble was due to gleet. Died May, 1900, from nephritis, another physician under whose care he had placed himself stating that he had found the health of the patient affected about seven years before.

In these reports of chronic cases terminating fatally, special attention is directed to three points: The intermittence of the albuminuria, the occasional absence of tube-casts, and the frequency of grave kidney disease without apparent disturbance of the circulation.

During the past few years the subject of nucleoalbumin has excited much interest, but the source and nature of this substance is still largely a mystery. In some cases it seems easy to determine the origin, and to conclude that it does not indicate anything more serious than chronic gleet, mild prostatitis, some vesical irritation, or an indiscretion of the previous night. Other cases are common in which hyaline and granular casts are found without serum albumin, and with or without a high-tension pulse. It is possible that even in these instances the nucleoalbumin does not escape through the kidneys, but that some disturbance, such as the gouty or so-called uric-acid condition has caused irritation of the kidney tissues and the rest of the urinary tract as well. This view is, however, open to doubt, the more so because of the fact that nucleoalbumin has been found during eclampsia. Through the courtesy of Dr. Brandreth Symonds we are permitted to refer to two such cases which have come under his notice. The first symptoms noticed in both the cases of threatened eclampsia were nucleoalbumin associated with toxic symptoms in the form of puffiness under the eyelids and dropsy in other parts, headaches, and beginning anæmia. The nucleoalbumin and toxic symptoms increased, and casts appeared, but no albumin. Labor was induced, the nucleoalbumin and toxic symptoms rapidly disappeared, and then, for the first time, serum albumin was noticed. These few remarks in regard to nucleoalbumin have been made simply for the purpose of inciting further observation and investigation of the conditions which give rise to this pathological product, as we are of opinion that these cases are not always to be deemed of slight importance.

The conclusions which may be drawn from these observations are the following:

1. It is impossible to determine whether albuminuria is a premonition of further trouble until the case has been kept under observation for some time.

2. Transient albuminurias are not of serious import unless they recur too frequently.

3. Persistent and even cyclic albuminurias should cause anxiety on the part of the attending physician, who should endeavor to ascertain the cause and take measures for the removal thereof.

4. The earliest indications of Bright's disease will, as a rule, be found in the urine.

5. Careful observation of these cases means frequent examinations of twenty-four-hour specimens of urine for the purpose of finding out the daily quantity, the amount of urea, the specific gravity, and the presence of albumin and casts. The blood vessels and the heart should also receive attention. These observations may have to extend over a period of months or even years.

6. The most frequent causes of albuminuria are excessive eating, over-indulgence in alcoholic drinks, and possibly tobacco, mental and physical stress, and the gouty diathesis.

7. The mortality among albuminuria cases is great, not only because chronic nephritis is often associated with it or may follow later on, but also

on account of poor resistance offered to other diseases.

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## THE ART OF INCREASING AND DIMINISHING THE BODILY WEIGHT AT WILL.*

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The physician is frequently confronted with the problem of modifying the bodily weight in one or the other direction. Many chronic maladies are accompanied by considerable loss of weight, and in their enfeebled state the patients are greatly hampered in their battle against disease. If, however, we succeed in putting them into a better general condition, then they are enabled to vigorously combat their troubles. To obtain an increase in weight is therefore here of primary importance.

An excessive bodily weight also leads to disagreeable conditions, occasionally even to disease. Accumulations of fat around the heart and intestines impede the action of these organs. The ponderous body is sometimes too heavy for the legs; laziness results, leading occasionally to fatty degeneration of important muscles, including the heart. In all these cases a reduction of bodily weight must be sought.

It does not appear superfluous, therefore, to discuss the question how to change the bodily weight in one or the other direction.

I.—The principles governing these problems are intimately connected with the physiology of metabolism and must first be briefly considered.

*The Revenues and Expenditures of the Body.*—In the life of every being there is a constant exchange of revenues and expenditures. The revenues of the body consist, as we all know, of food and air, the expenditures of the generation of bodily heat necessary for life and of the work performed (heart action, respiration, glandular activity, muscular work in general).

The value of food is measured by its caloric energy. Heat may be transformed into power and the latter into the former. The mechanical equivalent of one calorie = 425.5 kgm. If the work performed (expressed in kilogrammeters) is known it can be calculated according to the above formula in calories, *i. e.* we can tell exactly how much heat is consumed in the work accomplished. The human organism, however, is not able to convert the entire number of heat units into work. According to Von Noorden[1] the organism requires for a certain amount of work about four times the amount of potential energy; in other words, 75 per cent. of the calories, changed into power, are given off in the form of heat which radiates from the body and is thus lost.

A person performing about 4,000 kgm. work uses, therefore, $\frac{4{,}000}{425.5} \times 4 = 37.6$ calories.

The amount of food for the adult per day has been calculated at about 2,600 calories.

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*Body Equilibrium.*—If the amount of food taken is just sufficient for all demands of the body we have a balancing of bodily weight or bodily equilibrium, *i. e.* the organism neither loses nor gains in weight.

*What Happens When More or Less Food Is Taken?*—Formerly the view prevailed that the more food is supplied to the animal organism the more material it burns up. As a proof of this theory, the fact was adduced that a short time after eating the consumption of oxygen and the elimination of carbonic-acid gas were found to be increased. Speck[2] proved, however, that the increased consumption of oxygen was to be ascribed to the increased activity of the digestive glands, and therefore the theory of augmented combustion of increased nutritive material had to be abandoned. There are numerous proofs that the organism does not burn up food introduced in excess, but rather utilizes it and converts it into fat.

On the other hand, the organism consumes just as much material even when no food is taken, using up its own substance (fat and muscles). In acute inanition the adult usually expends about 2,100 calories, in protracted inanition somewhat less, about 1,700 to 1,900 calories per day. The loss of nitrogen of a healthy fasting man is about 10 to 11 grams daily.

*Work and Rest.*—With increased muscular work, the expenditure is much larger, as is evident from the above. Lavoisier was the first to recognize this important law. Zuntz[3] has distinguished himself in this field by many important investigations. This celebrated savant has determined the following values for the calories expended in the occupations of ordinary life:

"Walking on a level road requires between 0.5–0.6 calories per kgm. and per 1,000 meters, according to the degree of skill in walking[4] of the individual. A man weighing 80 kgm., and traveling 75 meters per minute would therefore use for every 1,000 m. walking about $80 \times 0.55 = 44$ calories, or 3.3 calories every minute, this being about two and one-half times as much as during absolute rest. If there is a 10-per-cent. grade in the road the total amount per 1,000 m. is $44 + 60 = 104$ calories, or $\frac{104 \times 75}{1{,}000} = 7.8$ calories per minute, 468 calories per hour; this is about the limit of what a strong man is able to perform for any length of time.

"On accelerating the gait the consumption increases about 0.0024 calories per 1,000 m for every meter of increased rapidity between 60–100 m. per minute, above 100 m in increased ratio.

"In wheeling, according to Leo Zuntz, the hourly increase of consumption over that of absolute rest for a man weighing 70 kgm. is as follows:

| | |
|---|---|
| Going 9 km. per hour | 183 Cal. |
| Going 15 km. per hour | 313 Cal. |
| Going 22 km. per hour | 571 Cal. |
| Going 9 km. per hour, 3 per cent. grade | 316 Cal. |
| Going 15 km. per hour, and headwind of a velocity of 10 m. p. second | 601 Cal. |

If, for instance, an adult should traverse four English miles (6,436 m.) he would consume $\frac{6{,}436 \times 44}{1{,}000} = 283$ calories.

With increased work, under the same diet, a person in a state of physiological equilibrium must lose in weight; the increased consumption of calories is supplied from the body tissue. On the other hand, under the same conditions (*i. e.* ingestion of the same amount of food), but with marked diminution

of the usual amount of work (rest in bed), an increase of bodily weight must follow.

Expressed in other words, this means that the body normally does not lose any of the food introduced (after deduction of the usual not utilized residue, which almost always represents a constant percentage), and converts all ingested material into energy (heat or power) or unto tissues. In the same manner, every effort of the organism (heat, energy) must be compensated for by calorifacient material, no matter whether it be furnished by the food or by the body itself (in case of abstinence from food).

After these digressions in the realm of physiology let us return to our subject:

II.—An increase of bodily weight is often desirable in conditions of emaciation and leanness.

Leanness is met with, although rarely, in persons who are perfectly healthy. These are usually individuals of a vivacious temperament doing a great deal of work and eating only moderately. Such persons are apt to remain lean, and may reach an advanced old age without gaining or losing.

It is quite different with those frequently occurring cases of emaciation. The latter accompanies chronic diseases of various nature, and usually progresses steadily. These patients lead a miserable life, and are usually unable to resist any intercurrent disease, and though they may live some years, hardly ever reach old age. In the majority of instances they fade away much earlier.

In emaciation, as is evident, it is imperative to counteract it—this, in fact, constituting the main object of treatment. But also the leanness of the healthy, if it is of a high degree, ought to be combated. For these persons are at a great disadvantage as compared with normal people. They have no reserve fat on which they can fall back in time of need. This may be fraught with fatal consequence in supervening acute febrile diseases.

Can leanness and emaciation be successfully combated? This question must be answered in the affirmative. In nearly 90–95 per cent. of all the cases of leanness and emaciation (cancer, of course, excepted), in which I have made an extended trial to raise the bodily weight, I have been successful.

*Increasing the Body Weight.*—If we desire to obtain a rise in bodily weight, we must introduce into the body larger amounts of food and especially nutriments of a high caloric value. Practically we proceed as follows: We inquire minutely, how the patient has recently lived; what kind of food and how much he has taken with every meal. If we find that his diet was one-sided, we must immediately change it; for a diet list excluding many important foodstuffs is always deleterious in the long run. We will therefore permit as great a variety of food as is compatible with the condition of the case.

We then inquire as to the quantity of food ingested. Should the latter be insufficient it must be our aim to prescribe the food in somewhat larger quantities. If the normal amount is taken, we must make the beverages taken with the meals more nutritious. Coffee and tea, for instance, are given diluted one-half with milk and a small addition of cream as well as sugar, or instead of coffee a glass of milk is ordered.

In suitable cases two or three smaller meals, consisting of milk and buttered bread, may be given with advantage.

It is advisable to prescribe the daily amount of butter that should be taken: I usually order a quarter of a pound per day. Butter is a fat easily digested, and on account of its high caloric value especially suitable.

The success of treatment is practically assured, if it is possible to get the individual to take larger amounts of food. We often have to deal with persons whose appetite is very poor. Here, beside the usual remedies we have to make use of the following dietetic means: Bread and vegetables as well as milk and eggs can usually be taken with relish, even if a marked antipathy for meat exists. The addition of olives, lettuce, horseradish, etc., sometimes aids in overcoming this. A glass of cold water stimulates the appetite while eating and induces a larger consumption of food. It is self-understood that we make use of all these suggestions, which beside their dietetic importance contribute to the patient's enjoyment of life, provided no serious contraindications are present.

Outdoor life and moderate exercise (walking, light gymnastics, bowling, etc.) are of great value. The latter stimulates the appetite, and by satisfying it the increased loss of heat through muscular work will not only be compensated, but probably an excess of food will be ingested without trouble. Exercise, furthermore, serves the purpose of stimulating muscular development and of strengthening the body.

By means of a suitable combination of food and exercise, we effect not only an increased formation of adipose but also of muscular tissue and a gain in strength.

III.—The bodily weight should be reduced as soon as there is a surplus of fat, which is displeasing to the eye or mars the harmony of the body.

There are two ways of diminishing the bodily weight: first, diminution of the amount of food taken; secondly, increase of the amount of work performed, or a combination of both.

Karell[6], and after him S. Weir Mitchell,[6] have tried to treat obesity by a restricted milk diet. S. Weir Mitchell says: "Karell has pointed out that on creamless milk diet fat people lose flesh.

"This can be done rapidly and with safety by the following means: The person whose weight we decide to lessen is placed on skimmed milk alone, with the usual precautions, or at once we give skimmed milk with the usual food, and in a week put aside all other diet save milk and all other fluids. When we find what quantity of milk will sustain the weight, we diminish the amount by degrees, until the patient is losing a half pound of weight each day, or less or more, as seems to be well borne. Meanwhile, during the first week or two, rest in bed is enjoined, and later, for a varying period, rest in bed or on a lounge is insisted upon, while at the same time massage is used once or twice a day, and later in the case Swedish movement. At the same time the pulse and weight are observed with care, so that if there be too rapid loss or any sign of feebleness the diet may be increased. In many such cases I allowed daily a moderate amount of beef or chicken or oyster soup—more as a relief to the unpleasantness of a milk diet than for any other reason."

Banting's cure also is based upon a reduction of the amount of calories introduced with the food (nearly exclusively meat diet).

Oertel[7] was the first to call attention to the value of muscular exercise in the treatment of obesity. By a gradual slow increase of work it was found possible to accustom even a weakened heart to greater exertion. Oertel, as is known, recommended for this purpose the climbing of light grades.

Zuntz[8] is of the same opinion, and advises in

treating obesity to utilize muscular activity. In the treatment of obesity we must endeavor to free the body from superfluous fat, without impairing the amount of albuminoid substance (muscles). This can be most easily accomplished if with a moderate but sufficient diet the usual amount of work is slowly increased without augmenting the amount of food consumption. It is more difficult if at the same time that work is increased the amount of food is considerably decreased.

Practically we should proceed as follows: We must determine exactly under what dietary (this must be estimated quantitively in an approximate manner) an individual will remain in a state of bodily equilibrium. If the person has not gained lately, we may take the amount of food that he has been in the habit of consuming as a standard. If, however, he has been gaining on this quantity, we ought to diminish it, allowing, for instance, only one slice of bread instead of two or three, leaving off intermediate meals, etc. The weight of the patient should be controlled every two or three days, or weekly, by the scales. As soon as the amount of food necessary to keep the body in equilibrium has been determined, we must begin slowly to increase his muscular work. He should walk one-half to three-quarters of an hour in addition to his usual work, or ride a wheel, or row or fence or play billiards or golf, or hunt or fish. Gradually the time for exercise may be lengthened or the degree of work intensified; as, for instance, by traversing the same distance in shorter time, when walking, cycling, or rowing. This materially increases the consumption of calories. If we proceed slowly and carefully, we can soon obtain considerable work even from individuals that are weak.

In increasing the work never allow the patient to become exhausted. The accelerated heart action and respiration due to the exertion must return to normal ten minutes after beginning to rest. If this is not the case, the work must be reduced.

IV.—We have seen that by means of suitable diet and muscular work the body weight may be increased or reduced at will. It is also gratifying to note that the increase or reduction of the body substance, if it is advantageous for the organism, will be distributed in a harmonious way, so as not to offend our æsthetic feelings. In a general way, we will be right if we maintain that beauty and health with regard to bodily shape go hand in hand. When an increase in body weight is accompanied by increased beauty it will be found to be of hygienic value. In a similar manner, a decrease of weight bringing out a more harmonious appearance, is certainly also advantageous to health.

The axiom that fat and muscular tissue are evenly distributed when an increase takes place is, however, subject to an exception in the interest of the organism. The disposition of fat is somewhat greater in places where the subjacent muscles are not called into frequent play, whereas the muscles increase to the largest extent in such places where they are called frequently into action. In reducing weight the opposite holds good. The greatest loss in fat occurs in places where the muscles are most exercised and the greatest loss in muscular tissue where muscular activity is small. The advantage of this arrangement is that fat is deposited in such places where it can cause the least harm and muscles where they are of most value. In the disintegration of tissue of course the contrary obtains. Thus the organism watches that everything shall turn out to the best advantage, *i. e.* it makes use of everything (work and food) for its own benefit.

It is a grateful task for the physician to intervene where in consequence of a false mode of life (too much or too little food, too much or too little work) harm may result to the organism. At the same time we must feel great satisfaction in the knowledge that through simple means (diet and muscular work) we are able to effect an improvement or a cure of the harmful conditions present.

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## THE PRESENT STATUS OF SUBCONJUNCTIVAL INJECTIONS IN OPHTHALMIC THERAPEUTICS.*

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In the seven or eight years which have elapsed since the introduction of subconjunctival injections into ophthalmic therapeutics, an army of experimenters have published their experience, either for or against the new method of treatment. As in the case of other remedial measures, either medical or surgical, the advantages claimed for the new method have been beyond all reason. The field for its proper employment has been unwisely extended, and the most extravagant predictions have been made as to its future usefulness. As many of these predictions have not been fulfilled, a general feeling of skepticism is beginning to be developed as to the probability of any good results from the use of subconjunctival injections, which is unfortunate. As time elapses, we may expect the method to find its true and reasonable place in ophthalmic therapeutics.

A glance through the literature of the past seven years will show how contradictory has been the evidence offered of the real value of subconjunctival injections, and a careful study of the various papers on the subject will the better enable us to separate the wheat from the chaff.

In 1897 Di Lorenzo and Bajardi experimented with sublimate injections, and independently of each other concluded that they were useless in infectious processes because they showed no antiseptic action.

In the same year Addario experimented with sublimate injections, and reported that they acted very beneficially in infectious iridochorioiditis, especially the acute form, by causing a contraction but not a disappearance of the exudation. Sympathetic ophthalmia required many injections of from ½ to 1 c.cm. of a one-per-cent. solution.

In 1897 Lagrange recommended a one-per-cent. solution of mercuric cyanide in cases of traumatic infectious panophthalmitis, for cutting short the attack.

* Read before the American Ophthalmological Society at its session in Washington, May 13, 1903.

In 1897 Ostwalt advised the injection of iodoform beneath the conjunctiva, and even into the anterior chamber in all cases of infectious disease or of infection after operation.

In 1897 Tornatola and Alessandro advanced the claims of sodium chloride. They stated that the usefulness of these injections depended on the artificially-excited inflammation and cellular activity. But they also stated that they caused great œdema of the cornea and conjunctiva, and hemorrhages into the uveal tract.

In 1897 Zehnder, in an inaugural dissertation, found a four-per-cent. solution of sodium chloride useful in retinitis pigmentosa in improving the vision and widening the field. In detachment of the retina it proved very useful, curing three out of ten cases, and causing an improvement in five more. He also found it useful in all diseases of the uvea in two, four and ten-per-cent. solutions.

In 1897 Frommaget and Laffoy experimented with the cyanide of mercury in 0.10 solution in suppuration of the cornea, and the staphylococci were all killed.

In 1898 Magnani advised injections of a preparation called phospholuteina in ten to twenty-per-cent. solutions for all scrofulous diseases of the eye and claimed great successes.

In 1898 Tornatola reported that sublimate injections of a one-per-cent. solution were a powerful and rapidly acting but painful derivative in corneal processes, iritis and retinitis.

In 1898 Petella recommended sublimate injections of 1-5,000 in all diseases of the uveal tract.

In 1898 Addario reported that the percentage of sublimate found in the aqueous humor after subconjunctival injections was less than 1 in 10,000, and that in this strength its antiseptic value was worthless, and that therefore the drug must act beneficially in some other way.

In 1899 Puccioni published in a monograph his conclusions that in advanced infectious diseases of the eye, no injections of any kind were of any value *alone*. After subconjunctival injections of sublimate, neither sublimate nor metallic mercury could ever be found in the aqueous humor, cornea or other parts of the globe. He found them, however, of value in syphilitic diseases.

In 1899 Ubry and Frézals reported that in their recent experiments with potassium iodide and sodium salicylate, neither of the drugs could be found in the aqueous humor after injection, unless at the same time a large dose were given internally, but when they were dropped into the conjunctival cul-de-sac, they were later found in the aqueous humor.

In 1899 Straub recommended sublimate injections in all cases in which it was necessary to produce a rapid effect.

In 1899 Brunsi reported that sublimate injections were of use only in infectious keratitis.

In 1899 Neunhöfer concluded that the only subconjunctival injections which should be recommended were those of sodium chloride, on account of their power of exciting rapid absorption.

In 1899 Darier in his characteristically enthusiastic way reported that in cases of chorioiditis, especially of the macular region, sublimate and sodium chloride injected beneath the conjunctiva were more valuable than all other methods of treatment.

In 1899 Vogel published the results of his investigations on the entrance of soluble substances into the interior of the eye after subconjunctival injections, which make interesting reading. He did not succeed in finding any K I in the interior of the eye by the usual methods of reaction. In injecting solutions of mercurial salts, he added a certain proportion of sodium chloride and a few drops of dilute hydrochloric acid, so at to avoid the deposits of albuminates in the tissues. He found that when any trace of a mercurial salt was discovered in the aqueous humor, it was always less than 1-100,000, which is much too weak to have any therepeutic effect.

In 1899 Signorino and Cattaneo, independently of each other, reported on the use of subconjunctival sublimate injections. The former found them very serviceable in beginning purulent uveitis, provided the cornea remained intact. If the injections were done early enough, some vision was preserved, and if the purulent process were advanced, panophthalmitis could be prevented. On the other hand, Cattaneo has seen no good result from these sublimate injections in any form of eye disease, and thinks their use should be discontinued.

In 1900 Matussowsky spoke highly of subconjunctival injections of sodium chloride in three-per-cent. solutions, for corneal ulcers, mykotic affections of the cornea, and iritis of various kinds.

In 1900 Morgano came forward with a new substance for injection in infective processes of the cornea and iris, which he called anticeltina. This consists of a derivate of urea with mercury, and contains 43 per cent. of mercury, is soluble in water in 1 to 1,000, does not precipitate albumin, and does not irritate the tissues. He used from 0.5 to 1-per-cent. solutions, injected it warm beneath the conjunctiva, and spoke most highly of its efficacy in shortening the duration of an infective process.

Somewhat later in the same year, Morgano seems to have transferred his faith and devotion to Pohel's "physiological salt-solution," a solution of many ingredients, which is supposed to act by increasing the osmotic pressure of the fluids of the tissues, and represents also a biochemical effect on the inflamed organs and their exudates, provoking in them histobiological and chemical changes which favor their absorption. Morgano goes on to cite the past experiments of Pflueger, Frommaget, Loffoy, Lagrange, Addario, and others to prove the rapid passage into the interior of the eye of certain soluble substances injected beneath the conjunctiva, and especially of such non-irritating salts as Pohel's solution. He claims that these injections always cause an improvement in the inflammatory processes of the internal coats of the eye, especially of the exudative forms. This improvement sometimes begins after the first injection and proceeds rapidly. The vision and color sense improve, and the vitreous clears up. He found the improvement inversely proportional to the state of the disease; that is, the more recent the attack, the greater the improvement. The injections cause no pain or reaction, and may be repeated daily. He prefers a 1.5-per-cent. solution, which should always be fresh and at a temperature of 37° to 38° C. It should be injected slowly, and followed by cold compresses for an hour.

In 1901 Valenti recommended a one-per-cent. sublimate solution, and Angelucci a mixture of sublimate and salt of the same strength, as particularly useful in septic corneal processes and in syphilitic diseases.

In 1901 Stasinski spoke strongly of the very beneficial effect of salt-solutions in all cases of acute chorioiditis, stating that the exudation rapidly disappeared and vision was restored to the normal standard.

In 1901 Pflueger published an article in favor of

injections of a two-per-cent. solution of sodium iodide and sodium chloride in cases of chronic chorioiditis with opacities of the vitreous humor. He, however, combined with the subconjunctival injections puncture of the anterior chamber, which he claims considerably augments the effect. He found that injections of stronger solutions (four to ten per cent. caused severe pain, but were indicated in detachment of the retina.

He subsequently tried another lymphogenous substance, more effective in weak solutions, and at the same time less painful, namely, hetol or sodium cinnamate, in solutions of one to five per cent. He found that this substance produced a leucocytosis and an aseptic inflammation around the foci of disease, with envelopment of these foci by leucocytes. The new formation of embryonic tissue caused absorption of the masses of infiltration, which are replaced by solid connective tissue. He thinks the hetol is especially adapted for tuberculous affections, but believes that all diseases in which artificially produced leucocytosis would favor a cure should respond to this treatment. He claims to have brought about a more than usually rapid healing in corneal herpes, deep corneal ulcers, iridocyclitis, tuberculous uveitis, and scleritis, by injections every second day of from three to five c.cm. of a one-per-cent. hetol solution. The pain caused was very brief and slight, and dressings were unnecessary.

In 1901 Uribe Troncano vaunted the claims of solutions of mercuric cyanide for all cases of exudative inflammation within the eye.

In 1902 Wecker recommended injections of gelatin of 2½ per cent. concentration, carefully sterilized, with a 3 to 5-per-cent. solution of salt for detachment of the retina.

In 1902 Bourgeois reported twelve cases of detachment of the retina in which he injected a concentrated (thirty per cent.) solution of sodium chloride. One case was cured, three cases were markedly improved, and three cases were slightly improved.

An examination of all the papers published on this subject by the various authors quoted, and a careful study of all the cases of all kinds reported, leads irresistibly to at least one conclusion, viz., that the efficiency of these various solutions injected beneath the ocular conjunctiva cannot be ascribed to the increased local acceleration of the lymph-currents, the so-called leucocytosis, nor to the antiseptic action of the remedies employed, since the presence of such processes cannot be demonstrated in the tissues of the eye, following the injections. The chief change seems to be in the composition of the aqueous humor. This is said to become much richer in albuminoids, due to the irritating action of the injected substances upon the blood vessels. This causes congestion of the vessels and an increased transudation of albuminoid substances from the vessels into the aqueous humor. The physiological chemists have taught us that the protective substances of the blood are always to be found in combination with the albuminoids of the blood. Hence coincidental with the increase of serum albumin in the aqueous humor would be the appearance of various protective substances in the same. If subconjunctival injections of sublimate or sodium chloride be made, it will be found shortly afterward that the aqueous humor has become markedly hæmolytic. Hence the action of these subconjunctival injections is to be sought in their local irritating properties.

During the past three years I have employed the method of treatment by subconjunctival injections in various diseases of the eye, including different forms of keratitis, chorioiditis, iridochorioiditis, detachment of the retina, cellulitis of the lids and orbit, and panophthamitis. A number of different solutions were used, sodium chloride, sublimate, mercuric cyanide, and hetol, and of varying strength. I have not been able to determine any important difference in their mode of action or effect between salt-solutions and solutions of mercuric cyanide, so highly extolled by Darier. I have not had the success which Haitz claims in cases of central chorioiditis and recent opacities of the vitreous with a solution of mercuric cyanide, and I have found this solution very painful to the patient, even when cocaine or acoin was added to the solution before injection. The solution used was 1–5,000, with two per cent. of a two-per-cent. salt solution added. The injection of this preparation always caused a great deal of reaction, severe pain, and conjunctival inflammation, and was followed by persistent chemosis and hypersensitiveness of the conjunctiva. Hetol or sodium cinnamate was employed in a one-per-cent. sterilized aqueous solution, of which 0.5 grm. was injected at first every second day, cocaine being first injected. This was used in various corneal affections, herpes, wounds, pannus, interstitial keratitis, and in chorioiditis and scleritis. This solution was less painful than the mercurial preparations and seemed to influence favorably the course of the disease in herpes and interstitial keratitis. It seemed to be of benefit in acute uveitis in hastening the process of absorption. The beneficial effect seemed to come on sooner if the disease were superficial, as in corneal cases. It was apparently of no use in chronic cases, notably failing in scleritis. It was used persistently in two cases of tuberculous disease of the iris and chorioid, but apparently without the slightest effect.

A careful observation of my own cases, in which various solutions were employed, has not been able to convince me that subconjunctival injections bring about any more rapid or favorable results than other methods of treatment which we have hitherto employed for affections of the cornea, uveal tract or retina. In several cases of orbital cellulitis of an infectious character, however, I found that subconjunctival injections of a sublimate solution (1–1,000) did exert a very favorable and unusually rapid effect in hastening the suppurative stage, in reducing the dense infiltration of the orbital cellular tissue, and thus aiding in restoring the circulation to the strangulated parts.

My own conclusions, based on observation of my own cases and a careful study of the literature of the subject, are that all reports of the beneficial effects of subconjunctival injections should be carefully criticised and compared with the results obtained by other methods of treatment before accepting them as of any real value.

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**Hydriatic Treatment of Sciatica.**—J. B. Cathomas reports the extensive use of hydropathic measures in the treatment of this disease. These measures are multiple and include all of the so-called "water-cure" methods combined with massage and electricity. The most marked results are produced in old cases which have resisted other forms of treatment and in which muscular contractures have become pronounced. Only cases of pure ischiatica are suitable for this treatment, since those which show complications are not only not benefited but frequently become worse. Three sample cases are reported in detail.—*Correspondenz-Blatt für Schweizer Aerzte.*

**Ateleiosis: A Form of Dwarfism.**—Hastings Gilford gives the histories of five cases of this disorder, the name of which is derived from the Greek ἀτελείωσις, signifying "not arriving at perfection." There are two varieties of the affection. In the one there is conspicuous delay of both growth and development up to the onset of puberty. The sexual system then matures, and the development of the body becomes arrested, leaving the individual sexually complete, but in other respects with the proportions and outward appearance of stereotyped childhood. Hence in this variety there is infantilism up to puberty and after that period there is dwarfism only. But in the second variety there is, as a rule, both dwarfism and infantilism throughout the whole of life, for the sexual system never matures, while growth may continue up to the age of thirty or even later. The cases reported by Gilford are all of the second or asexual variety. This is subdivided according as the malady begins in fetal life, in infancy or early childhood, or at some later period of development. The article is fully illustrated and gives measurements and radiograms showing comparisons between the subjects of ateleiosis and normal individuals. The previously reported cases are also reviewed. Ateleiosis should be regarded not as a disease *per se*, but merely as a symptom or condition. It is to development what dwarfism is to growth. As regards the pathology of the condition there is no evidence that the brain, pituitary body, thyroid, pancreas, or any organ is the seat of origin of the disease. We only know that there is defective development of the whole body, and that this is often preceded by hypoplasia of the sexual organs, and is prone to be associated with some developmental anomaly of other parts. But there is no evidence showing to what this abnormal delay of development is due.—*Practitioner.*

**A New Method of Fixation for Movable Kidneys.**—Guiseppe Ruggi formulates the following rules for the technique of nephropexy: (1) The displaced organ must be returned to a relatively normal position. (2) It must be affixed to the thoracic framework in such a way as to be protected by it. (3) The kidney must not suffer any gross or microscopic trauma as the result of the operation. (4) The operation must be conducted with all the precautions necessary to ensure primary union. (5) The kidney must be immobilized in its new position so securely that no tension on its vessels or nerves is possible. The author has devised a method which he believes fulfils the above requirements and is superior to others. The incision used is the costo-lumbar one of Hahn, prolonged downward somewhat to gain room. When the pararenal tissue is reached it is removed, as is also a portion of the fatty capsule, special attention being paid to checking hemorrhage. The kidney is forced up into the wound, and its capsule split along the dorsum. This is peeled back from either side and the two free portions are twisted on themselves so as to form two pedicles, one on either side. These are transfixed with a suture, and form two stalks from which the organ hangs suspended as in a hammock. The sutures are then carried up under the twelfth rib, and are tied in the intercostal space, their tensions pulling the kidney up into position behind the rib. In cases in which the condition is of mild type it is sufficient to decorticate and form a stalk only on one side, but when the displacement is more serious the double suture is to be preferred.—*Centralblatt für Chirurgie.*

**The Statistics of Ethylchloride Narcosis.**—George Lotheissen, who was the first public sponsor of this agent as a general anæsthetic discusses the various deaths that have been ascribed to it with the object of clearing the good name of the drug. Six deaths have been reported as due to it, and the author considers each in detail. In four death did not occur until from an hour and a quarter to seven days after the operation, and there were enough exterior factors to exonerate the anæsthetic from blame. Of the two others, one occurred in a diphtheritic child which was being tracheotomized for laryngeal obstruction, and here, also, the author thinks it is hardly fair to accuse the ethylchloride. The last case is a *bona fide* anæsthetic death, the patient being a middle aged alcoholic man, whose arteries were sclerotic and whose heart muscle was degenerated. In April, 1902, 16,000 ethylchloride anæsthesias had been reported and since then no doubt at least another 1,000 have been added. This makes one death to 17,000 cases, or even adding the second doubtful case 1 in 8,500, a mortality lower than that of ether. The author therefore continues his advocacy of the anæsthetic, and considers it a safe and valuable adjunct to the surgeon's materia medica.—*Centralblatt für Chirurgie.*

**Some Remote Effects of Eye-strain.**—George H. Thomas says that as a result of increased study on the part of oculists, very many ailments are described as having been relieved by eye treatment. Among them are cases of neurasthenia, hysteria, melancholia, nervous dyspepsia, vertigo, insomnia, migraine, epilepsy, chorea, hay-fever, car-sickness, and sea sickness; with less definite symptoms of anorexia, faintness, nervous irritability, weariness, mental confusion, stammering, and even chronic constipation, nocturnal enuresis, and dysmenorrhœa. The author's notion about the matter is that the eye-strain does not produce these symptoms directly or reflexly, as is commonly maintained, but that it produces a greater or less degree of general nervous debility, which, with other less marked though perhaps more definitely localizing causes, produces symptoms sometimes in the brain, the peripheral nerves, the stomach, or some other organ. A chain of ills with eye-strain acting as the connecting link is produced, or a morbid structure with eye-strain as the corner-stone, which must be removed to establish health.—*Northwestern Lancet.*

**Dislocation of One-half of the Frontal Bone During Parturition.**—Stewart Le Roy McCurdy reports this case, which is plainly a dislocation of the right half of the frontal bone. The force producing this rare dislocation was applied during parturition. Ossification of the frontal bone begins at about the eighth fetal week and is not completed for several years after birth. The metopic suture between the halves of the median line sometimes remains open through life. At birth there is nothing but membranous attachment throughout the circumference of the frontal bone, so that force applied to the head as it passes through the pelvis straight in lateral frontal presentation could very readily result in just such an accident. A spring band was used about the head with a pressure pad resting upon the frontal eminence. By gradually increasing the force, it was hoped to produce some benefit. But little was accomplished. The child is, however, in every way normal. The brain has conformed itself to the new cranial wall so well that its functions are performed perfectly.—*Pediatrics.*

**Tetanus Caused by Ascarides.**—Jérôme Buchholz reports a violent, typical case of tetanus, without prodrome and without other determinable cause, in a young girl of seventeen years. After the ingestion of the first santonin powder with calomel (gr. 0.10 of each), the cramps ceased, and after four powders, the patient evacuated sixteen ascarides worms of unusual length and size. Recovery rapidly followed. The parasite was not examined to see whether it was the ordinary ascaric lumbricoides, or the a. megalocephala of the horse and cow. Some years later the writer was called to the same patient. There were the same symptoms, but less marked. The same powders were given with the same results. The writer believes to have proved thus the existence of a form of vermicular cramp, purely tetanic, even outside of the limits of childhood. In the literature he has found this cause indicated only by E. Rose, in his article on tetanus.—*Norsk Magazin for Lægevidenskaben.*

# MEDICAL RECORD:

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## THE THERAPEUTIC VALUE OF ALCOHOL.

THE drink question is of so vast importance in these days that it is always cropping up as a subject for discussion among scientific men in all parts of the world. As yet there is no decided unanimity of opinion as to whether alcohol is, under certain circumstances, of great therapeutic value or not, nevertheless the views of medical men have greatly changed regarding this matter. Time was when it was altogether in the way of ordinary routine practise to prescribe alcoholic beverages to almost every sick person, and especially during the stages of convalescence, for the purpose of aiding indigestion, acting as a tonic or as a useful stimulant. At the present time such a custom is severely frowned upon, and many scientific men of the very first rank, and whose opinions carry great weight, denounce alcohol as a poison regarded from any conceivable standpoint, and declare that the human race would be vastly better in all respects if strong drink were never used. Of this band, and a doughty champion of total abstinence, is Professor G. Sims Woodhead.

At a meeting of the Islington Medical Society which took place recently, and which was reported in the *Lancet*, June 13, the medical problems of alcoholism were discussed at length, and the whole question was once again carefully gone over. Professor Woodhead opened the discussion. He argued that alcohol, as a poison, has a more far reaching effect than by its action on the liver alone, although that organ has always been looked upon as the chief sufferer. Considering its other effects, he was of the opinion that it appeared to act in two ways. He said that "First, it acted upon the protoplasm of the different cells of the body, causing in many cases a rapid degeneration, the evidence of which was manifested by the presence of fat in the cells of various organs, by cloudy swelling, by the disappearance of Nissi's granules, or by the stunting and clubbing of the turglets on the long processes of the nerve cells and the moniliform thickening of these processes. At the same time the poison, acting on the connective tissue cells in the immediate neighborhood, all much less highly developed and, therefore, more readily stimulated to proliferation, caused an increase of these cells near the seat of degeneration. In very chronic cases these connective tissue changes appeared to be primary, but he thought that although they were the changes that were most prominent and permanent, they were, in most cases, quite secondary to, and dependent to some extent upon, the more important degenerative changes first mentioned. This might, however, be a primary change, especially when occurring in the walls of the blood vessels or in tissues richly supplied with lymphatics. In connection with changes in this latter position he pointed out that alcohol not only impaired function in one direction, it had a direct effect in bringing about a retention of the waste products of the body in the tissues themselves, and in the fluids in which these tissues were bathed. These waste products being of a highly poisonous nature, acted along with the alcohol in increasing the extent and severity of the degenerative and irritant processes of which mention has been made.

In conclusion, Professor Woodhead quoted the experiments of Kurz and Kraepelin to show that the foundations of chronic alcoholism might be laid sooner than is generally supposed. They say: "A single dose of 80 grams of alcohol (2½ ozs.) does not pass off quickly and perfectly, but leaves behind an after-effect which lasts more than twenty-four hours. If this dose is repeated in twenty-four hours, a gradual increase of effect is produced, which we must designate as the commencement of chronic alcoholism, and this is already very evident after twelve days' action by a depreciation of faculty to the extent of 25-40 per cent.

Other speakers who joined in the discussion—and especially Dr. Alexander Morison—did not altogether agree with the extreme views propounded by Professor Woodhead as to the pernicious effects of alcohol under all circumstances, but pointed out that it was not as a stimulant to the digestive process that alcohol found its most valuable application in medicine. It was as seriously combating threatened cardiac failure that alcohol found its most useful applications in medicine, in serious and sudden emergencies, in the prolonged strain of exhausting diseases, and in the shock either of mental distress or of severe pain in the heart itself or in some other region reacting on the heart.

Dr. Anderson also somewhat deprecated the vigor and questioned the validity of the expressed opinions of the extremists as to the harmfulness of alcohol at any time or under any circumstances, and considered that alcohol in carefully regulated doses acted as a food and as a producer of force in the malnutrition and malassimilation of chronic disease, and in the exhaustion of acute disease.

Perhaps the truth lies somewhere between the views of those who declare that alcohol can never be anything but a poison, and of the ones who think that it possesses decided therapeutic value. The evils which proceed from its abuse far outweigh its good effects, but this fact does not prove the point that under no conditions does the judicious therapeutic use of alcohol produce beneficial results.

## THE SANITARY CONDITION OF MANILA.

WHILE the medical profession and general public are well acquainted with the remarkable sanitary results achieved in Havana during its occupation by American troops, the sanitary progress in Manila under American control has largely been disregarded. With newspaper reports relative to cholera, plague, and smallpox in the Philippines, there has been a tendency to consider Manila as a hopeless pest-hole, beyond redemption, in which a white man cannot live. The letter of transmittal

which accompanies the report of the Manila Board of Health for the month of March, 1903, is therefore of special interest, as it presents statistically the results of the sanitary improvements which have been brought about since the establishment of a board of health by the military authorities four years ago.

Comparing the death rates in Manila for the first three months of each of the last four years, and figuring for each month on a basis of the deaths which would occur at the existing rate in each 1,000 population for one year, the statistics are as follows:

| MONTH | 1900 ANNUAL DEATH RATE PER 1,000 | 1901 ANNUAL DEATH RATE PER 1,000 | 1902 ANNUAL DEATH RATE PER 1,000 | 1903 ANNUAL DEATH RATE PER 1,000 |
|---|---|---|---|---|
| January..... | 50.65 | 36.22 | 30.16 | 23.46 |
| February..... | 47.08 | 36.69 | 30.81 | 22.05 |
| March..... | 42.67 | 42.67 | 30.02 | 21.01 |
| Average annual death rate for period compared... | 46.80 | 38.19 | 30.33 | 22.17 |

These figures show that so far, during the present year, the death rate in Manila is less than half what it was during the same period four years ago. Based on present estimates of population, and reducing these rates to gross figures, the number of lives which may be expected to be saved in the city of Manila during the year 1903, judging from the three months the statistics for which have already reached us, as compared with the year 1900, should amount to no less than 7,442.

During the first quarter of the present year, the death rate has been reduced 27 per cent. below the rate existing for the same period twelve months previously. This latest improvement has been accomplished in spite of the fact that cholera and plague had both previously gained a foothold in the islands, and that the existence of a largely unvaccinated population in the provinces meant a constant introduction into Manila of the infection of smallpox. Cases of plague, cholera, and smallpox have occurred in each of the above months of the present year, but the precautions taken by the Board of Health were able to prevent any epidemic outbreak as a result of these cases.

The report calls attention to the fact that the present annual death rate of Manila, 22.17 per 1,000, as based on the statistics for the first quarter of this year, is lower than that of many cities, situated in the United States and elsewhere, which are not commonly regarded as unhealthful. Among these may be mentioned, for the year 1900, Washington, 22.80; New Orleans, 24.74; Altanta, 23.01; Memphis, 25.10; San Antonio, 27.01; Charleston, S. C., 34.94; Liverpool, England, for the year 1899, 24.33; and Honolulu, Hawaii, for the year 1902, 25.59. The present rate is lower than that for Naples, Marseilles, and Madrid, and nearly as low as that for San Francisco, Boston, Baltimore, Jersey City, Havana, and other cities.

The report states that the sanitary results attained in the past four years, under the regular and volunteer medical officers of the army who have been in charge of the Board of Health since its establishment, have been attained despite the naturally insalubrious site of Manila and its total lack of sanitation under the former sovereignty; which—from the level site interfering with drainage, the many foul canals ramifying through the city, the absence of any sewerage system, and the existence of an impure and insufficient water supply and many old, unhealthful habitations—have created sanitary problems of the greatest difficulty. The Board of Health has, therefore, been unable to turn previously existing methods and conditions to sanitary advantage; and has found it necessary not only to develop entirely new plans of improvement, but at the same time to remedy the results of conditions inherited from the Spanish administration. Further, the mixed character of the inhabitants, with their divers languages, prejudices, superstitions, and largely primitive habits of life, has also been a constant obstacle to sanitary progress. Thus it may be mentioned that circulars of the Board of Health for Manila are necessarily published in the English, Spanish, Tagalog, and Chinese languages. Following the putting down of the insurrection, there has also been a strong tendency toward passive resistance by the natives to the efforts of the American authorities.

The Manila Board of Health at present consists of Dr. E. C. Carter, U. S. Army, Commissioner; Dr. E. L. Munson, U. S. Army, Assistant; Dr. T. R. Marshall, late U. S. Vols., Chief Health Inspector; Dr. P. C. Freer, Superintendent of Laboratories, and Mr. H. D. Osgood, Sanitary Engineer. These gentlemen, and their predecessors, should be congratulated on the results of their labors, which have steadily changed Manila from a plague spot of the Orient into a city in which the expectation of life is at least as good as in any of our chief southern cities having a large colored population, and which already closely approximates that in any of our large communities. The sanitary results obtained are little short of marvelous, considering the obstacles encountered, and again demonstrate the fact that an intelligent American sanitary administration can remove dangers which were formerly considered to be inevitable concomitants to life in the tropics. There is reason for much justifiable pride in what has been accomplished by American sanitarians in Manila; and with time, money, and more settled conditions there is every reason to anticipate that the results obtained in the past will be improved upon in the future.

## THE HISTORY OF LEPROSY.

In a recent issue of the *British Quarterly Review* is an excellent description of leprosy written by George Pernet, based upon the best recent books published on the subject, and the report of the last British Commission.

The disease is not limited to tropical and subtropical regions, as many suppose. It exists in Greenland, Norway, the Aleution Peninsular, and Kamtschatka. Nor is Norway the only point in Europe affected. In Russia the disease is endemic in various districts, it also occurs in Sweden and Finland and there are many infected areas in other countries, as Spain, Portugal, Italy, Sicily, Roumania, the Balkan Peninsula, Greece, and the islands of the Adriatic and the Grecian Archipelago. In Asia—the home of the disease—lepers swarm among the huge populations of India and China. There are infected areas in Siberia, and in Southern Asia the

Dutch East Indies may be mentioned as containing many afflicted with the malady. A large number of lepers are also found in Asia Minor, Palestine, Persia, Cuba, Philippine and Hawaiian Islands, Fiji and Madagascar. Leprosy is pretty widely distributed throughout Africa, is prevalent to a greater or less degree in most parts of South America, and is known in certain districts in the United States, notably in Louisiana. Indeed, leprosy is practically present all over the world, and is not the least of the white man's burdens.

The disease is of the greatest antiquity. It is probable that leprosy has existed almost from time immemorial in China, the Province of Kwang-tung has been termed the cradle of leprosy. It is supposed to have existed in Egypt some thousand years before Christ, while Greece appears to have been the first European country to suffer.

Referring to the leprosy of the Bible, the article in the *Quarterly* throws doubt on the belief that the disease was really leprosy. It is by no means certain that the word Caraath means true leprosy. "The leper white as snow" was suffering more probably from leucoderma, which is not a contagious affection at all; although it is difficult to understand why such minute directions for disinfection and segregation should have been given in the Old Testament in the case of a non-contagious disease. In Western India two kinds of leprosy are recognized. One is called black leprosy, or, in Marathi, rak tapiti; the other, white leprosy, goes by the name Kod. The former is true leprosy, but the latter is not and corresponds, no doubt, to leucoderma.

According to the late Sir Richard Burton, leprosy was regarded by Moslems as a scriptural malady on account of its prevalence among the Israelites, who, Manetho tells us, were expelled from Egypt because they infected and polluted the population. The Arabs distinguish two kinds of leprosy, bahak or baras, the common or white, and juzam, the black or true leprosy.

The statement frequently made that it was imported into Eastern Europe by the Crusaders is incorrect, as the disease prevailed in Provence, Italy, and other parts long before. The Saracenic invasion of Spain and Sicily probably led to the spread of leprosy in Western Europe. Although it is certain that leprosy existed in Europe before the Crusades, yet it cannot be doubted that there was a recrudescence of the disease and an increase in the number of lepers at about that period. Many leper-houses were built at various times in the Middle Ages in England. It has been asserted that the leper-hospital at Nottingham, England, was established in 625, but this is not generally admitted, many writers being of the opinion that the first foundation of the kind did not take place until the eleventh century. Some writers of the seventeenth century have distinctly expressed the opinion that many of the inmates of leper-houses in Bavaria and Holland, for instance, were not lepers, but suffering from psora perversa and lepra græcorum.

About the end of the fifteenth century leprosy was subsiding in Europe, and by the sixteenth it had lost its endemic character. As to the causes which led to its disappearance, the writer in the *Quarterly* thinks that it is only reasonable to suppose that more than one factor played a part in the eradication of the disease. It cannot be doubted that segregation, such as it was, was helpful in this direction, and it is just as certain that other factors, such as improved diet, housing, and clothing, have contributed to the rooting out of leprosy in England; but were overcrowding, dirt, and bad food capable of producing the disease *de novo*, it would still be flourishing in that country. With regard to prophylaxis, the writer is of the opinion that where the disease is endemic, the isolation of lepers in special hospitals or settlements is the best way of dealing with the malady, and the article ends with this statement: "There can be no doubt that those countries which are open to the immigration of large numbers of natives from leprous regions and areas are in danger either of becoming infected or of the disease obtaining a permanent footing and becoming more prevalent."

It is somewhat curious that although leprosy is one of the oldest diseases known, that divergent views still exist as to its contagiousness. The majority of those experienced in the disease hold that it is contagious, but there are some very eminent physicians who assert that if contagious at all, it is in so slight a degree and under such exceptional circumstances, that the matter is scarcely worth consideration.

## MEDICAL RECIPROCITY.

THE demand for medical reciprocity between the various States of the Union increases in directness every year. It certainly seems an anomalous condition of affairs that a man who has gained a diploma in one State should not be permitted to practise medicine in another State, possibly the next. Nevertheless, there can be little or no alteration until all, or at any rate some of, the States have decided upon a uniform standard of medical education. It would be manifestly unjust, not to say absurd, for a State which has adopted a high standard of medical education to admit—without a searching test—medical graduates of a State in which the standard of medical education is not upon an equal plane. Of course, it will be only a question of time, when a uniform standard of medical education will be in force throughout the United States; but it may be long before this hoped-for event comes to pass.

In the meantime there would seem to be no reason why several States in which the regulations admitting to the degree of doctor of medicine are similar, should not have medical reciprocity between them. Wisconsin, Indiana, Michigan, Ohio, Iowa, and Kansas have recently formed what is termed "The American Confederation of Reciprocating Examining and Licensing Medical Boards." This body says, in a circular, just issued representing their views, "that, for the purpose of establishing medical reciprocity among the States comprising it, the American Confederation of Reciprocating Examining and Licensing Medical Boards does hereby agree to the following propositions as a basis of reciprocal medical registration:

(*a*) That as a prequisite to reciprocal registration, the applicant therefor shall file in the office of the Board of State of which he is a licentiate such evidence as will enable the said board to certify that he is of good moral and professional character.

(*b*) That a certificate of registration showing that

an examination has been made by the proper board of any State, on which an average grade of not less than 75 per cent. was awarded, the holder thereof having been at the time of said examination the legal possessor of a diploma from a medical college in good standing in the State where reciprocal registration is sought, may be accepted, in lieu of examination, as evidence of qualification. Provided that, in case the scope of the said examination was less than that prescribed by the State in which registration is sought, the applicant may be required to submit to a supplemental examination by the board thereof in such subjects as have not been covered.

(*c*) That a certificate of registration, or license, issued by the proper board of any State, may be accepted as evidence of qualification for reciprocal registration in any other State. Provided that the holder thereof was, at the time of such registration, the legal possessor of a diploma issued by a medical college in good standing in the State in which reciprocal registration is sought, and that the date thereof was prior to the legal requirement of the examination test in such State.

The foregoing qualifications appear to form a fair basis for reciprocal medical legislation, and the plan proposed by the six Western States is to be commended to the consideration of other States in which like conditions prevail. The scheme, moreover, is the "thin edge of the wedge" inserted into the present unsatisfactory system of medical education in the United States. In the behoof of the medical profession generally it would be well if a uniform high standard of medical education were adopted in every State. Reciprocity would then come as a matter of course, a recognized standard would be established and the status of the American medical graduate would be at once satisfactorily raised.

## Evils of the County Jail System.

Many of the county jails throughout the United States are notoriously bad, and according to an article in the New York *Tribune*, June 28, those of New York State are amongst the worst. It is stated in the article referred to, that the system of county jails in the State is, on the whole, as unimproved and defective to-day as it was fifty years ago. It is true that some new jails have been built and the prisoners are better fed, but no further advance toward improvement has been made. With regard to the sanitary features of the jail buildings themselves, it will be better understood what these must be, when the fact is stated that not a few of them have been in use continuously as jails for more than one hundred years, while one of them even was built before the Revolution. A description of one of these old jails will give a good idea of the sanitary conditions of such buildings. The writer in the *Tribune* refers thus to one of the worst: "It is hard to say which is the worst jail in the State, but the one which dishonors Cattaraugus County has the blackest record on the Albany books. It is a brick house of two stories, and the jail and sheriff's quarters are dovetailed in. The jail occupies half of 37x62 feet. There is neither cellar, basement, nor other air space under it, and the plumbing is most defective. The cells, even to the bars, are of wood, and often filthy with vermin. The interstices are full of dirt and germs. The stone floor is badly broken, and there is always considerable seepage after flushing. The drainage to a cesspool is defective, and usually clogged most of the winter. The water backs up to the floor of the jail, and it is necessary to keep a fire going even in summer to make it habitable. The jail has no bath, no hospital cell, no separate department for women, witnesses, or debtors. Besides, it is a tinder-box, and for sickening odor it has every other jail in the State beaten by many degrees." The overcrowding and herding together of the prisoners is not only to be strongly condemned on the score of decency, but is a fruitful means of spreading disease, in this way being a source of danger to the community at large. Sanitary prisons and jails should be in all States of the country, and New York State, in virtue of her foremost position, should lead the way in this most necessary reform.

## Care of Invalids on Board Ship.

There was a time when most physicians were frequently wont to recommend a sea voyage as an excellent means of recuperation after severe illnesses of a certain nature. Some doctors invariably advised patients suffering from pulmonary tuberculosis in its earlier stages to try the tonic effects of a long sea trip. Of late years a considerable amount of scepticism seems to have arisen amongst medical men with regard to the benefit to health to be derived from traveling on the sea. The fact has been pointed out that sea voyages—putting on one side the question of seasickness—affect different persons in different ways. Some are benefited while others are injured in health. Undoubtedly, the discomforts with which an invalid has to contend when on the sea, the lack of facilities for feeding, nursing, and caring for him generally, are among the principal reasons that he does not make satisfactory progress. Thus it has come to pass that physicians are not so well disposed to sea voyages for invalids as they formerly were.

There is, however, a class of sick persons who are compelled *nolens volens* to take a sea voyage. Europeans who have been living in the Tropics and have there broken down in health are the class to which reference is made.

The *Journal of Tropical Medicine*, June 15, has an article on this matter in which, after bewailing the unhappy lot of the sick person ordered home from the Tropics, the writer asks if it is not possible to alleviate in some measure his unenviable and, in many cases, dangerous position when on board ship. The writer then puts in a good word for the ship doctor and proceeds to discuss the question of nursing on vessels at sea. It is obvious that the nurse is a most important person on a ship which carries invalids—in fact, a good nurse is almost as necessary as the doctor. Therefore on such a ship a trained nurse should be carried. In the words of the article "a nurse is, and must in future become, an essential part of a ship's company, and, moreover, the nurse in charge of patients from the Tropics, should have had experience of tropical ailments, and no nurse should be employed who cannot show by her certificates that she has had such training. . . . There is a movement in Great Britain in the direction of insisting upon trained nurses being carried on passenger ships."

The plan advocated in the *Journal of Tropical Medicine* is a good one, and the whole question of transporting invalids from the Tropics to their native land must appeal with special force to Americans. The United States has now far away tropical possessions from which it may be anticipated many must year by year return home broken down in health. It is fitting that these should be enabled to make

the voyage with all the care and attention possible. It might then be well for the Government of this country to insist that passenger vessels plying to and from the Philippine Islands should carry nurses trained in the treatment of tropical maladies.

### Increase of Insanity in the New England States.

Dr. G. Adler Blumer, as President of the American Medico-Psychological Association, which held its annual meeting at Washington, D. C., in May, delivered an address on the increase of insanity. He referred largely to statistics which Mr. F. B. Sanborn had prepared for his report to the National Conference of Charities and Correction held in Atlanta. The report refers to New England only. A study of Mr. Sanborn's report would seem to leave no loophole for doubting that the insane are increasing in New England beyond the natural increase of the population, notwithstanding the well-known fact that statistics are not at all times entirely reliable. "The census enumeration, whether of federal or State direction, is," says Dr. Blumer, "notoriously untrustworthy in this matter of the insane. In Maine the federal census of 1880 gave 1,542 insane in a population of 648,936; but ten years earlier it gave only 792 in one of 625,000, and ten years later it gave 1,299 in one of 661,000. Sanborn takes the very moderate estimate of 1,400 at present, in a population of 661,000, although his own judgment is that the true number exceeds 1,600. There were under asylum treatment in 1901, when the new institution in Bangor was opened, 785 at the old Augusta hospital; at present, after an interval of nineteen months, there are 865 in the two asylums. Thus we have a gain of asylum cases of about 100 in two years, or at the rate of 50, or more than 6 per cent. a year; and, though the actual gain in the whole State must have been less—the opening of a new asylum always increasing the new commitments beyond the average, it is evident to Mr. Sanborn that allowance must be made in Maine for a gain of at least 2 per cent. a year. Yet Maine's total population has not shown a gain of 12 per cent. in thirty years." Estimates made by Mr. Sanborn as to the number of insane in the New England States are as follows: Maine, 1,400, perhaps 1,600; New Hampshire, 900, perhaps 1,200; Vermont, 1,200, perhaps 1,200; Massachusetts, 11,000, perhaps 11,000; Rhode Island 1,150, perhaps 1,200; Connecticut, 3,250, perhaps 3,300. In all New England, 18,900, perhaps 19,500 in a population of about 5,800,000, or 1 insane person to every 307 inhabitants. From all parts of the world the news comes that insanity is on the increase, and while statistics bearing on the matter must be taken with the proverbial grain of salt, the evidence is too strong that the number of insane persons grows larger year by year, to be disregarded as an idle tale or as a gross exaggeration of the true facts of the case. Indeed, the increase of insanity is a dread actuality which has to be looked squarely in the face and, so far as is possible, measures devised to check its further spread.

### The Cure of Consumption.

An article with this title appeared in the *Pall Mall Magazine* for June. The writer gives a minute description of the means used for treating pulmonary tuberculosis in a Scotch sanitarium. In his own case he states that he was cured of phthisis by closely following the regulations laid down for the treatment of patients. As in all sanitariums for consumptives, plenty of fresh air is the principle upon which the treatment is based. The writer, however, disagrees with the plan of feeding advocated in an article entitled "Cry of the Consumptives," published in the *Nineteenth Century*, January, 1899, which has since become famous. Referring to this article he says, "The burden of that thesis amounted to this, that every patient suffering from consumption, who, placed under open-air conditions, drinks three pints of milk and eats six ounces of bread, and three ounces of butter daily, loses his cough within fourteen days." The writer says that for him open-air treatment means something more than an unsupervised life spent in the open air. It means (1) That the patient shall breathe nothing but pure air throughout the whole twenty-four hours of the day. (2) That the diet shall be carefully adapted to each individual case, and that as regards amount it shall not be roughly guessed, but shall be carefully calculated upon a basis of the patient's body weight, and its modification regulated by scientific principles. The assertion that three pints of milk are exactly suitable to every case of phthisis, is alike at variance with the laws of physiology and the teaching of daily experience. (3) It includes the daily and hourly supervision of a skilled and experienced mind—one qualified by training in the schools of medicine, and in the wider arena of life, to deal with the various physical and mental phases of the disease as they present themselves. (4) It requires particularly skilled experience to guide aright the exercise that should be taken. (5) Above all, it means the inclusion of every agent which medical science can bring to bear on the case to increase the resistance of the individual, and to lessen the virulence of the bacillus—be it high frequency treatment, *x*-rays, hydropathy, or therapeutics. When these elements can be secured under good climatic conditions, then consumption, in a large proportion of cases, becomes curable. The foregoing are the views of a layman, who claims to have been cured of pulmonary tuberculosis by the treatment which he has described. Perhaps he lays rather too much stress upon the importance of using all the agents which medical science can bring to bear on cases of consumption, for, after all, it is the fresh air, suitable diet, and a judicious mode of living which are the chief factors in curing or arresting the disease. So far as feeding is concerned, the writer is correct in saying that it is of no benefit to patients to lay down a hard and fast rule as to the quantity and quality of food for all alike. Each person must be considered individually, and the diet regulated accordingly.

### Harriman University, Tennessee.

A striking example of the manner in which degrees are given out by some so-called universities in the United States has recently been supplied in England. A libel action was brought against a journal named the *Christian World* for making disparaging reflections concerning degrees that a Mr. Garnett had obtained at "Harriman University," Tennessee. In the cross-examination of the plaintiff, the fact was elicited that "Harriman University" exists after a fashion—that is to say, that some part of its buildings are in use as a school for boys and girls. The institution also can boast of possessing a chancellor, or rather, it would seem, the chancellor owns the university, for this dignitary conferred on Mr. Garnett the degrees of B.A., M.A., and D.D.—the entire collection costing about $80—and in addition was so obliging as to offer to supplement this imposing row of letters by the unique degree of S.T.D. (Sacra Theologia Doctoris) free of charge. The chancellor likewise forwarded with this last degree the following letter: "I have so arranged

your name as to cause my books to show that your degree has been earned, and it will come *pro merito* and not *pro honoris*." Mr. Garnett, by the way, did not go to Harriman for his examination, but underwent this test at Ocean Grove and Philadelphia. It is stated that no medical degrees have been granted at Harriman University, but nevertheless, it has professors of domestic science and astronomy, the latter of whom, when not engaged in his professional duties, follows the more plebian calling of dentist.

## News of the Week.

**Dr. John H. Gibbon** has been elected surgeon at the Pennsylvania Hospital in Philadelphia, in succession to the late Dr. Thomas G. Morton.

**Dr. Allen J. Smith,** at present professor of pathology in the University of Texas, has been elected professor of pathology in the medical department of the University of Pennsylvania, in succession to Dr. Simon Flexner, who assumes the direction of the Rockefeller Institute.

**Increase in Smallpox in Philadelphia.**—Thirty-nine new cases of smallpox were reported to the Philadelphia Bureau of Health for the week ended July 11, with ten deaths. This is the largest number of cases reported for one week during the present outbreak. Vigorous measures, by means of vaccination and disinfection, have been instituted to limit the spread of the epidemic.

**Yellow-fever Regulations at Havana.**—When a transient vessel arrives at Havana with a case of yellow fever on board, the patient is taken directly to Las Animas Hospital. The immune passengers are set free; the non-immunes are taken to Triscornia station for five days; the vessel is disinfected for mosquitos with formalin or sulphur; and a guard is placed on board until the vessel is ready to go to New York. Shoulda staying non-infected vessel come to Havana, the passengers are treated as above, the crew are kept aboard; the vessel is disinfected. She is not detained if five days in transit, but is detained if less than five days. A guard is placed on board. Should a staying infected vessel come to Havana, the immunes are set free; the non-immunes are sent to Triscornia; the patient with fever is sent to Las Animas direct; the crew is kept five days on board; the vessel is disinfected; she is detained five days in the bay from the completion of the disinfection. In short, immunes are never detained under any circumstances, even those coming on actually infected vessels. Non-immunes from all kinds of vessels are sent to the detention station of Triscornia, where they are detained five days, except those who have come on a vessel which has anchored in the harbor at the port of departure. When a case of yellow fever is found on board the patient is sent direct to Las Animas Hospital. No transient vessel is disinfected unless it has had a case of yellow fever on board. Triscornia is an observation station across the bay, to which are sent non-immune passengers from vessels from infected ports. Immigrants are sent there until they find employment in the city or on the island. Mariel is a quarantine-detention station situated on the coast about twenty miles from Havana. All passengers are sent there from vessels arriving with a case of smallpox or contagious disease other than yellow fever.—*Public Health Reports.*

**Bordeaux Clinic of Diseases of the Larynx, Nose, and Ear.**—The Medical Faculty of Bordeaux, France, has decided to open the courses organized in the special services to medical graduates, French or foreign, upon the payment of fifty francs a term. The course on laryngology, otology, and rhinology, under the direction of Dr. Moure, is held from 9 to 11 o'clock in the morning on Monday, Tuesday, Thursday, and Friday. Saturday is devoted to operations. The course comprises clinical instruction and instruction in the technique of examination and operation.

**Report of the German Tuberculosis Commission.**—At a meeting of the Berlin Medical Society on July 8, Professor Kossel of the Imperial Health Office presented a preliminary report on the results of the experiments of the tuberculosis commission in infecting calves with human tuberculosis. The commission's investigations covered three forms of introducing tuberculosis bacilli in calves: First, subcutaneous injection; second, in food, and, third, by inhalation. The preliminary report was on the results of the first form of inoculation only. The inoculations were not made directly from the human subject, but merely with cultures of the humanized form of tubercle bacillus. There were thirty-nine of these cultures, twenty-three from adults and sixteen from children. Of the calves experimented upon with the cultures from adult subjects, nineteen presented no symptoms, nine presented very slight local changes at the end of four months, and seven showed more distinct evidences of infection, but there was no generalized tuberculosis. Of the calves inoculated with cultures from tuberculous children four presented mild symptoms of bovine tuberculosis and two died from the fully developed disease. In view of these results it is difficult to understand how the commission could arrive at the conclusion that "the series of experiments strengthens Professor Koch's view that animal consumption as the cause of human consumption does not play the rôle generally attributed to it, but definite judgment requires further experimentation." This was certainly not the deduction made by Professor Orth, Virchow's successor, who in the discussion on the report strongly combated the view that human and animal consumption were dissimilar and non-transferable.

**The Chicago Eye, Ear, Nose, and Throat College** has recently introduced a house-service in its hospital. As the result of a competitive examination Dr. H. E. Goldberger was appointed house surgeon to serve for a period of eighteen months.

**The Drexel Institute of Art, Science, and Industry,** of Philadelphia, has recently instituted a new department of instruction, viz., a preparatory course for nurses to extend over two terms. Instruction is given in the elementary medical branches, anatomy, physiology, etc., as well as in cooking, gymnastics, voice culture, facial expression, English, etc. To those who complete the two courses satisfactorily a certificate of attendance will be given. For the first year a first and second prize of thirty and twenty dollars repectively is offered by Dr. S. Weir Mitchell for excellence in all the branches.

**The City Sanatorium for Consumptives.**—The New York City Board of Estimate and Apportionment will soon, it is understood, be requested by the Mayor to grant the sum of $500,000 for the purchase of a site and the erection of suitable buildings for a sanatorium for cases of incipient tuberculosis. This project has been under consideration for a long time, but action on it has been delayed by other, to the lay political mind, more important considerations. There are now in this city it is estimated, 30,000 incipient cases of tuberculosis, the greater number of them being in the thickly populated tenement-house districts. Until recently the city authorities have had practically no equipment with which to meet this menace. Now, however,

there is a temporary hospital for such cases on North Brother Island, and some tents have been put up recently on Blackwell's Island, to form an adjunct to the main institution. Only a few cases, however, can be cared for at these places, and the need of a larger sanatorium is believed to be imperative. It is proposed to purchase a site of some 500 acres, probably in Orange or Rockland county, New York, on the highlands west of the Hudson River. When the work begins, foundations for an institution of great proportions will be laid, and the number of buildings erected at first will be added to from time to time by means of additional appropriations.

**The Jersey City Free Dispensaries.**—The free dispensaries in Jersey City were reopened for the summer last week. They are located in drug stores, and at each is stationed a physician, who remains on duty from 5 to 6 P.M. and from 8 to 9 P.M. each day. The appropriation to run the dispensaries is made by the Board of Finance. All worthy persons without means, and especially mothers with ailing children, will receive free medical advice and the necessary remedies.

**Dengue in Hawaii.**—Dengue is reported epidemic in Honolulu and other parts of the Hawaiian Islands. In Hilo the court was adjourned for a week at the end of June because of the illness of so many jurors, lawyers, and court officers. The mosquito is believed to be the active agent in the transmission of the disease.

**Fourth-of-July Casualties.**—Each year, after the smoke of the conflict has lifted, the *Chicago Tribune* collects the statistics of the killed and wounded in the name of liberty. This year the number of deaths in 210 towns was 52. The number of injured was 3,665, 1,376 from fireworks, 319 from cannons, 1,121 from firearms, of which 559 were from the so-called toy pistol, 768 from the premature explosion of gunpowder, and 81 in runaway accidents caused by the noise. No account is taken in these statistics of the cases of tetanus following the Fourth-of-July wounds, reports of which are now coming in. The fire losses amounted to $400,625, and all this in only 200 towns!

**Mosquitos.**—For two summers much has been said and sung of the labors of the mosquito exterminating committees of the various residential suburbs of New York, especially of those in New Jersey, and the optimists looked forward to the time when the insect would be heard no more. But, alas for science, this summer is witnessing one of the most remarkable plagues of mosquitos experienced in years, and the pests are more numerous and more vicious than ever before in the memory of the oldest commuter. All the near New Jersey towns report unusual numbers of mosquitos, and on Long Island the villages along the bays and adjacent to the meadows are especially effected by the mosquito plague. The pest is not the ordinary *Culex pipiens* with her gentle crescendo diminuendo hum and irritating, indeed, but not venomous sting, but the roaring, plunging *C. pungens* with a voice like the exhaust of a locomotive, and a proboscis tipped with oil of vitriol. There is still another variety which is said to be dumb, having no song to disturb the stillness of the evening, but with venom enough in her sting to atone for any vocal defects. The cause of the plague is believed to reside in the meteorological conditions prevailing during June, when the incessant rains and absence of sunlight created numbers of temporary ponds free from fish, and admirably adapted to serve as breeding places for the mosquito. The faith in kerosene being thus shattered, the victims are reading with hope of an intestinal parasite which is said to be deadly to the mosquito. According to the reports, a round or hair worm of the family of *Mermithidæ* has been discovered, which, in its larval state, is parasitic, being found in the bodies of mosquitos. The infested insects are sluggish in their movements, do not oviposit, and soon die. A long drought followed by heavy rains result in the worms leaving the bodies of the insects and returning to the earth. Dr. Charles Wardell Stiles has given the name *Agamomermis culicis* to this species of *Gordius*, and it is hoped that some means may be discovered of favoring their increase until there will be larvæ enough to provide every lady mosquito with at least one.

**Tuberculosis Committee of the Charity Organization Society.**—Some time ago this society made an appeal for money to meet the expense of opening a home in the country for young women in the incipient stages of pulmonary tuberculosis. Two thousand dollars have been received, and board in private families for a limited number of patients has been provided. For $5,000, however, a suitable house could be rented and equipped, and an average of twenty patients cared for during the year, and the society makes another appeal for this amount.

**To Determine the Noxious Effects of Tobacco.**—The experiments which have been conducted for several months past in Washington to determine the effect upon the organism of various foods preservatives have been concluded, and the results will, it is stated, soon be made public. Dr. Wiley of the Agricultural Department now announces his intentions of making a new series of experiments to determine the effects of tobacco, smoked, chewed, and possibly snuffed, upon the respiratory, circulatory, digestive, and nervous systems Men who are regular smokers will be examined, their physical condition as to heart action, breathing, digestion, etc., while continuing the use of tobacco under normal conditions being carefully noted. Then they will suddenly cease the use of tobacco entirely, After the effects of the prolonged use of tobacco have been eradicated from the system, it is proposed that the subjects of experiment shall recommence the use of tobacco, beginning in small quantities, which will be gradually increased until they are using as much as when the experiment first began, or more. The difficulty in these experiments will be to persuade the men to abandon the use of tobacco, or to be sure that they are not smoking or chewing surreptitiously while apparently abstaining.

**Home for Convalescent Patients.**—The Lebanon Hospital, situated in the Borough of the Bronx, is working to secure a fund to establish a building for convalescent patients. The United Hebrew Charities of New York has recently donated to the hospital $5,000 toward this fund. This institution is not for any particular nationality or creed, but receives patients of every class irrespective of such conditions.

**Dr. R. M. Pearce** of Philadelphia has been appointed adjunct professor of pathology and bacteriology in the faculty of the Albany Medical College, and director of the Bender Hygienic Laboratory. He will succeed Dr. George Blumer who retires on September 1. Drs. E. McD. Stanton of New York and C. K. Winne of Mount Wilson, Md., will be his assistants.

**Straus Milk Depots in Other Cities.**—Mr. Nathan Straus has been requested by the Health Commissioner of St. Louis to establish sterilized milk

stations in that city similar to those so long in operation in New York. He has promised to see that stations are established there next summer, but on account of the time required to secure the machinery for the pasteurizing plants it will be impossible for a system to be completed in St. Louis this year. He has just donated a pasteurization plant to the Children's Hospital Society of Chicago.

**Obituary Notes.**—Dr. SAMUEL J. RADCLIFFE, one of the oldest practising physicians in the District of Columbia, member of the Medical Association of Washington and a veteran of the Civil War, in which he served as medical director, died at his home in that city on July 9 in the seventy-fifth year of his age. Dr. Radcliffe was born in Washington and was graduated from Georgetown University in 1852 and almost immediately entered the army as assistant surgeon. He rose to be medical director with the rank of lieutenant colonel. He was mustered out on October 7, 1865. He was again appointed assistant surgeon in the army in 1866 and served until 1884.

Dr. F. J. B. ROHMER, one of the best known retired physicians of the South, died at Mobile June 30, aged ninety-one years. He was born in Alsace. He was a graduate of the Medical Department of Tulane University, New Orleans, in 1836, and was one of the founders of the Charity Hospital in New Orleans.

Dr. CHARLES E. NASH of Little Rock, Ark., died on July 8. He was born in St. Louis and was a graduate of the Missouri Medical College in the class of 1849.

Dr. CHARLES LANCASTER died July 6 in Plainfield, N. J., at the age of ninety-five years. He was both a lawyer and a physician and practised as the latter many years. He was also a talented writer, and in early life was intimately acquainted with Emerson and Longfellow. He formerly lived in Philadelphia, but removed to Plainfield about eight years ago after retiring from practice.

Dr. G. DALTON HAYS died at his home in Tenafly, N. J., on July 3. He was graduated from the College of Pharmacy in this city in 1878, taking the gold medal, and served as instructor in the college for many years. He was also graduated at the College of Physicians and Surgeons, New York, in 1884, and became a member of the Academy of Medicine, and was secretary of one of its sections. He was also a lecturer at the Post-Graduate Medical School and at the Training School for Nurses. He was a son of David Hays, who was vice-president and treasurer of the College of Pharmacy for many years.

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**A Study of Korsakoff's Disease.**—Serge Soukhanoff and Andre Boutenko report a number of cases of polyneuritic psychosis or Korsakoff's disease. Altogether there are 192 cases on record, 112 in men and 80 in women. Chronic alcoholism is the chief cause of the disease, typhoid fever comes next, then follow pyæmia and jaundice. Korsakoff considered the disease to be an individual one, accompanied by a peculiar and constant psychic condition, the main feature of which was amnesia. The most characteristic trait of this mental impairment consisted of pseudo-reminiscences. The authors give the history of the literature of the subject and the results of their own investigations. They have found that death is a frequent termination of the disease, and tuberculosis is often the immediate cause. Cases of complete recovery are rather rare. In half the cases in men psychic defects are left. Encephalitic processes with softening of the hemispheres is seldom the cause of death in polyneuritic psychosis.—*The Journal of Mental Pathology.*

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

PARLIAMENTARY; SANITATION; VIVISECTION—HONORARY LONDON DEGREES—CANCER—THE CARLYLE CONTROVERSY—ACLAND'S BIOGRAPHY—BIRTHDAY HONORS—GIFTS AND BEQUESTS—DEATH OF A WOMAN DOCTOR FROM A POST-MORTEM WOUND.

LONDON, June 26, 1903.

THE House of Commons yesterday talked over many subjects which could be introduced on the vote for the home office. Among them lead-poisoning in pottery work, ventilation of weavers' sheds, sanitation of laundries, women inspectors, vivisection. As to the sanitary questions in the above list, surprise and even vexation was expressed at the distrust of the local authorities manifested in some quarters. The Home Secretary made a very good defence of his department. The steady decline in lead-poisoning cases was satisfactory, but further precautions were being adopted. In respect to small laundries, voluntary inspectors had been most useful and had proved to those interested that inspection was not to be feared. Strong objections were expressed to any rules which would crush out the poor women engaged in this trade and give it over to large factories.

Sir M. Foster spoke on vivisection and protested against the violent terms that had been applied by its opponents. He resented such expressions as "torture dens" and such adjectives as "fiendish," "hellish," etc., and then he instructed the House as to what vivisection really had accomplished, and as to what experiments were really carried on.

Dr. Hutchinson also repudiated the epithets which had been applied to the profession, and declared it would be shameful for them to pass unchallenged in that House. When a member or his wife fell ill, the first man sent for would be one who had gained his knowledge from the results of experiments so unjustly vilified.

The University of London has made a further approach to the customs of the older universities by conferring, for the first time in its history, honorary degrees.

The Prince of Wales was made Doctor of Laws, the Princess Doctor of Music. Lord Kelvin and Lord Lister, Doctors of Science.

The Earl of Roseberry, as Chancellor, said he hoped that this would not be an annual celebration, but that in future only those worthy to stand on the same plane as the new doctors would be given honorary degrees.

The directions and avenues through which cancer may possibly be more successfully treated formed the subject of a paper at the Gynæcological Society by the veteran Dr. C. H. F. Routh. He enumerated certain points which he considered have been made out and supported his conclusions by references to other observers. It is hereditary, contagious to the patient himself, has been inoculated in animals, favors certain localities and even houses: statistics point to the neighborhood of forests and to trees round the houses, as well as to two beverages—beer and cider. Such are some of the points Dr. Routh put forward as settled. Then he passed on to note the increase in the disease, its uneven "patchy" distribution and relation of houses to soil. The curious way in which cancers have disappeared after exploratory operations was then considered and the influence of exposure to the air suggested as the cause—oxygen being the agent. Plants do not flourish on all soils nor in all climates, nor even in all seasons. Animals exposed to unsuitable changes soon die. So may not microbes perish when their modes of life are entirely changed? Dr. Routh referred to the generation of a cancer parasite as one that we could not speak of as proved. Still he seemed to attach great importance to microorganisms, and his recommendations for treatment were directed toward their destruction. Thus he advises the employment of oxygen freely to render the injurious effects of organisms inoperative, and pointed out the need of further experiments on their destruction by means of electrical shock or vibrations or by freezing with liquid air and crushing, as in Dr. McFadyen's treatment of typhoid bacilli.

Further, Dr. Routh urged a perfect system of drainage and water supply, flushing of drains with electrolysed sea-water, and the use of this water for watering the streets, combating fires and providing baths—a plan he has previously advocated in a pamphlet on "Water Supply in London."

Two remarkable cases were related by Dr. Routh, in which apparently malignant disease disappeared under the use of sol. peroxide of hydrogen.

In the discussion that followed, Dr Herbert Snow objected to the use of the word cancer in almost all investigations in a vague way, as the name of a single

disease. The first thing toward getting a clue is to differentiate malignant diseases. From statistics he formerly gave he showed cancer was no more hereditary than toothache. He did not know one well-authenticated case of communication to others. In so-called cancer-houses the cases were of different varieties. The parasite theory could not explain the duplication of the original tissue involved in other structures, *e. g.* mammary tissues in the liver, etc. He did not find hydrogen peroxide superior to iodine.

Dr. B. Fenwick had not found one case communicated, and very few with any ground for supposing them to have been heredity.

Mr. Skene Keith believed in heredity. He had met with cases of disappearance after incomplete operation.

Dr. Mansell Moullin did not class papilloma as malignant. He once had to open the abdomen four years after removing papillomatous ovaries, and found no trace of the disease.

Dr. Heywood Smith mentioned a case operated on thirty years ago, and from which he felt sure the disease was communicated to another woman, operated on four days later.

Dr. Routh, in his reply, thought the evidence of heredity strong, when four or five generations of one family were affected. As to "cancer-houses" he was convinced by the careful researches of men of ability and character. He felt certain that hydrogen peroxide was too much neglected, and remarked that an eminent Russian professor had reported the cure of six out of seven cases.

The fresh outbreak of the Carlyle controversy has become more acute since I wrote to you about it. It is also receiving more attention from the profession, for although every one has some pretension to interest in literary matters, more medical points have been raised. The general journals seem to be taking just the line they had taken in the earlier discussions, thus illustrating a partisanship which they cultivate in politics. Sir J. Crichton-Browne's attack on Froude—he calls his statements "Froudacities"—naturally roused the friends of that writer, who have, accordingly, published a manuscript he left entitled "My Relations with Carlyle." Those two publications are occupying the press, and their statements will be sifted over and over again. From the purely medical aspect there is something to be said, but less, I think, than is so generally assumed.

The *British Medical Journal* on Saturday gave a pretty full account of Dr. Gould's views without, however, endorsing the diagnosis of eye-strain as the origin of Carlyle's sufferings. But the suggestion is being discussed freely and the *Journal's* articles is making Dr. Gould's book more known. From Froude's "My Relations with Carlyle" the *Medical Press* of Wednesday extracts quite another interpretation in an article entitled "Genius and Impotence." Quoting the statement that "Their marriage was not a real marriage, and was only a companionship," and that "Carlyle was one of those men who ought never to have married." The *Medical Press* finds that these and other statements need no explanation for medical minds. Of course, Sir J. Crichton-Browne is shocked and assails Froude with a choice selection of vituperative expressions. But what has the public or the profession to do with such disputes? Why not let the matter rest?

Of literary contributors to the controversy I sympathize most with the view of Mr. Andrew Lang, who, in his turn, sympathizes with Tennyson's irony, and in reply to the assertion that the world has a right to know everything about its great men, holds, on the contrary, that the public has no more right to pry into the "secrets of a great man's life, than to stare into a small man's windows, or to open his dispatch box."

He observes that there are some people who would rejoice to find and publish a diary and correspondence of Mrs. Shakespeare, and arouse a controversy in which one party would declare Shakespeare was a brute, and the other that his wife was a shrew. Happily, Shakespeare's heart cannot thus be "torn before the crowd." So in a playful manner he enforces this view by suggestions in case a diary of Xanthippe were at hand. It might be found, he says, that Mrs. Socrates declared her husband never talked metaphysics with her after the honeymoon, and as to his so-called Dæmon, she implored him to consult Dr. Hippocrates about it, for she believed that the Dæmon was only liver, if not brain trouble. But he never would."

The late Sir Henry Acland, F.R.S., held so prominent a position for so long a period at the University of Oxford that his biography has been looked for as a treat by Oxford men. It will interest others too, for the energetic Regius Professor of Medicine was brought into contact with most of the leading lights in literature and politics as well as science. The memoir by Mr. J. B. Atlay is rather a bulky volume, and the letters included almost too numerous, but the work as a whole is one to afford much pleasant reading. Acland's life aim was to bring the scientific work of the University, which was almost extinct, up to a satisfactory state, and this he accomplished after years of desperate opposition on every side. He found the intellect of the University wholly given to ecclesiastical and theological questions, when Pusey could talk of "the evils and dangers of scientific study." He left a school of science of which the University need not be ashamed, he saw no opposition between religion and science, but was himself a deeply religious man of artistic and intellectual tastes.

The King's birthday is officially celebrated to-day in London and all home stations. A long list of honors is announced this morning as conferred in celebration of the occasion. Four medical knighthoods are included. Stephen Makenzie, Patrick Heron Watson (Honorary Surgeon to His Majesty in Scotland), A. D. Fripp, C.V.O., and E. C. Perry. The two last named in recognition of their services on the Army Medical Advisory Board.

Lord Iveagh has offered £34,000 to build science laboratories at Trinity College, Dublin, on condition that the necessary annual outlay is provided for within three years from next May.

The widow of Sir T. D. Brodie, first baronet, has left a sum of money to charities (subject to a life interest) which it is expected will eventually be about £120,000.

Miss Bryson, M.B., Lond., Assistant Medical Officer, Camberwell Infirmary, died on the 15th ult., from septic poisoning, the result of a wound in the finger made when performing a post-mortem examination. She took her degree in 1900.

## OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

SANITARY AFFAIRS IN MANILA—RESULTS OF THE TROZO FIRE—THE CHINESE PLAGUE HOSPITAL—GIFT OF LAND FOR THE NEW GENERAL HOSPITAL—A PROPOSED NEW HOTEL IN MANILA—EXHIBIT FOR THE ST. LOUIS FAIR—OPPOSITION TO THE OPIUM CONCESSION—DESTRUCTION OF LOCUSTS BY THE GRASSHOPPER FUNGUS—THE MANILA MEDICAL SOCIETY.

MANILA, June 1, 1903.

THE sanitary conditions in Manila have lately been quite seriously influenced by the recent fire in the Trozo native district of the city, which destroyed some 3,000 houses and rendered more than 15,000 people homeless. Many of these people have crowded for shelter into other native districts, already far too much congested, while others are camped under makeshift shelters on the sites of their former homes. Under the latter condition particularly, it is hard to maintain proper sanitary conditions and soil contamination is inevitable, as is the case in large military camps. The health authorities are now engaged in providing temporary latrines and other conveniences, and are also planning to take advantage of the wholesale house destruction caused by the fire to ensure that the new buildings to be erected shall comply in their arrangement and construction with sanitary requirements. This task is much easier through the fact that the ground of the entire devastated area belongs to the San Lazaro Hospital administrators, and the individual lessees can thus be brought more directly under the city authorities. Among other things, it is proposed to widen the roads in the district, reduce the size of the blocks, permit the erection of no house which does not front on a street, and establish a common latrine in the center of each block, where it can be cared for by the employees of the "pail system." Sanitation, cleanliness, and removal of excreta can thus be more effectually secured, and the danger of such widespread destruction from future conflagrations will be materially lessened. As things have been in the past, the existence of these closely built native districts of inflammable nipa houses has meant a constant menace to the safety of the city. Had the wind been blowing from another direction on the day of the Trozo fire a much larger part of the city would have been fire swept, as whole blocks of houses flashed into flame from sparks carried more than a quarter of a mile by the high wind. The great deficiency of the water supply of Manila was seriously felt on the occasion of the Trozo fire, as sufficient water could not be secured to make any appreciable effect on the flames.

After the fire the authorities issued free rations to those who needed them, and the Board of Health pitched some five hundred tents for their shelter. The latter were not appreciated, however, as the natives largely preferred to live under flimsy shelters of matting, iron roofing, and similar material. Personal feeling seems also to have entered into the matter; as the Board of Health has been condemning and burning a considerable number of plague houses lately, and it appears that the insurrecto

element has largely spread the story that the Trozo fire was started and spread by the Americans, and particularly by those connected with the work of sanitation. This story appears to be more or less generally believed by the ignorant class of natives, who seem to place more credence in a story the more extravagant it is. For this reason the efforts of the authorities to shelter the homeless seem to have been largely unavailing.

The Board of Health itself lost much property by the Trozo fire, and the losses in the corral of the "pail system" for the disposal of excreta will alone amount to some $50,000. Except a few horses and ambulances, nothing was saved from the plant of the "pail system," and the transporation corral of the Board of Health. The flames also leaped the high stone wall of the San Lazaro Hospital grounds and completely destroyed the buildings of the cholera hospital, and those of the large detention camp for contacts and suspects with plague, cholera, and smallpox. These buildings had a capacity of some 1,500 people, but, fortunately, at the time of the fire there were only a few occupants. None of these lost their lives, but the flames spread so quickly that all property was a total loss. The flames extended so rapidly that it looked for some time as if San Lazaro Hospital itself would get on fire, and the lepers and venereal cases were removed to a place of safety. Much credit is due to Dr. Wilkinson, the superintendent of the hospital, for his excellent work, but for which much more property must have been lost than was actually destroyed. As it was, it looked as if the Board of Health work would be seriously crippled by the fire, but energetic work soon brought matters into working condition, and inside of twelve hours the machinery was running as smoothly as if nothing had happened. Tents were pitched and the cholera hospital established therein, new transportation was secured for the ambulance service, a new office was opened for the "pail system" and its outfit renewed from the storehouse. The local press has been loud in the praise of the health authorities for the way in which they handled the situation.

As a result of the fire, work on the new contagious disease hospitals, already planned for, is being expedited, and ground has already been broken on the site of the old cholera hospital and detention camp for their construction. The plan calls for an administration building with pavilion wards for the patients. There will be two wards for smallpox, one each for male and female cases, two for plague and four for cholera. These buildings will be thoroughly modern in their equipment and well built according to plans similar to that of the Chinese plague hospital.

The Chinese plague hospital, built by the Chinese merchants, has, fortunately, just been completed, and forms one part of the proposed contagious disease hospital for the treatment of plague, cholera, and smallpox. Other wards for the two latter diseases, with a convalescent ward, are shortly to be erected. A reception ward is now being built and storerooms and quarters for the attendants will be provided later. The whole plant is to have its own water supply from a driven well, and when complete will be thoroughly modern and well equipped. The hospital buildings are raised well above the ground, which is cemented. They are built on the pavilion plan, are of hard wood with corrugated iron roofs, have impermeable walls and floors, wide porches, shell windows, and very free ventilation. This style of architecture is not expensive, seems to be most suited to the Manila climate and conditions, and is very sanitary, cool, and comfortable. At one end of each ward is a semi-detached kitchen, and at the other end a similar annex containing baths, water-closets, and storerooms. Each section forms a complete isolation hospital for its own disease, and all come under a single management. As fast as the sections are built, the old insanitary buildings which have heretofore been used for the Chinese having contagious diseases will be burned. The site of this new isolation hospital is better than that of any other hospital in Manila, except that it is a little too far to be as readily accessible as could be desired.

The much-vexed question of a site for the new general hospital has finally been settled, after a site had been decided upon, by the presentation by Senor Legarda, one of the Filipino members of the commission, of about twenty-five acres of land in the Sampaloc district. The only conditions attached are that the hospital shall be called after Governor Taft, and that Filipino physicians and their patients shall have certain rights; though this latter point is not insisted upon, and is left to the judgment of Governor Taft and Bishop Brent, representing the hospital committee. The new hospital site is well drained, and while well away from the turmoil of the city, is sufficiently close for convenience. Senor Legarda is a very wealthy man, and has been much impressed with the splendid charity of the movement to erect the new hospital. The work of collecting funds and preparing plans is going on rapidly, and construction will be begun at no distant date.

The old unfinished Cosmopolitan Hospital building has been sold to the city government of Manila, to be completed and used as an office building. After its sale, a syndicate made an offer to the city for the property, in excess of purchase price, for use as a hotel which is to be provided with all modern conveniences and service. The hotel company also desires a lease of a certain amount of adjoining government land which is at present unoccupied, and which it proposes to convert into a small park in connection with the hotel. As there is much need of such a hotel in Manila, and as the proposed offices of the city government can be located much more conveniently elsewhere, the proposition of the hotel people is being favorably considered and will probably be approved. All this has a bearing on the welfare of the general hospital, as it is understood that the funds to be acquired by the sale of the Cosmopolitan Hospital are to be turned over to the new hospital. This fact largely influenced the Manila government officials in their decision to purchase the property for official purposes, as the need of a large properly equipped general hospital is seriously felt.

Pending the construction of the new general hospital, the members of the Hospital Committee, of which Bishop Brent is chairman, are casting about for some building suitable for temporary use to meet present needs, which are very urgent. The committee is desirous of securing the old military Third Reserve Hospital, which is now used as barracks for infantry and a company of the Hospital Corps, and has taken up the matter with the military authorities. It is expected that the commission will make formal application for the buildings, and it is believed that the consent of the Secretary of War can be secured for their transfer. With but few repairs and changes the buildings can be put in a condition to excellently fill the purpose for which they are wanted; they are centrally located and can probably be given up by the army without serious inconvenience to the service.

The Civil Hospital, an institution of one hundred beds, operated by the Civil Government for the benefit of its employees, has been placed under the control of Major Carter, the Commissioner of Health. Dr. Frank DuBois has been placed in charge during the absence of the attending physician and surgeon, Dr. E. G. Stafford, who has gone to the Benguet Sanitarium to recover from an attack of malarial fever. Dr. Stafford was lately placed in control of the hospital with the title of Chief Surgeon. Dr. Charles Fitzpatrick, who has formerly been attending physician and surgeon at the Civil Hospital, is to become police surgeon, and the work of resident and assistant physicians is to be performed by two physicians selected from the civil-service appointees.

A very complete exhibit for display at the St. Louis Exposition is being prepared by the health authorities of Manila. A committee has been appointed to take charge of the matter, has been granted a thousand dollars to meet the necessary expenses, and has been allotted four hundred feet of display space for the exhibit. The latter will include specimens of all publications, reports, circulars, forms, and other printed matter issued by the Board of Health. There is to be an elaborate series of maps and charts having to do with the distribution and prevalence of some of the more important diseases met with here. Perhaps the most striking feature of the exhibit will be a large series of photographs covering every phase of the work of the Board of Health, the obstacles to be overcome, the conditions as they existed prior to American control, and the sanitary improvements which have been made up to the present time. There will be a particularly complete series of photographs illustrating the work being done against plague, cholera, and leprosy; and the prevention of the animal diseases prevalent in the Philippines will be given special importance. The Board of Health expects to make an exhibit which will be both interesting and instructive, and show what the Americans have been able to accomplish in a sanitary way during the occupation of the islands.

Strong opposition to the proposed granting of an exclusive concession for the importation and sale of opium has developed in several quarters. The Chinese are fighting the proposition because it will create a monopoly which will unduly raise the price of opium and bring opium smoking into the class of luxuries; while the Evangelical Union and other reform bodies are fighting it because they think that the Chinese should not have opium at all, and that its importation, except as a medicine, should be prohibited. The case is much similar to the fight against the army canteen, in which the W. C. T. U. and the saloon-keepers united their forces to destroy that institution.

The Evangelical Union, in its memorial, states its belief that the admission of opium constitutes a grave economic peril; and that the opium habit at present destroys the health and efficiency of as many citizens of these islands as leprosy itself. It states that the use of the drug is rapidly spreading among the Chinese and the lower class of Filipinos, and that one in five of the Chinese, in the islands, are victims of the opium habit.

The Chinese, on the contrary, have issued a statement to the effect that the use of opium is as much of a necessity to Chinese as the use of food; that while nearly all Chinese smoke opium to a greater or less extent, not 2 per cent. of those in the islands are slaves to the drug; and that the granting of the proposed concession would put the price of opium so high as to be beyond the reach of the poorer Chinese. For these reasons they desire that the concession be not granted. It is a case of two diametrically opposing interests being united on a common proposition.

The destruction of locusts is being carried on in the provinces with much success by the sanitary authorities, though the late dry weather has somewhat interfered with the work. The grasshopper fungus, so successfully employed in the Western States in the destruction of grasshoppers, is used here in fighting the locust plague. The fungus is placed on small pieces of bread, which are strewed in the path of the locust swarm and upon which they greedily feed; or locusts are caught, infected with the fungus, and thrown back into the swarm. The fungus acts quickly and certainly, and within twenty-four hours the locusts die by myriads, as many as a hundred bushels having been collected from the dead locusts of a single swarm. Once a swarm is located, those in charge of the work of destruction follow the swarm for days until practically all the locusts have been destroyed. As a certain amount of dampness is necessary to the development of the fungus, much of the work during the dry season is done at night, when the heavy dew is of much assistance. There has been some little opposition by the natives to the destruction of the locusts, which they regard as a valuable food, and this opposition has been particularly excited as the locusts which have died of fungus disease are unfit for food and cause grave intestinal disorders. This is the case to such extent that the health authorities have found it necessary to send word to the provinces where the locusts are being destroyed, prohibiting their use as food by the natives. As the locusts lay their eggs in the ground, it is thought that the plowing up of the eggs by more general cultivation of the fields, and the destruction of the adult insects by fungus, may ultimately cause the extermination of the locusts in the islands.

The Manila Medical Society is considering the advisability of establishing a medical journal, and has lately held several meetings to discuss the matter. There seems to be some opposition to the project. The native physicians cannot be counted upon to support such a publication in any way, and it is difficult to see how, with the very limited circulation such a paper would necessarily have, the venture could result in anything but financial failure. The small size of the society is also such as to scarcely ensure sufficient contributions to fill the columns of the proposed paper.

One defect of the Manila Medical Society would seem to be the fact that it is administered too much as a civilian organization, and but slight effort is made to interest the medical men of the Army, Navy, Marine Hospital, and Civil Service in and around Manila in its work. The latter class certainly outnumbers the English-speaking physicians engaged in civil practice here, and contains some of the most able men in Manila. The society can never prove of the maximum benefit until it breaks away from its present restricted policy and seeks the support of the government physicians here, who can add much to its strength, dignity, and importance in the medical world. There is no reason why a society conducted on broader lines should not prove to be of the greatest value, particularly in respect to the investigation and study of tropical diseases.

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**Heat Exhaustion.**—William F. Waugh says that the victims of heat exhaustion are most frequently fat, middle-aged men—victims of the ice-water habit. Free perspiration ensues, the sweat carrying with it the salts of the blood; dyspnœa occurs and the patient faints. If he is bled, ice applied to the head, and the classic treatment of sunstroke given, he quickly succumbs. The readiest treatment is by glonoin, gr. $\frac{1}{150}$ to $\frac{1}{100}$, dissolved in a few drops of water and put into the mouth, quickly absorbed by the buccal mucosa. Atropine, gr. $\frac{1}{150}$ to $\frac{1}{100}$, should be given simultaneously. The patient's head should be kept low. The general and profound vasomotor paresis is combated by brucine, of which a milligram, gr. $\frac{1}{65}$, may be given every half-hour till the desired degree of vascular tonicity has been secured.—*Virginia Medical Semi-Monthly.*

# Progress of Medical Science.

*The Boston Medical and Surgical Journal, July 9, 1903.*

**A Case of Acute Epididymitis in an Undescended Testicle, with Gonococci Demonstrated in the Excised Organ.**—Fred T. Murphy reports this case. The patient was a man twenty years old. The left testicle had never been in the scrotum, and five weeks before he had contracted his first gonorrhœa. There was a small lump in the left groin, very tender and painful. In both groins the glands were slightly enlarged. On the left side just above Poupart's ligament, and external to the external ring, was a tender tumor, apparently distinct from the glands. The external inguinal ring was plugged with a mass which seemed to extend on the external oblique fascia to the tumor. Diagnosis was made of acute inflammation of an undescended testicle. At operation the indurated cord was tied off as high as possible with catgut, and the fascia caught together with interrupted stitches of the same material, a small drain being left in the inguinal canal. The patient left the hospital on the eighteenth day. It was a case of epididymitis without abscess formation, the usual clinical condition. Microscopical examination of the pus showed diplococci like gonococci. The gonococcus clearly was the infecting agent in this case. The writer believes that it is the microorganism concerned in all cases of epididymitis with gonorrhœal urethritis, possibly rarely associated with a mixed infection. The evidence is, that this affection is not due to the absorption of toxin from the urethra or to the primary infection of other microorganisms. Clinically, the differentiation from the other possibilities of acute inflammation, as adenitis, incarcerated or partly strangulated hernia, is not without interest.

*Journal of the American Medical Association, July 11, 1903.*

**Continued Fever, Neither Malarial nor Typhoid.**—T. J. Happel claims the existence of a "third" fever which does not respond to the Widal test and does not show the organisms of malaria in the blood. He advances the rather novel theory that when a blood smear is sent to the laboratory the history of the case should be purposely omitted so as not to influence the pathologist. He then describes several cases of this "third" fever, and points out what he considers its clinical peculiarities, but, on looking over the histories of his cases, we discover no greater departures from the normal typhoid and malarial types of fever than we are accustomed to see in Northern cities at least in cases that belong unmistakably to one or other of these categories. As to the negative results of bacteriological and microscopical examination, we have no explanation to make. Possibly persistence in the application of laboratory methods may result in evidence altogether different.

**The Management of Fever in General.**—A. A. Eshner states that fever is most commonly due to changes secondary to infective processes—that is, to the toxic effects of the products of bacterial and cellular aotivity. The regulation center governing the amount of heat production lies in the central nervous system. While there may be a theoretical difference between fever and pyrexia, there is no practical difference—at least, none from the clinical standpoint. It has been thought that elevation of temperature in the presence of infectious diseases is a conservative process, perhaps having antibacterial or antitoxic value, but as to the accuracy of such a view the evidence is not conclusive. The great problems that confront the clinician are to remove the cause of the fever in so far as it is possible and to restore metabolic equilibrium. It may be impossible to do much along the line first mentioned, but we have at our disposal emesis, catharsis, diaphoresis, diuresis, enteroclysis, hypodermoclysis, and intravenous transfusion. Acting along the second line we may employ various baths and sustain the heart and lungs with the usual stimulants. Antipyretic drugs are not necessary as a rule, and their use is at all times attended with danger.

**Southern Fevers.**—W. Krauss discusses the question of fever occurring in the Southern States with special reference to the possibility of an "*x*" fever, neither malarial nor typhoid. His conclusions are as follows: (1) A very sudden hyperpyrexia in midsummer is more apt to be sunstroke than "congestion." Do not give quinine without cause. (2) The malarial leucocyte count is only collateral evidence of malarial infection, and the count must include all the cells in the spread. (3) The Widal test may lead us into error in a small percentage of cases; the blood culture test is more difficult and has no negative value. (4) A chill or fulminant onset of a typhoid fever is not sufficient evidence of a complicating malaria. (5) A chill or sudden disturbance of the temperature curve during convalescence in typhoid fever is not necessarily malarial. (6) In a malarial infection the persistence of

an irregular subcontinuous fever after thorough cinchonization is not evidence of a typhoid complication or of remaining plasmodia. (7) A positive diagnosis of summer-fall fevers is not always possible. (8) In the hygienic management of summer-fall fevers we should presuppose a double infection, irrespective of symptoms. (9) Some of the summer-fall fevers are typhoid, some are malarial, and a few of them are neither one, but the writer is opposed to the belief in an *x* fever.

**A Clinical Observation of Ninety Cases of Typhoid Fever.**—These are analyzed in tabulated form by R. M. Harbin, whose conclusions are summarized as follows: (1) Fasting and a restricted diet are indicated because of pathologic conditions. (2) A clinical fact maintains that emaciation occurs independently of the amount of food taken. (3) All severe cases should be subjected to fasting for twenty-four to forty-eight hours to relieve the active symptoms, which exhaust the patient more rapidly than the lack of food. (4) After a fast should be prescribed a restricted diet of broths, diluted milk, etc., in definite quantities. (5) Gelatin prevents too rapid amaciation in certain cases and renders hemorrhage less liable. (6) The cold bath or the modified cold bath is more effective during a fast. (7) Peristalsis favors the absorption of toxins, and cathartics should be used only to remove undigested food. (8) The presence of intestinal ulcers should be assumed to exist in every case, and the proper treatment is rest, which is better attained by fasting and a restricted diet, thus preventing hemorrhage and perforation. (9) The presence of diarrhœa and vomiting indicates the adoption of the fasting treatment. (10) Fasting and a restricted diet shorten the course of the disease and many cases run an abortive course after the amphibolic period. (11) Many of the vaunted cures from specific drugs are dietetic in fact. (12) Recrudescences are nearly always due to dietetic errors. (13) In the above report, 45 consecutive cases occurred without death. Of 87 whites, 2, or 2.2 per cent., died. Of colored, 2 died, and the low mortality of 4.4 per cent. of all cases was ascribed to the above treatment.

*Medical News, July* 11, 1903.

**Notes on the Selection of a Climate for the Treatment of Tuberculosis.**—Russell Bellamy emphasizes the following points: Consumptives with a rapid breaking down of lung tissue should avoid high altitudes. So also should those of neurotic temperaments. Those with especially developed cardiac lesions, with a marked tendency to a disturbance of cardiovascular balance, should avoid high altitudes. Those completing the fifth decade, where the capacity of muscular exertion is considerably limited, should avoid high altitudes, although the writer has heard of many cases being taken to Colorado, recovering and taking up their life there. Laryngeal cases do better at the low altitudes.

**Dry Superheated Air in the Treatment of Septic Infection.**—Clarence Edward Skinner declares that although dry hot air in the treatment of septic infection is a "good thing," still its results are not invariably successful. Individual idiosyncracy, or variations in the inherent malignancy of different instances of even the same types of infection often present themselves as powerful factors working against the satisfactory action of any curative agent. Dry hot air will, alone and unaided, cure many cases; others will require all the remedial sources at our command, while still others will resist our every effort. It is simply a rational curative measure exerting a known and constant physiological action, and which, either alone or in combination with other agents, greatly increases our power to overcome this condition in the majority of cases. The writer then cites several cases illustrative of the beneficial effects of this treatment. In cases in which streptococci have been found in the blood, and in puerperal sepsis, there is apparently no reason why there should not be beneficial results from this method of treatment. It affects physiological function in two ways: first, by a direct stimulation of cell metabolism in the part treated, due to the raising of its temperature *en masse;* and second, by a reflex acceleration of cell nutrition set up by the stimulating influence of the heat upon the numerous nerve endings in the skin. The copious perspiration relieves the general circulation of a certain proportion of the toxin which is impregnating the body fluids. To the influence upon the circulatory function of the part whereby stasis is relieved, is probably due to the powerful influence of dry hot-air treatments in relieving pain and swelling. The physiological action of the body treatment is predominantly reflex through the spinal sympathetic, the area of skin affected being so great that the capillary circulation is able to dissipate the heat before it penetrates deeply enough to any great extent, therein differing from the local application. In case of pus, it must be evacuated, but even then hot air will localize the inflammatory action closely to the abscess cavity, when a stroke of the knife will end the trouble once and forever.

*New York Medical Journal, July* 11, 1903.

**The Source of Typhoid Fever.**—C. F. Davidson reports a series of cases of interest as to the mode of infection. Two were caused by infected butter packed in tins washed with water from an infected well that was responsible for six cases among those drinking water from it. Commenting on the fact that vegetables and fruit are often supposed to be the carriers of contagion, he says that he sees no reason why they may not be, but in his own experience he has always been able to trace the source of the trouble back to an infected well.

**Radiotherapy in Enteritis and Colitis.**—Sinclair Tousey has used radiotherapy in cases in which there is a chronic pain with frequent mucous discharges, together with occasional passages of blood or false membrane, and which have proved refractory to intestinal antiseptics given either by the mouth or by enteroclysis. He describes in detail the method of giving the treatment, but has as yet no definite results to offer. His expectation of lasting benefit is based not so much on account of the well-known germicidal effect of the rays as on account of the stimulating and alternative effect following their application when combined with the high-tension discharge from a vacuum tube.

**Report of a Case of Pernicious Anæmia with marked Ptosis of the Abdominal Viscera.**—C. B. Gay gives a very complete report of a case, reviews the history of the disease in general, and adds a bibliography. His patient was a married woman aged twenty-six years, presenting the usual features of the disease. Examination of the abdomen led to the belief that in addition there was a pyonephrosis which perhaps was at the bottom of the blood condition. Accordingly, the abdomen was opened, and what had been supposed to be a pyonephrosis was found to be an elongated right lobe of the liver, with an enlarged and dislocated kidney. The patient died three days after the operation. The clinical diagnosis in the case was pernicious anæmia, associated with cystitis, and an ascending pyelitis. The autopsy showed a general prolapse of all the abdominal viscera. The lymph glands showed an increase in their stroma with hemorrhagic extravasation with leucocytes predominating and disintegration of many corpuscles. The retroperitoneal glands showed all the characteristics of true hæmolymph glands. This latter point is, in the view of the author, of the greatest importance as bearing on the etiology of the disease. This point has already been dwelt on by Warthin, and the case of Gay seems to bear out the former's views.

**Some Observations on Stacke's Operation.**—T. R. Pooley contrasts the Schwartze and Stacke operations. He enumerates the dangers of the latter, mentioning the possibility of wounding the facial nerve, dura, lateral sinus, and semicircular canals, and the possibility of entering the internal carotid artery and internal jugular vein with the curette. Moreover, a radical cure is by no means assured by one operation, the length of time required for healing is considerable, and finally there is a possibility of permanent impairment of hearing in patients who before operation could hear fairly well. As to the indications for operations, he makes the following statements: The objective indications may be grouped under two forms: any case of reinfection or of a rapid extension of a chronic otitic process, or whenever a grave complication is threatened; the indication is then for immediate operation. The indication is not immediate when the patient suffers little or no pain and there is no striking symptom in the mastoid, but even here the indication may be to operate if the osseous lesion is extensive. The subjective symptoms are persistent and recurrent pain in the ear or mastoid process, with persistent and fixed pain in the parietal or occipital region, increased by percussion, which frequently points to temporal or cerebellar abscess; vertigo, either permanent or intermittent attacks, which may be due to erosion of the external semicircular canals; well marked brain symptoms, such as headache, heaviness, pressure, torpor, loss of consciousness, etc.

*American Medicine, July* 11, 1903.

**Two Cases of Appendicitis, and Some Deductions Therefrom.**—E. R. Secord reports these cases, in which the symptoms were not severe, but in both of which he operated. Early perforation would undoubtedly have occurred in each case had not operation been performed. The writer makes a strong protest against the description of opium as "the abiding resource of the great mass of conscientious physicians," and also against the charge that those who believe in the operative treatment are more interested in their skill in abdominal surgery than in their patients' welfare. If morphia be used it will relieve pain and tenderness, remove rigidity, decrease pulse-rate, and lower temperature—in other words, cover up all the symptoms of value in diagnosing the exact condition present. But it will not prevent the perforation of a gangrenous

appendix, nor will it absorb the stinking and infective pus from a periappendicular abscess. If morphia had been used in the above cases the result would undoubtedly have been perforation of the appendix.

**A Case of Double Curvature of the Spine with an Interesting Complication.**—Edward Judson Wynkoop reports this unusual case. The patient was a boy of three and a half years. There were two deformities of the spine. One was at the junction of the lumbar and dorsal vertebras; the other in the upper dorsal region of the spinal column. There were corneal scars on both eyes. Subacute pleuropneumonia developed. The fluid withdrawn showed no tubercle bacilli. It would seem, from the history of this case that the cause was unquestionably tuberculosis, but no history of specific or tuberculous trouble could be obtained. Powers states that syphilitic disease of the spine sometimes occurs at two different points in the vertebral column, separated by one or more healthy vertebræ, while such healthy intervals less often occur in tuberculous diseases." Spinal disease, caries of the spine, tuberculosis of the spine or kyphosis is a disease common in childhood, and usually occurs between the first and tenth years. Statistics show the dorsal region more often affected. Double curvature is not common.

**Observations on the Diagnosis of Nasal Sinusitis.**—Walter J. Freeman states that one of the greatest hindrances encountered in reaching a correct diagnosis is the fact that the sinusitis very frequently occurs in the narrowest side of the nose. The writer says that in the diagnosis of antrum inflammation, whether acute or chronic, especially when there is only a small amount of discharge, no sign has stood him in such good stead as the discovery of pus flowing over the upper surface of the posterior end of the inferior turbinal. A tentative diagnosis is often made by certain well-defined odors, those of sour pus and of sulfuretted hydrogen. These odors are very different from that found in antrum suppuration due to genital caries, the latter being more foul and clinging. The symptom of intermittent cacosmia is very significant of sinus suppuration, and the antrum will usually be found to be the cavity affected. While acute inflammation of the ethmoid sinuses is very common in grip epidemics, the writer has never yet seen a case in which appropriate local and constitutional treatment did not effect complete resolution within a few weeks. Except in atrophic rhinitis or in rare cases of deformity of the septum with accompanying lack of development of the turbinals, the direct flow of pus from the sphenoid opening can seldom be seen. When the discharge is abundant and the turbinal swollen, a positive diagnosis of the special cavity affected is at first often impossible. Contraction by cocaine and syringing will finally allow a fairly accurate diagnosis. In cases of small amount of pus, examination should be made either early in the morning before the sinus has emptied, or late in the evening when the sinus, drained, it may be, during the night, has had a chance to refill.

*The Lancet, July 4, 1903.*

**Hypertrophy of One Breast.**—The case is reported by J. R. Gibson, his patient being a woman of twenty-five years, in her first confinement. She stated that at puberty the left breast had grown so much more rapidly than the right that a pad was required over the latter to give the bust a symmetrical appearance. No trouble was caused by this size except annoyance from weight. Both mammæ were well-shaped and both secreted well after confinement, especially the larger one, which, from its feel, appeared to be composed mainly of glandular tissue.

**Perforations of the Gall-bladder; Treatment by Invagination.**—Influenced by the recent advice of a colleague who advocated the invagination method of closing perforations of the bowel met in cases of strangulated hernia, H. A. Lediard has applied the method to perforations of the gall-bladder, and gives the operative details of a successful case. At the operation the viscus was discovered in a mass of matted omentum, with a gangrenous-looking perforation on the anterior surface near the fundus. A gallstone of small size was seen lying outside the gall-bladder. After the bile had been removed with swabs the perforation was enlarged with scissors and removed thirteen small gallstones, the gall-bladder packed with gauze, and the abdomen cleaned. The perforation was invaginated and stitched with Lembert's sutures, one suture passing through the edge of the liver, owing to rottenness of the gall-bladder wall. The entire abdomen was now flushed out with salt-solution, and the wound was then closed absolutely. The patient suffered from shock and had a subnormal temperature for a few days and was fed rectally for some five days, but made a good recovery.

**The Influence of Diet in Pregnancy on the Weight of the Offspring.**—From dietetic experiments on guinea-pigs, D. M. Paton concludes (1) that the weight of the young is independent of their number, and (2) that the weight of young produced in well-fed guinea-pigs bears a close relation to the weight of the mother. His observations, though few in number, warrant the statement that the size of the offspring depends very directly upon the diet and nutrition of the mother during pregnancy. While this explains the easy labors among the healthy lower classes and confirms Prochownick's conclusion that by dieting the mother the children of rickety women may be so reduced in size as to be viable, it also probably helps to explain the very high infant mortality among the very poor. The infant starts life at a low level and readily succumbs to the hardships to which it is too often subjected. It is also logical to believe that the nourishment of the maternal tissues seem to take precedence over the nutrition of the fœtus. Were this not the case, had the embryo the prior claim to nourishment, we should find that in badly nourished mothers each gram would produce a greater proportionate weight of young than in well-nourished mothers. This is exactly the reverse of what occurs. The mother thus appears to pass on the *surplus* nourishment to the fœtus, and the better the nutrition of the maternal tissues, the greater is the growth of the young in utero.

**The Fatal Effects of Chloroform on Children Suffering from a Peculiar Condition of Fatty Liver.**—The argument of L. G. Guthrie is to maintain the proposition stated in the title of his paper. The clinical histories of several cases are given together with the autopsy findings. The sequence of events is assumed to be as follows: (1) The liver being previously to the operations in an advanced state of fattiness was probably on the verge of functional inadequacy with regard to elimination of toxins entering the portal circulation, though still able to hold its own in ordinary circumstances. (2) Chloroform by decreasing oxidation already deficient aggravated the condition of fattiness already present and so lowered the hepatic functions that ptomains or toxins escaped into the general circulation. (3) Chloroform, moreover, by its specific action on the kidneys, prevented the elimination of such poisons by the urine, and was thus again immediately concerned in the cause of death. In regard to the mode of action of chloroform in these cases the toxæmic theory may be safely regarded as the true one, the theory of fat embolism having been disproved. Concerning the diagnosis of the peculiar liver condition, Guthrie declares it is not difficult if the peculiar character of the cerebral symptoms is borne in mind. The screaming and delirium so often noted should not be mistaken for the fractiousness of a child in pain, or when "feeling sick." Jaundice is an indication of danger. In case the latter is imminent, purgation, venesection, and saline transfusion are the only procedures offering any valid hope of success.

*British Medical Journal, July 4, 1903.*

**Smallpox and Revaccination.**—John Marshall Day reports two cases: One patient, sixty-six years old, was last in contact with a case of smallpox on May 26. She was successfully revaccinated on that date, but on June 9—that is, on the fifteenth day, including both dates—she was suffering from a smallpox rash in the early stage. Another case last in contact with smallpox on May 8, successfully revaccinated on that date, first seen on May 22 with commencing smallpox rash—that is, on the fifteenth day. It is necessary to keep contacts under observation for at least fifteen days.

**The Life-span of Filaria Medinensis.**—Patrick Manson says that the annual recurrence of a guinea-worm season in some of the endemic districts affected by that parasite suggests that at least one year, less three to six weeks, necessary for the preparatory metamorphosis in cyclops, must elapse between the date of infection of the human test and the appearance of the mature embryo—emitting worm at the surface of the body; and further, that the season of infection is correlated to an annual recurrence of certain hydraulic and thermic conditions favorable to cyclops and to the evolution of the parasite in that crustacean. But it is hard to prove this incontrovertibly from observation in the endemic regions, seeing that it is generally impossible in these localities to exclude the possibility of the infection having taken place at some date prior to or subsequent to the commencement of the postulated year.

**Remarks on Cancer of the Prostate and the Selection of Cases for Suprapubic Prostatectomy.**—Reginald Harrison says that carcinoma of the prostate in by far the greater proportion of cases is of a hard and slow-growing nature, closely resembling schirrhus of the breast, both microscopically and to the naked eye. As a rule, there is not very much intravesical projection of the prostate in these cases, and what there is is of an uneven and irregular outline. On the other hand, the large, soft adenomatous prostate presents, as a rule, a considerable enlargement into the bladder cavity with smooth rounded

surface. The writer lays considerable stress on the importance of recognizing carcinoma or cancer of the prostate when it is the cause of the enlargement, and distinguishing it from ordinary hypertrophy or adenoma, for the reason that it may be little short of a calamity to submit a person to a prostatectomy should the enlargement turn out to be of a malignant nature without knowing it. The prostate is approached operatively, much on the same principle as the breast and other organs of the body. It is most important to recognize, first, the precise nature of the enlargement to be dealt with. Though a deliberate prostatectomy may not be advisable in cases of this kind, there can be no doubt that carcinoma of the prostate often, sooner or later, leads to conditions in which operative interference is called for, the writer refers more particularly to the effects of obstruction so caused upon the contents of the bladder. A suprapubic opening may give immense relief to the patient whose bladder is distended with clots or foul urine. This is a substitute for a catheter which may be advantageously utilized. The writer then adds a word about the Röntgen rays, and high-frequency currents in some of these inoperable cases of prostatic carcinoma. He thinks this method is worth a trial. Partial operations on the prostate are not to be recommended when the entire organ is more or less involved in a hypertrophy.

*Münchener medicinische Wochenschrift, June* 23, 1903.

**Treatment of Laryngeal Tuberculosis by Galvanopuncture.**—L. Grünwald recommends this method from an extended clinical experience. Its value depends upon the fact that by means of the puncture the treatment is carried to the deeply infiltrated tissues, and it has long been recognized that unless these are reached permanent results are not obtained by any method. Futhermore, galvanopuncture does not irritate the healthy mucous membrane surrounding the tuberculous lesion and consequently does not produce the annoying and baneful disturbances arising from most local applications. In using this method the tissues to be punctured are first anæsthetized, and then the small platinum point of the cautery, at white heat, is pressed into the tissue until the healthy portion is reached; this is determined by a feeling of resistance which is encountered the moment that sound tissue is reached. The entire puncture takes from five to ten seconds. Three or four punctures are thus performed at one sitting, and four to six sittings are usually required to treat thoroughly all the diseased tissue. Two illustrative cases are appended.

**Tar as a Covering for Streets.**—M. Schottelius and Guglielminetti advise the covering of streets with coal tar so that the dust nuisance and its harmful consequences may be abated in great measure. In several places, notably Monaco, Paris, and London, raw petroleum has been used for this purpose, and while thereby the "dust plague" has been greatly lessened, it cannot be said to have been a successful method because of its non-durability, since it only lasts for about six or eight weeks. In addition to this, it is very expensive. The use of coal tar for the same purpose is, as recent experience has shown, very much more satisfactory because of its cheapness and durability, since it remains in good condition for at least eight months, even if the streets thus treated are used for a heavy traffic. In its application the following principles must be observed: (1) It must only be applied during dry warm weather, and the streets should have been perfectly free from moisture for two or three days previous to the commencement of the work. (2) If the streets to be treated are macadamized they must be in good condition and present an even hard surface. (3) At the time of the application the street must be absolutely dust free. This is to be obtained by having them wetted down and quickly dried on a warm clear day. (4) As soon after the wetting as the street has dried the coal tar heated to 60° C. is applied with brushes in an even layer about 1 or 2 mm. thick. Upon this a small quantity of sand is sprinkled. This hastens the drying of the coal tar and a shiny slippery surface is avoided. If the work has been done as above described, in the morning the street may be opened for traffic on the same evening.

*French and Italian Journals.*

**The Anti-tuberculous Vaccination of Nursing Infants.**—M. Behring and M. Hericourt proposes to immunize infants by feeding them on milk taken from cows that have been vaccinated against tuberculosis, old bacillus cultures of human origin having been injected in small doses in young animals. Experimentation has shown that animals so treated are absolutely immune. There is, of course, no danger in trying the process on infants, but as all children do not become affected with tuberculosis, it will be difficult to tell whether or not they owe their immunity to the treatment.—*Journal des Praticiens*, April 23, 1903.

**Experiments in Regard to the Diazo-reaction of Ehrlich.**—The following are some of the results obtained by Carmelo Di Bernado. The reaction was absent in nearly all of thirty-seven malarial patients. Out of 262 tuberculous patients, it was absent in almost all cases of early pulmonary tuberculosis; while it was present in the second and third stages. The reaction and its intensity were not in relation with the temperature, the condition of nutrition, the number of bacilli in the sputum, nor with diuresis nor diarrhœa, but rather with the extent of the pulmonary lesion. In pleurisy, peritonitis, meningitis, adenitis, and in osseous tuberculosis, it is a valuable means of diagnosis, and it disappears if recovery ensues as a result of medical or surgical treatment.—*La Riforma Medica*, June 17, 1903.

**Lesions of the Kidneys and Stomach in Chronic Lead Poisoning.**—P. Menetrier concludes from his researches that the chief characteristic of the kidney lesion in these cases is an atrophic sclerotic nephritis from vascular hypertension, and not an excretory nephritis. The gastritis, while possessing in common with ordinary gastritis the usual lesions, such as glandular atrophy with a diminished number of glands, and a tendency to the multiplication of their culs-de-sac, changes in the epithelial lining, disappearance or diminution of the differentiated cells, is in addition characterized by the presence of a regular intertubular sclerosis, diffused and generalized in the gastric mucosa, which is slightly thickened, while the submucous and muscular coats are not modified. This interglandular sclerosis pushes up and between the glands in the form of fibrous bands. In all other particulars the gastritis of chronic lead poisoning resembles that of alcoholic poisoning with which, indeed, it is often associated.—*La Tribune Médicale*, June 24, 1903.

**The Prophylaxis of Malaria by the Administration of the Salts of Quinine.**—Joseph Michon experimented in the most malarious part of Corsica, administering quinine to thirty-eight vintagers in the hope of preventing the malaria to which they were usually subject. The dose was 0.80 gram of the hydrochlorate of quinine every three days, in two doses, one in the morning, and one in the evening. The next year he diminished the dose slightly. In the first year there was not one case of fever. In the second one woman only was attacked, once only, and that not severely. The workers experimented upon slept in the open air, on account of the insufficiency of dwelling houses. The season and the locality were the worst possible so far as regards infection, and yet the patients were immune. In a neighboring town, where the conditions of existence were exactly the same, many of the vintagers had malaria, and not a few succumbed.—*Archives Générales de Médecine*, June 23, 1903.

**Meningeal Symptoms Occurring During the Course of Gastroenteritis in Children.**—When symptoms pointing to a lesion of the meninges occur during gastrointestinal attacks, observes A. Ausset, it is of the utmost importance that we should be able to tell whether or not meningitis is really present. In his opinion, simple convulsions, not followed by special meningeal symptoms, are usually, if not always, due to some irritation of the meninges of more or less severity; the child may later be attacked by encephalitis, cerebral sclerosis, hydrocephalus, etc., definite lesions which prove that the convulsion was the sign of some grave change in the nerve centers. Diagnosis of the true state of things is, however, extremely difficult, nor can lumbar puncture be relied upon to give us absolute information. Kernig's symptom is almost always present and gives valuable indications. Ocular troubles are of great diagnostic importance, but they do not occur when there is merely hyperæmia, congestion of the meninges. Still a maximum contracture of the pupils is a frequent sign. As regards treatment, lumbar puncture may be of use in allaying pains, in diminishing hydrocephalus when it is present, and in assisting in the diagnosis. It must, however, be done under the strictest antiseptic precautions, and not be resorted to unless clearly indicated, nor repeated too often.—*L'Union Médicale du Canada*, June, 1903.

**Whimpering and Crying in General Paralysis.**—M. Marandon de Montyel has observed a tendency to whimper in more than one out of every three paralytics. Syphilitics and alcoholics were the most frequently affected with this tendency, and it lasted longer than in others, but was of a moderate degree, while in other non-infected patients it was always present in an excessive degree. In frequency and in duration it was in direct relation to age, and in intensity in inverse ratio. It was more frequent and more intense in winter than in summer. It was especially associated with motor troubles. No relation was established between whimpering and hyper-

**æsthesia**, but it was found to be in inverse ration to genital changes. The usual duration of the symptom is from two to three months, but in many cases it lasted only a fortnight.—*Le Bulletin Médical*, June 24, 1903.

**The Cytological Study of the Cephalorachidian Fluid in Some Diseases of Childhood.**—Mario Flamini has found that when there is meningeal irritation, leucocytes are present in large numbers in the cephalomeningeal fluid. In tuberculous meningitis lymphocytes are in preponderance, yet in some cases polynuclears are the more numerous; the latter is the case when the Koch bacillus is found in the fluid. The bacilli of tuberculosis with their proteins exercise a positive chemiotaxic influence on the large leucocytes, their toxins on the other hand, exert their influence on the lymphocytes. The meningeal processes may generally be divided into two classes—those in which the irritation is due to toxic substances of different natures, and those in which it is due to the action of germs. It would seem, from the results of experimentation, that in the former cases lymphocytes, and in the latter polynuclears, prevail. The value of cytodiagnosis as a means of distinguishing between tuberculous meningitis and that due to other infective agents loses much of the value which of late has been attributed to it.—*Rivista di Clinica Pediatrica*, June, 1903.

**A Myotoxic Serum.**—Francesco Scotti, from his experimentations, concludes that (1) The injection of the muscular juice of the rabbit into the peritoneum of a duck, and a guinea-pig, will give us a serum which will be toxic in its action toward the rabbit. (2) This action is both general and specific. (3) The general action, most intense in the serum of treated guinea-pigs, may cause almost immediate death of a rabbit. (4) The specific toxic action is manifested after small doses in an increased excitability of the muscular system. (5) The serum of an untreated guinea-pig not only does not possess this property, but, on the other hand, produces a certain lowering of muscular excitability in rabbits.—*Giornale Internasionale delle Sciense Mediche*, June 15, 1903.

**Gastric Opotherapy with Pig's Gastric Juice.**—Maurice Hepp has used this substance with a fair amount of success in the treatment of certain infections of the digestive tract, and with very little success in cases of mucomembranous enterocolitis, but he has had really remarkable results in cases of pulmonary tuberculosis. In the early stages of the disease, pig's gastric juice administered in doses of several tablespoonfuls a day, completely overcame the lack of appetite and the sense of heaviness which so often prevent tuberculous patients from obtaining the nourishment which they so much need. The most striking effects, however, were produced in advanced and almost desperate cases. Frequently the administration of this remedy stopped the incessant vomiting, stopped the gastric pain, and calmed the attacks of cough of gastric origin. The author supposed at first that these were accidental effects, but repeated observations have convinced him that they were really due to the medicament.—*Gazette des Hôpitaux*, June 18, 1903.

**Reunion of the Severed End of a Finger One Hour and a Half after the Accident.**—H. Secretan describes the case of a young woman who came to him with a wound of the left middle finger. The end had been cleanly severed by a cutting machine at about the root of the nail. While the author was examining the finger, a friend of the young girl took the cut end from her pocket where it had been lying wrapped in a piece of newspaper. The accident had occurred an hour before, and all that time the cut end, which had been picked up from the dusty floor, had been lying in the pocket in an unclean piece of paper. Nevertheless, yielding to the patient's desire, the author attempted to graft it to the finger. The cut end was immersed in tepid water, and then fixed in place with three stitches, one deep one in the pulp, and two extremely superficial lateral ones. The result was excellent. A very small spot of necrosis formed near the deep suture. The circular wound healed by first intention in ten days. The patient returned to work in less than a month.—*Revue Médicale de la Suisse Romande*, June 20, 1903.

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**Puerperal Sepsis.**—When a case of uterine sepsis progresses unfavorably after curetting, irrigation, and proper general treatment, as evidenced by the pulse, the temperature and the condition of the uterus, we are justified in opening the abdomen and removing the uterus, unless, after opening the abdomen, we find some condition outside of the uterus to account for the persistence of the sepsis, or if we find some condition in the uterus itself, as a single intramural abscess or a localized gangrene, which would admit of removal without ablation of the whole organ, as in cases reported by Hirst and myself.—H. N. Vineberg.

## Therapeutic Hints.

**Infant Laxative.—**

| | | |
|---|---|---|
| ℞ | Senna | gr. viii |
| | Pumpkin seed | gr.i. |
| | Wormseed | gr. i. |
| | Sodium bicarbonate | gr. ss. |
| | Rochelle salt | gr. ii. |

For dose.

**Mercury.**—It is generally accepted that the best method of using mercury in lues is by inunction and fumigation. If a bag containing blue ointment be worn around the neck so as to hang upon the breast, the warmth of the body will vaporize the mercury, part of which is inhaled, and part absorbed by the skin. In this way most of the objections to fumigations and inunctions are avoided, and the effect is quite readily secured. —Welander.

**Prurigo of Hebra.—**

| | | |
|---|---|---|
| ℞ | Camphor | gr. xii. |
| | Oil of cade | gr. xv. |
| | Sulphur | gr. viii. |
| | Oil of chaulmoogra | gr. iii. |
| | Vaselin | gr. lxii. |

—Baissade.

**Lichen Pilaris.**—Pumice soap, marble powder, more or less fine, black soap, or salicylic soap, applied with friction, will remove the roughness of the skin. For the resulting inflammation the following are recommended:

| | | |
|---|---|---|
| ℞ | Ungt. zinci oxidi | 100.0 |
| | Resorcini | 3.0 |
| | Sulph. sublimatis | āā 5.0 |
| | Ichthyol | āā 5.0 |
| | Talci venetii | āā 5.0 |

**Dont's in the Hydriatic Management of Fevers.**—Don't bathe in cold water to reduce fever, but to refresh the fever-stricken patient. (2) Don't permit cyanosis or chattering of teeth. Stop! (3) Don't stop bathing because patient complains of chilliness. (4) Don't raise temperature of baths on account of chilliness. Shorten bath and increase friction. (5) Don't neglect friction during every cold procedure; it prevents chilling. (6) Don't disregard the fact that the Brand baths at 65° to 70° is the ideal bath for typhoid fever. (7) Don't use the Brand bath in a bathroom. (8) Don't give up bathing because the ideal bath is not procurable. Other procedures are useful. (9) Don't use ice-coil to abdomen. It has no refreshing effect and renders skin cyanotic beneath it. (10) Don't lose sight of the fact that the chief aim of all cold procedures is reaction. —Simon Baruch.

**To Cleanse Hypodermatic Needles.**—If neglected so that the wire cannot be passed, the point may be heated in an alcohol flame to burn out the organic matter. When the wire is rusted in the cannula, the latter should be allowed to soak over night in neutral oil, and then heated as before. After that, all traces of rust are removed by forcing into the point more oil.

**Decinormal Sal-solution.—**

| | | |
|---|---|---|
| ℞ | Calcium chloride | gr.iij ℈ |
| | Potassium chloride | gr. jss. |
| | Sodium chloride | ʒijss |
| | Aqua dest q. s. ad | Oij |

M.: This may be injected subcutaneously, into the intestine, or into a vein. —Lock.

**Urticaria.—**

| | | |
|---|---|---|
| ℞ | Alcohol | |
| | Chloroform | |
| | Sulphuric ether | āā ℥ss |
| | Menthol | gr. 150 |

M. S.: To be applied with an atomizer.

—Gaucher.

**Tinea Tonsurans.—**

| | | |
|---|---|---|
| ℞ | Sodii borat. | ʒi. |
| | Spir. camphoræ | ʒi. |
| | Glycerini | ʒii. |
| | Aq. aurantii flor. | ad ʒiv. |

M. ft. lot. S.: Apply twice daily.

**Furunculosis.—**

| | | |
|---|---|---|
| ℞ | Sodii boratis | |
| | Acid. borici | |
| | Acid. salicylici | ʒi |
| | Acid. Tannici | āā |

M. S.: Sprinkle upon yeast poultice and apply.

# Book Reviews.

A Textbook of Legal Medicine and Toxicology. Edited by Frederick Peterson, M.D., etc., and Walter S. Haines, M.D., etc. In two volumes. Vol. I. Philadelphia, New York, and London: W. B. Saunders & Co., 1903.

Within the past decade there has been a remarkable awakening of interest, especially in this country, in regard to the subject of legal medicine, and it is scarcely ten years since two large and important treatises appeared almost simultaneously; one in four volumes by Witthaus and Becker, and another by Hamilton and Godkin in two. It would therefore seem as if the traditional "want" had been fully met by these works, and which are generally regarded as standard authorities.

Drs. Peterson and Haines in seeking for a *raison d'être* for a new textbook, the first volume of which has just appeared, claim that there is still a place unfilled by the smaller textbooks, or by the "Systems of Encyclopedic Dimensions." Perhaps unconsciously, nevertheless they have followed in the steps of Hamilton and Godkin, for the result is a remarkably close copy of the latter well-known work. Not only is the new textbook a counterpart in size, but the unusual and novel arrangement of subjects and titles and the make-up of the older work are in large part adopted. The editors have, even in a questionable spirit of enterprise, impressed into service some of the contributors to the earlier books, whose new articles very closely resemble those they have already written. Upon the principle that one cannot have too much of a good thing this does very well, and is an evidence of the sincerest flattery, yet it is not difficult to detect a great deal of repetition, and much use of well-worn material which cannot help but be the case under the circumstances.

The fresh blood that has been infused into the collaboration is in some instances stimulating and welcome, and examples may be found in the original articles upon the effects of lightning and electricity, and a section upon the destruction of the human body by fire and other agents for the purpose of criminal concealment, which was evidently inspired by recent Chicago and Philadelphia murder cases.

From the reputation of Dr. Frederick Peterson as a teacher and student of mental disease one would expect that the article upon insanity would be from his pen and quite abreast with the psychiatry of to-day, which it is not in any sense, and besides, it is bare of medicolegal information. The editor contents himself with presenting an article upon the stigmata of idiocy and degenerative affections, most of which, including the cuts, has appeared in his other writings.

Though more properly belonging to a treatise on neurology, the section upon speech disorders is scholarly and well written, and the diagrams are ingenious, original, and helpful.

Dr. Langdon goes much further than most modern writers do in his amplification of aphasia, rivalling in completeness the classical article of Kussmal. It is to be regretted that the contributor of the section upon the "signs of death" did not have that upon "post-mortem examination" assigned to him as well instead of that upon "Identity," which lacks originality and shows effort.

Dr. Ewings' well-known reputation as a pathologist is increased by his careful consideration of the changes that take place in the dead body, especially in connection with microscopical and bacteriological findings. Balch's essay is a close copy of one written by him for another publication to which reference has already been made, and in a way the same may be said of Chaddock's "Sexual Paræsthesia."

A fault common to all of the recent encyclopedic treatises lies in the fact that but few of the writers seem to have had the requisite experience in court, or a knowledge of jurisprudence that fits them to deal with the legal aspect of the subject. Perhaps the forthcoming articles of Drs. MacDonald and Haines, both of whom are well-known experts, will make up for this so far as the subjects allotted to them is concerned. The book, from a mechanical standpoint, is very creditable to the publishers, although the impression is conveyed that it was prepared largely to utilize some excellent chromolithographs of Hoffmann that have done service in another publication of this enterprising firm.

More Light on a Dark Subject. By Dr. J. R. Bailey, 1903.

This book is not intended for the physician, but as a means of educating the laity on sexual matters. The effort is made to place the subject on an every-day basis, and by plain, simple language to inculcate the truth that there is nothing impure in nature. No one familiar with the facts will deny that such instruction is sorely needed, and that it may be made a valuable ally to the family physician. Our author is evidently an osteopath, for he occasionally indulges in a glowing description of what osteopathy can accomplish, and apparently gives both his enthusiasm and his imagination a loose rein in describing its achievements in mitigating the pangs of labor. On the whole, the book is wholesome in tone and its advice is sound, but the reader is constantly annoyed by the numerous typographical errors that mar almost every page.

Post-mortem Pathology. A Manual of Post-mortem Examinations and the Interpretations to Be Drawn Therefrom. A Practical Treatise for Students and Practitioners. By Henry W. Cattell, A.M., M.D., Pathologist to the Philadelphia Hospital and the West Philadelphia Hospital for Women, etc. With 162 Illustrations. Philadelphia and London: J. B. Lippincott Co., 1903.

This is one of the really good medical books of the year, and one that will undoubtedly find a large and appreciative circle of readers. There are few practitioners who do not from time to time have to make autopsies, and for whom a careful exposition of the various methods to be employed, particularly under the often hampering restrictions of private work, would be most useful, while the thoroughness and theoretical completeness of the work cause it to fulfil the needs of the trained pathologist as well.

The author combines great breadth of scientific attainment with much natural fertility of invention, and this latter trait is constantly appearing in the hundreds of little wrinkles suggested for overcoming difficulties. Features of especial interest are the descriptions and plans of autopsy rooms, tables, and refrigerating plants, the chapter on post-mortem instruments and how to use them, and post-mortems on the new born. An excellent chapter on comparative postmortems gives directions for the section of the horse, cow, and smaller domestic animals, as well as on the birds and rodents used in the laboratory.

The important subject of the medicolegal aspects of the pathologist's work is adequately discussed, and detailed directions are given for the performance of autopsies when legal complications are to be expected. The illustrations throughout are of the highest order and are well chosen, while the author's simplicity and directness of style, together with the thoroughly modern nature of his teachings, as exemplified by the sections on cryoscopy and agglutination diagnosis of human blood, combine to make a book of the greatest interest and value to every one connected with the study of medicine.

La Pratique des Autopsies. Par M. Letulle. Paris: C. Naud, 1903.

This book, which has just appeared, incorporates the experience of well-nigh thirty years of Professor Letulle's activity as a pathologist and teacher at the medical faculty of the University of Paris. Since the appearance of Virchow's book nothing has been given to the medical profession on this subject surpassing Professor Letulle's "Practice of Autopsies." It is both a textbook for physicians and students and an admirable guide to teachers of pathology.

The first portion describes the instruments necessary to make, and the general technique to be pursued in making, an autopsy. Next comes a table giving the average weights and dimensions of the organs of the body according to various authors and according to the writer's own experience. The second portion treats of the external aspect of the body, the opening of the cavities, total evisceration, methodic isolation and the examination of of all the internal organs. The third portion is consecrated to the examination of the circulatory and respiratory organs, the digestive tract and its annexes, of the sexual organs, and the nervous system. The fourth portion of the work speaks in detail of the autopsies of new-born children and of women who have succumbed to puerperal fever. The last chapter gives most important suggestions regarding medicolegal autopsies.

In conclusion we should like to give Professor Letulle's strong arguments for the necessity of autopsies. He says "an autopsy is necessary for three reasons: first, for social; second, for medicolegal; and third, for scientific reasons. Its practice protects the community at large and also the individual. In order to perform a scientific autopsy which shall be of value in legal medicine, a methodic practice, a thorough knowledge of pathology, and a wide experience are indispensable."

We recommend Professor Letulle's book to all teachers and pupils of pathology and to all physicians who may be called upon to perform autopsies. We cherish the hope that the work may soon be translated into English.

# Society Reports.

## THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

*Stated Meeting, Held June 3, 1903.*

CHARLES N. DOWD, M.D., PRESIDENT.

**Stomach and Intestinal Crises.**—Prof. C. A. EWALD of Berlin read this paper. He said that his paper would be confined to a consideration of those crises of the stomach and intestine associated with spinal sclerosis or tabes, and that he would exclude those forms of crises occurring in gallstone and kidney stone disease, ovarian pain, etc. Although other writers had spoken of gastric crises previously, Charcot was the first one to formulate them. In eighty-nine cases of gastric, seen in the last ten years, early symptoms of tabes could be demonstrated. In sixteen of the cases syphilis was believed to be the cause. The average interval between the crises was two years and ten months, and the shortest interval, two months. Toward the end of the disease the attacks occurred every day. In some cases they would be prolonged for two or three weeks. These crises generally began with cramps in the epigastrium, followed by nausea and vomiting. At first the vomitus consisted of food particles that were in the stomach; later, of bile and mucus, and sometimes blood, but Dr. Ewald said that he had only seen four cases of the last type. In some of the rarer cases the attacks came on slowly when the stomach was empty, the pain became more intense and was followed by vomiting and vertigo. The character of the attacks might change even in the same individual. In one case under observation there had been five attacks in five years. In these cases tabes developed very slowly. Sometimes the attacks increased in severity. At first, gastric crises were supposed to be due to an increased amount of hydrochloric acid, but they were now known to be associated with a subacidity. He had observed ninteen cases in which subacidity largely prevailed. During these attacks, in a number of cases, no hydrochloric acid was present. The bowels were generally constipated; he had only seen two cases with diarrhœa.

Intestinal and anal crises were much less frequent than gastric crises. In the former the abdomen became as hard as a board and there was pain, sometimes in the ileocæcal region. In addition, there was a great desire to go to stool, but without result, the highest degree of constipation being present. In the interval of the attacks the abdomen was normal. In anal crises there was exquisite pain in the rectum and anus, described by the patient as like an iron being twisted around inside the rectum. The diagnosis was often difficult. Cases of nervous or paroxysmal vomiting were difficult to differentiate from those cases of vomiting occurring in sclerosis of the spinal cord, but the nervous vomiting did not occur at any particular time, was often seen in young girls during menstruation, occurred at certain seasons of the year and was not accompanied by disease of the spinal cord. Attacks of gallstone and kidney stone colic simulated these crises. A case was mentioned in which an operation for stone was done, but the case proved to be one of gastric crisis associated with tabes. In another case an operation for gastric ulcer was done, and in still another the ovaries were removed. The autopsy showed tabes to be present. With regard to the cause of these crises Dr. Ewald said that we were absolutely in ignorance. The sympathetic nerves were involved, and there was atrophy at the root of the vagus and laryngeal nerves, but this did not throw much light on the etiology. It was probable that some special stimulus must be present, as in epilepsy. The treatment depended upon the disease present. If syphilis or any cerebrospinal disease were the underlying condition, it should be treated. There was no known method by which the attacks could be cut short. In grave cases morphine might be given in increasing doses, or the physician might make use of Corning's method of injecting cocaine into the spinal canal. General hygiene and general tonic treatment, such as the administration of iron and arsenic, were recommended. The bromides were also given for their sedative effect.

Dr. Ewald closed with a few remarks concerning this country, his pleasant reception and sojourn here, and the hospitality that had been extended to him.

Prof. HERMANN TILLMAN of Leipzig was the next speaker. He said that he had been so overwhelmed with our delightful hospitality that he had been unable to do any scientific work, and consequently had not prepared a paper. He was very much interested in our hospitals and scientific work, for science and art were international. He hoped that Germany and America would always be found working together harmoniously. He would go away from America a better surgeon and stimulated to do better work, and would always look back upon this visit with the greatest pleasure.

Dr. D. B. ST. JOHN ROOSA said that in the early days in New York the great source of medical information was found in the schools of Amsterdam. Some time later the Scottish schools came into prominence, and Edinburgh became the center of such learning. After this came the French era, under Laennec and Trousseau, and still more recently the happy era when the student went to Germany. As representing the oldest medical society in the State of New York, which stood for knowledge and truth and interest across the sea, he wished to welcome these guests, and he would look forward to the day that would bring them here again.

Dr. FRANK VAN FLEET, after commenting upon the cordiality displayed in this city toward teachers from Germany and other countries, he moved a vote of thanks to Drs. Ewald and Tillman. After the meeting adjourned an opportunity was afforded to meet these guests socially.

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## NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting, Held June 4, 1903.*

CHARLES L. DANA, M.D., VICE-PRESIDENT, IN THE CHAIR.

**In Memoriam: Dr. T. Gaillard Thomas.**—Dr. HENRY D. NICOLL delivered this address. (See Vol. 63, p. 1015.).

**A Study of Good Results in Hip Disease.**—Dr. VIRGIL P. GIBNEY was the author of this paper. He said that in making the diagnosis of hip joint disease the history was quite important, and one should not be satisfied with anything short of a thorough examination of the nude patient placed on a table. Among the early symptoms a more or less persistent limp was perhaps the most important. An *x*-ray examination could only be considered as an aid to diagnosis. A good result, from the practitioner' sstandpoint, was an arrest or termination of the disease regardless of the position in which the limb was left. It also implied that locomotion was not seriously impaired. He had seen very many instances in which the patient had not been satisfied with the result, and had sought aid from a general surgeon, with the result that an osteotomy had been done and the limb placed in a straight position. Invariably it was found that the deformity was not corrected. Surgeons who claimed that early excision yielded good results were not able to furnish proof of such statement. Excision was not popular in this country because of the mortality and the lack of stability of the limb. There was a growing tendency here to remove a small section of diseased tissue, the presence of which had been detected by an *x*-ray examination. It had been abundantly proved that the best results were obtained by the early and long-continued use of braces, irrespective of that bugbear, muscular atrophy. A satisfactory

result was one in which there was a minimum of shortening without deformity and a maximum range of motion. It was reasonable to expect that in the future earlier and more effective treatment of these cases would be possible, and that the results would consequently be better than now.

Dr. A. JACOBI thought orthopedic surgeons were prone to pay too little attention to the medicinal treatment of tuberculous bone and joint disease. Phosphorus would certainly improve a subacute or chronic osteitis. He was positive that a large number of cases of tubercular arthritis had been greatly benefited by such medication. He could not speak so favorably of arsenic, though it seemed to be beneficial. In general tuberculosis and in joint tuberculosis he was positive that creosote, or still better, guaiacol, did a great deal of good. The hygienic treatment should, of course, not be overlooked.

**Facial Irritability in Mental and Nervous Diseases.**—Dr. CHARLES L. DANA presented in abstract a paper that he had prepared on this subject. He said that the facial muscles were very delicately innervated, and that the sphincter of the eye and of the mouth were in a state of physiological hypertonus. Many muscular contractions could be obtained under normal conditions, by striking with a rubber hammer upon certain points on the muscles of the face. Many additional muscular responses could be elicited in those suffering from various mental and nervous diseases. Pathological studies indicated that most of these were direct or indirect muscular responses and not reflexes. There were, in reality, only two true reflexes of the face; one, the supraorbital reflex, which was generally present, and the other, the nasomental, which was rarely present. He had come to the conclusion that the facial irritability was certainly very much increased in the psychoses, *e. g.* melancholia, mania and paresis, and that as these conditions improved there was less facial irritability. In two cases of coma that he had recently examined all of the reflexes were very much exaggerated in one case, and in the other case the reflexes were almost gone, thus confirming the idea that the psychical state had much to do with the facial irritability. In cases of facial tic one would expect marked facial irritability, but examination would show that they were not very different from the normal. In differentiating between a coma from hemiplegia and a toxic coma it was probable that these facial responses would prove of some value. The report on this subject was only a preliminary one, and intended to call attention to the possible value of these muscular responses of the facial muscles.

Dr. JOSEPH FRAENKEL said that his attention had only recently been directed to this subject. It was the general rule that the reflexes were exaggerated in lesions of the pyramidal tract, but this appeared to be the reverse with regard to the muscular responses of the face. In the few cases of general paresis that he had examined with reference to this point all of the muscular responses of the face were found to be decidedly exaggerated.

Dr. LOUISE G. ROBINOVITCH was disposed to think that the author had been too sweeping in his generalizations.

Dr. J. RAMSAY HUNT said that he had followed some of Dr. Dana's observations, and could confirm them. The fact that the nasomental response had been described as a not uncommon accompaniment of general paresis, seemed to him very important. He had himself found it in a number of cases of general paresis, and had been unable to find it in a number of other forms of nervous disease.

Dr. Dana, in closing, said that he had not attempted to draw inferences regarding his observations. Some care was necessary in eliciting these muscular responses. A rubber percussion hammer was a suitable instrument for this purpose. The temperament of some individuals was such as to seriously interfere with the attempts to elicit these responses unless the examiner exercised due care and attention to details.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION ON MEDICINE.

*Stated Meeting, Held May 19, 1903.*

LEWIS A. CONNER, M.D., CHAIRMAN.

**A Case of Supraclavicular Hernial Protrusion of Both Lungs.**—Dr. ALEXANDER LAMBERT reported this case and exhibited the patient, a woman of twenty-six years, who gave a history of marked anæmia last summer, and of a very severe bronchitis last January. During one of the attacks of severe coughing she experienced a pain in the left clavicle, which was followed by the appearance of a swelling. She then suffered a good deal from dyspnœa. Another attack of bronchitis came on, and a swelling appeared in the other supraclavicular space. This was her condition on coming under his observation: There was bronchovesicular breathing in these spaces, but no râles could be heard at any time, and percussion gave pulmonary resonance. The dyspnœa had gone, the swellings were distinctly less and the woman was quite comfortable. He was of the opinion that these swellings were due to protrusion of the apices of the lungs. Looking up the literature, it was found that three similar cases had been reported many years ago in persons suffering from emphysema. In 1873 a case of recurrent hernia of the lung had been reported, also in an emphysematous patient, and here the swelling disappeared at intervals and reappeared during severe spells of coughing. In one of two cases that had come to autopsy there was a bulging mass which had lost the usual appearance of the lung on section; in the other, the tumor presented more the appearance of lung tissue.

Dr. THEODORE C. JANEWAY said that if this were really a hernia of the lung it was difficult to explain the fact that there was no increase in size on coughing, and no evidence of expansive distension when pinched between the thumb and fingers. Again, he had never understood that the pleural membrane above the clavicle was sufficiently elastic to permit of so much distention, and rupture of the pleura would seem to be out of the question in this region. The appearance was very much like what he had seen in myxœdema, and percussion and auscultation yielded rather negative results. He, therefore, felt uncertain regarding the diagnosis.

Dr. C. CARMALT asked how this case was to be distinguished from what the French described as diffuse symmetrical lipomatosis. An example of that condition had recently been presented to the Surgical Section by Dr. J. F. Erdmann. The development of this lipomatosis was generally quite sudden, and such tumors were well known to transmit readily the sound of lung resonance. Anatomically, the apex of the lung and pleura was so reinforced by the muscles and vessels passing across the space that a hernia here must be quite a distinct mass. He would not be willing to accept the diagnosis without an exploratory incision.

Dr. LEWIS A. CONNER said he had previously an opportunity of examining this case carefully at some length, and he had been impressed not only with the absence of expansive pulsation but also with the fact that there was a very clear vesicular murmur transmitted through the mass, and apparently quite close to the ear. It was difficult to believe that this would be the case if the mass were one of fat. He was inclined to accept the diagnosis of hernia of the lung.

Dr. LAMBERT, in closing the discussion, said that in the case reported by Knox the pleura was found in the sac, and there had been hernial sacs of the neck found sufficiently large to admit three or four fingers. One reporter stated that a bright, shining membrane lined the sac, and that it was apparently the pleura. This established the possibility of the occurrence of such hernias. In three of the reported cases the tumors extended up almost to the ear under deep inspiration or

coughing; in the other three the condition was an exact counterpart of the case now under discussion. He saw no way of differentiating the condition from diffuse lipomatosis except by an *x*-ray examination, and such an examination was about to be made in this patient. At the first examination he had been disposed to think the tumor a lipoma. He had not been able to feel any impulse during coughing, and could only explain this by supposing that the hernial sac might be one having a narrow constriction.

**A Case of Beriberi of the Dropsical Form.**—Dr. L. A. CONNER presented this patient, a sailor, twenty-six years of age, who complained of swelling of the limbs and great weakness. He had previously been in exceptionally good health, and his family history was good. For the past six months he had been on a sailing vessel cruising along British West Africa, just south of Liberia. He had not been ashore much, but had been in communication wih the natives. No one else on the ship had been taken sick. Five weeks before coming to the hospital, and while at sea, he first noticed a swelling of the abdomen, and three days later, swelling of the ankles. The latter was accompanied by tingling and numbness. Within a few days he began to suffer from weakness and fluttering of the heart, and it became necessary for him to keep in his bunk. On admission to the Hudson Street Hospital the temperature was 99.8° F., respirations 24, and pulse 100. The physical examination of the lungs was negative, except that there was fluid over the lower part of the right side. The apex beat of the heart was in the fifth space, well outside of the nipple line, and it was diffused and weak. The abdomen contained no fluid. The spleen and liver were normal. There was marked œdema of both feet, legs and thighs, and sensation was normal except over the right foot, where there was a distinct diminution in tactile pain and temperature senses. The anterior tibial and peroneal groups of muscles showed a decidedly diminished response to the faradic current, but there was no qualitative or quantitative change in the reaction of the galvanic current. The urine was examined repeatedly, and was each time found to be normal. Examination of the blood showed 4,400,000 red cells, and the hæmoglobin 80 per cent., and the leucocytes 8,000—in other words, the blood was practically normal. After having been in the hospital thirty-six hours the temperature suddenly rose to 102.5° F., he began to cough, the sputum became rusty, and physical examination showed a small area of pulmonary consolidation high up on the right side. After about three days the signs and symptoms referable to this complication disappeared, and he steadily improved. The œdema disappeared within a few days, and with this the fluid in the right pleural cavity. At the same time the condition of the heart became better, and the pulse showed great variations in frequency. His eyes were examined by Dr. Cutler, who found both nerves hyperæmic and small linear hemorrhages extending outward in both disks. The fields of vision were normal, and vision itself was but little disturbed. The treatment had been purely symptomatic. The speaker said that the case was chiefly interesting from the standpoint of diagnosis. Beriberi was known to be endemic on the western coast of Africa, and some physicians who had had excellent opportunities for examining this disease, stated that it behaved like an infectious disease with a very long period of incubation. There were great variations in the type, and the dropsy in many cases was almost the only prominent manifestation. The cause of the œdema was still obscure.

Dr. W. L. BAUER said that he had seen, about one year ago, at the St. Vincent's Hospital a case of the relapsing form of beriberi. There was a clear history of a previous attack of the disease, and the erratic heart action was a prominent feature. In the case just presented there were several things lacking for a positive diagnosis.

Dr. Conner said that the excellent previous personal history of his patient and the absence of any other obvious cause for the dropsy seemed to him a strong point in favor of the diagnosis of beriberi.

**An Unusual Case of Hypertrophic Osteoarthropathy.**—Dr. B. ONUF reported this case and presented the patient. About thirteen years ago the patient noticed that the terminal phalanx of the middle finger underwent thickening; subsequently the thumbs and then the other fingers showed the same change. There had been no pain in the affected parts. Six or seven years ago most of the nails became yellow and began to break off in layers. There was no paræsthesia in the affected parts. There was no history of syphilis, and the examination of the lungs was negative. Skiagraphs of the hands and feet were exhibited, and showed a disappearance of the terminal phalanges. The speaker said he had taken great pains in this case to exclude both syringomyelia and tabes dorsalis. He had just learned that two similar cases were on record.

**Hypertrophic Osteoarthropathy of Marie, with a Report of Two Cases.**—Dr. THEODORE C. JANEWAY presented this paper. The first case was that of a man of twenty-two years, having a family history of tuberculosis. There was a history of having suddenly begun to spit up pus, and of having continued to do this at intervals for a long time. On examination, the enormous size of the hands and legs was noticed; also a fetid bronchitis and bronchiectasis associated with osteoarthropathy. The length of the arm was 26 cm., and the circumference, 10 cm. below the condyle, was 23 cm. There was scarcely any taper of the arm. The patient died about nine months later, but no autopsy was obtained. In the second case the illness dated back eight years, and there a history of abundant fetid expectoration from the first. For five years there had been short attacks of bloody expectoration at intervals of four or five months. He complained of dyspnœa, and pain in the right side of the chest, with cough and expectoration. On examination, he weighed 184 pounds; the finger ends were clubbed; the length of the arm was 27 cm. Physical examination showed fibroid induration of the lung. The bone lesions in these cases were sufficiently described by the term "osteoperiostitis ossificans." Pathologically there was no distinction between the cases in which no primary condition was found, and those which were evidently secondary to well marked suppurative processes in the lungs. The skiagraphs showed that the clubbing of the fingers was due to hypertrophy of the soft parts and not to the enlargement of the bones. The literature of the whole subject was reviewed and all of the recorded cases were classified. The total number of cases of undoubted osteoarthropathy was 94. Of the cases classified under this head, 28 were found to be really examples of ordinary clubbed fingers. Of the 94 cases, 65 were associated with disease of the lung or pleura. Suppurative and gangrenous processes were associated with 48 of the cases. That prolonged venous congestion was the cause of the ordinary clubbed fingers was generally conceded, and it was highly probable that local circulatory conditions had much to do with the development of osteoarthropathy, it being well known that venous stasis exerted a distinct influence on the growth of bone.

Dr. C. CARMALT said that he had seen three of these cases. In one of them, suffering from empyema, there were clubbing of the fingers and hypertrophy of the radius and ulna. Later on this patient, although known to be tuberculous, improved very decidedly under the salicylates.

Dr. B. ONUF said he had taken radiographs of five cases of well-marked clubbed fingers in tuberculous patients, and in none of them were well-marked changes in the bone of the terminal phalanges revealed.

## AMERICAN NEUROLOGICAL ASSOCIATION.

*Twenty-ninth Annual Meeting, Held in Washington, D. C., May 12, 13, and 14, 1903.*

(Continued from page 78.)

SECOND DAY, WEDNESDAY, MAY 13.

**Central Neurofibromatosis.**—This was a contribution to the study of tumors of the medullo-ponto-cerebellar angle, by Drs. J. FRAENKEL and J. R. HUNT of New York. Five cases were reported at length showing a common origin of the tumor from cranial nerve trunks. The writers concluded that the pathological structure of the growths is of a kindred nature—neurofibromatosis, pure or in various stages of metamorphosis and transformation. The locality is almost identical—the angle formed by the junction of pons medulla and cerebellum. Their symptomatology because of this localization is, in the essential features, analogous.

The certainty of localization, the essentially benign nature of the growths, their loose attachment to the meninges and nerve trunks, distinguish this group of intracranial tumors as a most favorable one for surgical intervention.

In view of all this, they find justification for the suggestion to assign a separate place to this syndrome in the group of intracranial tumors. The susceptibility of the cranial nerves to neurofibromatosis varies considerably. With the exception of the olfactory and optic, because of genetic peculiarities, any of the cranial nerves may be the seat of neurofibromata.

In general, the sensory nerves are more susceptible and the acoustic pre-eminently so. Primary tumors of the cerebellum or brain stem will often, at some stage of the disease, simulate closely the syndrome in question. Indeed, many of the cases of this type are recorded in literature as cerebellar tumors, pontine tumors, etc.

From a differential diagnostic standpoint, particular stress was laid on the appearance of cranial nerve symptoms before the development of symptoms of intracranial pressure. Tinnitus, progressive deafness, facial tics, neuralgias and other symptoms referable to the fifth nerve, were mentioned as instances in point.

Dr. MILLS said he had several similar cases. In two or three instances he had seen operations done for tumors in this locality which were unsuccessful. He thought it was possible to have a growth of a different nature from that described, though the symptoms might be very similar. A very important feature was that the early symptoms were neural.

Dr. SACHS agreed with Dr. Mills and referred to a case of sarcoma of the cerebellum in the ponto-cerebellar angle that he reported several years ago. In tumors occurring in this region, most of the symptoms are unquestionably due to pressure upon the cerebellum. He considered the operation for the removal of growths located in this special angle a very serious one. The angle is barely accessible without serious impairment of important function.

Dr. LANGDON spoke of a case bearing on the question of diagnosis between neurofibroma and sarcoma. Deafness was the only prominent symptom for several years. The subsequent history indicated a slowly developing growth occupying the medullo-ponto-cerebellar angle. There was complete deafness with slight facial sensory and motor symptoms. A year before death, fourth, fifth, and sixth nerve symptoms were well developed. At the autopsy eight small tumors were found, some in the pia, but most of them in the dura. He thought the long duration of the symptoms (seven years) might furnish a point in the differential diagnosis between a sarcomatous growth and neurofibromatosis.

Dr. PATRICK said it was extremely difficult to determine the nature of the growth from the symptoms.

**Progressively Developing Hemiplegia, Later Becoming Triplegia.**—This was the report of a case by Drs. CHARLES K. MILLS and WILLIAM G. SPILLER of Philadelphia. Hemiplegia is gradually developed on the right side, the lower extremity being more markedly and probably earlier affected than the upper, the case therefore belonging to the clinical type of unilateral progressive ascending paralysis. After several years the left lower extremity also became paralyzed, but not to the same extent as the right. The reflexes were all markedly exaggerated, the Babinski response being present. Sensory symptoms were absent. Microscopical examination showed intense and long-standing degeneration of the right crossed and the left direct pyramidal tracts, the degeneration extending into the pons but not into the left cerebral peduncle; also comparatively recent degeneration of the left crossed and the right direct pyramidal tracts traced by the method of Marchi into the lower part of the right internal capsule. No lesions, degenerative or focal, were found elsewhere; the case therefore was one of uncomplicated primary degeneration of the motor tracts, much greater and older in the right crossed and left direct pyramidal tracts. The case was regarded as a corroboration of the clinical type described by Mills in the *Journal of Nervous and Mental Disease*, April, 1900.

**Chronic Progressive Hemiplegia.**—Dr. HUGH T. PATRICK of Chicago reported the case of a girl eighteen years of age, who had been perfectly well and normal in every way until her fourteenth year, when the right hand and foot began to grow clumsy and weak. This disability had gradually increased until the present time. The entire right side is now paretic, with distinct diminution of muscular volume but no localized atrophy. Although the general appearance and action of the involved extremities suggested flaccidity, the deep reflexes were all greatly exaggerated and Babinski's sign well marked. It seemed easy to exclude all well-known diseases, but he was inclined to think that the case might belong to a new clinical type recently described by Mills under the name "Ascending unilateral paralysis." Concerning this type, however, he had occasion to examine repeatedly one of the two cases published by Mills, and was satisfied that the case was an example not of a new disease, but of unilateral paralysis agitans. This patient would be presented to the association later, and the symptoms of paralysis agitans demonstrated. Two additional cases of one-sided paralysis agitans without tremor were briefly reported.

**Progressively Developing Hemiplegia.**—This was the report of a case and exhibition of the brain by Dr. G. M. HAMMOND of New York. The patient gradually developed hemiplegia on the right side, beginning in the leg, extending to the arm, and finally affecting the face, taking four months for the total extension of the paralysis. Later, paralysis began in the left leg and finally embraced the left arm but not the face. The autopsy disclosed extensive degeneration in the white matter of both hemispheres, more extensive on the left side. This could be traced downward in both motor tracts.

The last three papers were discussed together.

Dr. H. M. THOMAS of Baltimore referred to a case recently under observation of a boy in whom there was marked mental change. The autopsy showed degeneration of both pyramidal tracts without any observable lesion.

Dr. W. HIRSCH of New York spoke of two patients with progressive hemiplegia, in whom distinct mental symptoms of general paresis developed at the end of two years. Secondary degeneration of the pyramidal tracts in paretics is well known.

Dr. STARR, in discussing Dr. Mills' paper, cited the case of a woman presenting at first the symptoms of spastic paralysis in the right leg. Gradually the right arm became involved, but the face escaped. The only diagnosis possible was unilateral sclerosis. About a year later the left side was similarly affected, in addition to atrophy in the muscles of the arm and leg. Soon after, bulbar symptoms developed rapidly, and death took

place eighteen months after the onset, with all the signs of well-marked amyotrophic lateral sclerosis. It seemed to him that, in Dr. Mills' case, the differential diagnosis of amyotrophic lateral sclerosis should not be overlooked. He thought these cases should be classified into a large general group exclusively limited to the motor tract of the nervous system.

Dr. DANA spoke of a case which seemed to belong to the type described by Dr. Mills. The condition appeared somewhat like a unilateral type of multiple sclerosis. A man forty-five years of age gradually developed descending right hemiplegia associated with the usual accompaniments of spasticity. The diagnosis rested between a sclerotic area in one cerebral hemisphere, or some type of paralysis agitans. A man with unilateral paralysis agitans without tremor, at present under observation, at first impressed him as being a case of hemiplegia due to some degeneration of the motor tract. Subsequently he developed the characteristic symptoms of paralysis agitans.

Dr. COLLINS reported the case of a man who became gradually hemiplegic on the left side. About a year later he began to have emotional symptoms, such as involuntary laughter without adequate cause. Subsequently a right hemiplegia developed. The emotional symptoms are now conspicuous, and he thought the lesion therefore involved the thalamus.

Dr. SACHS had seen a patient with progressive hemiplegia who gradually became completely paralyzed and demented, and finally succumbed to the disease.

Dr. PATRICK then showed a patient (the one referred to in his paper) with unilateral paralysis agitans without tremor, in whom the condition had existed for five years. Tremor could be developed in the affected upper extremity when the patient made an effort forcibly to grasp an object with the opposite hand.

Dr. MILLS admitted that there were several things in Dr. Patrick's case which pointed toward the diagnosis of unilateral paralysis agitans, but he did not feel thoroughly convinced that this is the correct diagnosis. He said that in his original paper he had stated that among the affections from which it was to be differentiated was unilateral amytrophic sclerosis. The patient was under obsevation from 1897 to 1903. The only systemic disease found on microscopical examination was the pyramidal degeneration described by Dr. Spiller. He considered the case referred to by Dr. Collins as one of disseminated sclerosis with bulbar symptoms. He thought the discussion had shown the disease to be much more common than was supposed.

Dr. HAMMOND said that his case showed a different type of disease from the one described by Drs. Mills and Spiller. He thought it would take more than a close observer to tell the difference at the bed-side before a post-mortem examination has been made.

**Flaccid Paralysis Following Cerebrospinal Meningitis.**—Dr. WM. N. PULLARD of Boston read a paper with this title and stated that the ordinary forms of paralysis following cerebrospinal meningitis as described in the textbooks are spastic. There is, however, also a flaccid form which usually appears as paraplegia. This closely resembles in its later stages the conditions which are found in the later stages of anterior poliomyelitis. In the earlier stages it is characterized by the persistence of pain and tenderness to a much greater degree than occurs in poliomyelitis, and also by a tendency to accompanying spastic contracture. He thought it very probable that some of the epidemics which have been described as anterior poliomyelitis were really due to cerebrospinal meningitis, the existence of which in the epidemic form is not uncommon, while the evidence for the existence of true epidemics of anterior poliomyelitis, usually a sporadic affection, is not yet absolute. Several cases of this form of paralysis were reported.

Dr. J. J. THOMAS of Boston had seen many of these cases. He thought they were cases of cerebrospinal meningitis. During the acute stage of poliomyelitis it was often difficult to make a diagnosis. He had also noted the presence of tenderness, the early formation of contractures, and the tendency of the paralysis to be bilateral.

Dr. HENRY UPSON of Cleveland referred to a case of spinal meningitis with multiple neuritis which he reported several years ago. There was diffuse tenderness over the legs. The autopsy revealed both conditions in a marked degree.

Dr. KNAPP thought the previous history would enable us to make a distinction between cerebrospinal meningitis and anterior poliomyelitis. In cerebrospinal meningitis the symptoms might be so slight and so little characteristic as to be easily mistaken for the initial fever and malaise of anterior poliomyelitis.

Dr. J. J. PUTNAM doubted whether it was always possible to make a differential diagnosis or to decide that cerebrospinal meningitis is present. He thought it important to limit the differentiation, and to recognize the two types, but it should be noted that the two stood in a certain sort of relationship to each other. He believed what was ordinarily called anterior poliomyelitis occurs in epidemics. He referred to twenty-eight cases occurring in the vicinity of Boston and seen by him.

Dr. E. D. FISHER of New York said there was no difficulty in making a differential diagnosis between cerebrospinal meningitis and poliomyelitis, except during an epidemic, when both conditions were found.

Dr. PATRICK thought the examination of the cerebrospinal fluid was of value in making the diagnosis.

**A Case of Alexia.**—Dr. PHILIP ZENNER of Cincinnati reported the case of a man sixty-three years of age. Forty years ago he had a venereal sore, but without any constitutional manifestations. Eighteen years ago he had an acute articular rheumatism. For several years he has had some dyspnœa on exertion. The alexia came on in April, 1902, during an attack of dyspnœa. It is not improbable that the attack came on during sleep. The only other speech disturbance which he had observed is occasional difficulty of finding a word, or using a wrong word. In addition to the aphasic manifestations and occasional dyspnœa, he complained of irregular heart action, precordial pain, and disturbed sleep. The heart was enlarged and the sounds muffled. The urine contained some albumin but was otherwise normal. There was not motor paralysis nor ataxia. The cutaneous sensations, hearing, taste, and smell, pupils, optic disks, and knee-jerks were normal. The ankle-jerks were absent. There is a right hemianopsia in each eye. Central vision is normal. He often repeats himself in conversation, forgets occurrences of the day, and vacillates in his actions. But in general, he manages his business and his own affairs. He fully understands everything said to him, and expresses himself clearly and fluently. He is altogether unable to read. But he can tell single letters, though not always with ease, and often incorrectly. He recognizes capital letters much better than small letters. He can read only so far as he is able to spell the words. Whenever he succeeds in spelling the word correctly he recognizes it at once. During the time he was under observation there was no change in his condition. As to the seat of the lesion, the hemianopsia pointed clearly to the occipital lobe. The relation of the angular gyrus, now generally accepted as the visual speech center, to the lesion can be less definitely outlined. Its destruction would, doubtless, cause more extensive aphasic manifestations than existed in this case. The lesion probably enroaches upon this area and severs its relations with the lower visual centers.

Dr. SMITH BAKER of Utica said there was a very easy fatigue of accommodation in such cases, and that might possibly give a clue to the difficulty experienced by the

patient in recognizing certain figures which differ in form from certain other figures.

Dr. LANGDON believed that the lesion was distinctly limited to a visual type of aphasia. He referred to a case of pure alexia he had seen, in which the man was unable to read after a few moments what he had written.

Dr. KNAPP mentioned the case of an active intelligent woman of middle age who awoke one morning with considerable dizziness. A valvular lesion of the heart was present. There was well-marked alexia with right hemiplegia, and slowness in recognizing objects by sight, although the visual fields were normal. She was able to write. She recognized her room and household perfectly well, and also the neighborhood in which she had lived for many years, but everything seemed reversed. The house seemed to be on the opposite of the street, and the relations of the house seemed exactly reversed.

**The Principles Underlying Practice in Mental Therapeutics and Legal Regulations of Its Practice.**—This was the title of a paper by Dr. RICHARD DEWEY of Wauwatosa. He concluded that the practice of mental therapeutics is an important part of the practice of medicine as a whole, and should be taught systematically and so regulated as to prevent fraudulent practices or imposition.

Dr. BAKER believed that the time is coming when we shall be forced to give more attention to the mental side of the human constitution in our attempt to restore people to health. He thought such method should play an important part in all the sources of what we now call purely nervous affections, because upon last analysis they prove to be neuro-psychical.

Dr. ZENNER said there was nothing of more value than psychic treatment, and that such treatment often produces transitory relief of organic disease. In a great many therapeutic measures the relief comes through the mind.

Dr. LANGDON did not think it possible to approach a solution of the problem until we have a better curriculum in the medical schools.

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THIRD DAY, THURSDAY, MAY 14.

**The Neurasthenic Neuralgias.**—This was the title of a paper by Dr. FRANK K. HALLOCK of Cromwell and was based on a study of forty-five cases, with the following conclusions: Clinically two varieties exist: One is non-objective, the pain existing with very slight, or no concomitant physical symptoms; the other is objective, the pain being accompanied by localized symptoms, sensory, motor, vasomotor, secretory, trophic. The non-objective neuralgias may be sub-divided into a paræsthesic type (distinct from the paræsthesic of hysteria, etc.), a spontaneous form with or without an appreciable cause, and a habit form due to an antecedent neuritis. The term neurasthenic should, perhaps, be limited to the neuralgias which are non-objective, that is, without marked concomitant physical signs. It is often very difficult to distinguish between a neuritis of the sensory nerves and a neuralgia with pronounced local symptoms. The motor disturbance, direct or indirect, is generally more marked in genuine neuritis. Another diagnostic point is the fact that decided variations in the general physical state, as well as psychical influences, produce fluctuations in the pain relatively greater in neuralgia than in neuritis. The pathology of neurasthenic neuralgia is necessarily obscure. The extent to which excitability of the sensory nerves is of central or peripheral origin is hard to determine. Cases with marked local symptoms can best be explained by the supposition of a mild grade of perineuritis rather than a neuritis, interstitial or parenchymatous. The pathology of the non-objective neuralgias, if it is to be interpreted peripherally and not centrally, is most likely of the nature of chemical stimuli due to localized nutritional and metabolic defects. The neuralgia being considered merely a symptom, the prognosis depends chiefly upon the general physical rallying power plus the type of individual. The treatment consists largely in the regulation of the patient's life, and attending to the underlying neurasthenic state. In the management of the local condition the first requisite is rest, partial or complete, according to the severity of the attack. Later, localized applications of massage, hydrotherapy, electricity, dry hot air, etc., are of varying utility in different cases. Inasmuch as the neuralgia is apt to be obstinate and of prolonged duration, it is advisable to teach the patient how to bear pain in the most philosophic manner. Hypnotic suggestion is of great value in certain cases.

Dr. BAKER had been accustomed to look upon these cases, especially the non-objective variety of neurasthenic neuralgia, as being best explained in a general way by nerve starvation and by adding to that the newer concept of nerve poison.

Dr. LANGDON considered the differential diagnosis in cases of neurasthenic neuralgia as of very great importance. In his experience, any sensation that can be called a true neuralgia is a comparatively rare symptom in neurasthenia. Pain, and even tenderness of the nerve trunks often occur in neurasthenia, but such cases belonged to the paræsthesias, and some other cause than neurasthenia should be looked for.

Dr. LEONARD WEBER of New York believed it necessary in every case of chronic neuralgia to investigate as to previous syphilitic infection. In his opinion, no disease was more likely to be associated with neurasthenia in the course of years than old syphilis, in which neurasthenic neuralgias might occur. As a rule, surgical intervention is not followed by good results.

Dr. ANGELL thought it very easy for nervous patients to exaggerate unintentionally the significance of symptoms, especially regarding pain. He agreed with Dr. LANGDON that many pain cases are cases of paræsthesia.

**Modern Theories of the Emotions and Their Bearing on Mental Derangements.**—This was the title of a paper by Dr. HENRY UPSON of Cleveland. He concluded that in different forms of sensation the emotional element varies. The special senses and tactile sensibility set up intellectual mental conditions. The pain sense and visceral sensibility have a slight localizing value and an emotional content that varies from moderate pleasure or discomfort, to the more marked and definite emotional states; either of these elements may be present without the other, especially in the case of visceral sensibility, which often fills the emotional field of consciousness without percepts of localizing value. The modern view of the emotions as perceptions of altered visceral conditions, at some times due to psychic causes, at others dependent on physical disease of the viscera, functional or organic, is derived in part from medical observations and in turn illumines the field of psychiatry. The viscera constitute the instrument played upon by psychic stimuli, and the brain centers are receiving stations for resulting sensations, present in consciousness as emotions. Certain relations between disease and resulting emotions were briefly considered.

Dr. H. T. PERSHING of Denver had recently given attention to this subject with special reference to the treatment of emotional disturbances in neurasthenia and hysteria. It was obvious that the first thing to do is to remove the idea exciting an undesirable emotion. In many cases, he found great advantage in teaching the patient to suppress voluntarily the motor reaction peculiar to the depressed emotion, and to imitate voluntarily the reaction of the opposite emotion. He thought many emotional disturbances were due to physical causes.

Dr. KNAPP said that in patients who have exhausted themselves in struggling against an insistent idea, it was better to suggest to them to let the whole thing go, and to endeavor to divert the patient's attention, and let the idea come on unrestrained.

Dr. BAKER thought it should be a matter of routine to inquire whether the patient has been subjected to shock

within recent months, or whether he is under prolonged intense emotional excitement of any kind. The result of the latter condition is direct interference with nutrition.

Dr. EDWARD B. ANGELL of Rochester said it was much wiser to get at the obstruction indirectly rather than directly, as it was impossible to argue with a person's morbid notion without emphasizing it.

**Paralysis Agitans Complicated with Delusional Mania.**—This was the report of a case by Dr. JOHN PUNTON of Kansas City. A man sixty-one years of age with good family history was well until four years ago, when he suffered from an attack of the grippe, from which he recovered a few weeks later. About two years ago he gradually became very nervous, and there was marked muscular rigidity and a fine tremor. He also assumed the attitude and gait common to paralysis agitans, together with the characteristics facies. These symptoms, together with vasomotor disturbances, continued to develop and grow worse in spite of treatment, which caused him to become quite despondent, and later he presented all the symptoms of true melancholia. Subsequently, there was acute mania with mental exaltation, delusions, and hallucinations. In April, 1901, he was admitted to the hospital with the typical picture of paralysis agitans, complicated with delusional mania. At the end of eighteen weeks he recovered his mental health, but the paralysis agitans had not improved.

**General Paralysis with Focal Symptoms and Atrophy.**—This was the report of a case of Dr. ADOLPH MEYER of New York. In a man forty-two years of age, difficulty in the use of the left arm developed slowly, together with inefficiency in work, which finally passed into slight expansiveness, characteristic for general paralysis. Under observation, the difficulty was found to be an anæsthesia of the left arm of central origin, leading to deficient use when the eyes are closed, occasional slow twitchings of the left arm, and the gradual development of rigidity and spreading of the sensory and motor symptoms over the whole left side; also production of left hemianopsia and increasing dementia. The diagnosis of a typical general paralysis was corroborated by the autopsy, which showed atrophy of especially the posterior part of the right hemisphere without focal lesion, but marked narrowing of the cortex and distension of the ventricles, and contralateral gliosis of the whole left part of the cerebellum, with partial degeneration of the cortex; the histological process was typically that of general paralysis, which was much less marked in the left hemisphere. There was a probability of syphilitic infection nineteen years before the onset. Technically, the case showed the decided advantages of injection of the brain, with 10 per cent. formalin before removal at the autopsy.

**General Paralysis with Focal Symptoms.**—Dr. A. HOCH of Waverly reported two cases: Case 1, In the course of a year at first repeated convulsive seizures; later, attacks of twitching on the right side. Then sudden aphasia with palsy of the right side. Under observation euphoria and general dulness; motor aphasia, paresis, and ataxia of right arm, with frequent twitching. Later, involvement of whole right side. Death in convulsions. Autopsy: lesions of general paralysis with much greater involvement of left side; the left hemisphere weighed 112 grams less than the right. Case 2, Complained of headaches, stupid feeling, and in ability to express himself; at times irritable. A year later, apoplectiform attack. Following this, persistent paraphasia with difficulty to understand written and spoken language. Appreciation of defect. Hemianopsia. Argyll-Robertson pupil on the right side. General euphoria and irritability. Death in convulsions. Autopsy revealed the usual lesions of general paralysis with more pronounced changes in the left hemisphere, which weighed 120 grams less than the right side.

The last two papers were discussed together.

Dr. BULLARD asked Dr. Meyer whether he had found astereognosis or not. He said it was unusual to find cerebellar trouble in cases in which the hemisphere of the opposite side is affected. In the reports of autopsies of feeble-minded this seems to be the ordinary occurrence (in which one hemisphere is more especially affected) to have the opposite cerebellar hemispher e likwise affected.

Dr. MEYER replied that he did not speak of astereognosis on account of the presence of anæsthesia. He was inclined to utilize the case in corroboration of his view that the anterior central convolution is the essential motor region, plus, of course, some immediate sensory activity, but that the parts behind the Rolandic fissure are essentially reception stations, also of influence in the work.

**Double Optic Neuritis Without Assignable Cause.**—Dr. HOWELL PERSHING of Denver reported a case of this character, in which the course was acute, and when the neuritis began to subside, it subsided rapidly in one eye while it advanced in the other. The patient was, otherwise, in perfect mental and physical health.

Dr. PATRICK had seen a case of typical choked disk, due to simple chlorosis, the patient making a complete recovery under treatment for the chlorosis.

Dr. H. K. MITCHELL of Philadelphia mentioned the case of a girl seventeen years of age who made a perfect recovery from a pronounced double optic neuritis with apparent meningeal symptoms.

Dr. BULLARD expressed the opinion that in many of these cases there might be a certain amount of hydrocephalus.

**Development of the Neuro-fibrils in the Nerve Cell.**—Dr. STEWART PATON of Baltimore exhibited microscopical specimens illustrating the development of the neurofibrils in the nerve cells. He explained that they make their appearance in the nerve cell of the embryo, first in the apical processes, and about the time of birth, can be stained in the cell bodies in the larger cells of the cerebral cortex. They develop later than do the Nissl bodies. He also demonstrated their degeneration in pathological processes.

Dr. TAYLOR said that the work of Dr. Paton was new in this country. He thought it a matter of very great importance as to whether we can attribute any definite significance to the alteration found in the neuro-fibrils.

**Election of Officers.**—The following named gentlemen were elected for the ensuing year: *President*, Dr. Frank R. Fry of St. Louis; *Vice-Presidents*, Dr. Hugh T. Patrick of Chicago and Dr. William G. Spiller of Philadelphia; *Council*, Dr. Charles L. Dana of New York and Dr. J. J. Putnam of Boston; *Secretary and Treasurer*, Dr. G. M. Hammond of New York.

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**The Dangers of an Exclusive Milk Diet in Nephritis.**—Alfred C. Croftan discusses, first, the effect of an exclusive milk diet on general nutrition. Theoretically, full nutrition can be maintained on an exclusive milk diet. But in order to do this enormous quantities of milk must be consumed, and even then there is a deficiency of one all-important element, iron. Aside from overloading the stomach and flooding the circulation with enormous quantities of water, we force the patient to assimilate and disassimilate nearly twice as much albumin as he is accustomed to and as he requires. As far as the renal epithelia are concerned, much water, much urea, and much phosphate, all elements that are carried to the kidneys in large quantities when we feed our nephritics on an exclusive milk diet, act as irritants to the renal epithelia, and one consequently harmful. The ingestion of large amounts of water mechanically does injury to the stomach, the heart, and arteries. The writer does not think that we are at present able to formulate any fixed rules in regard to the feeding of nephritics. He thinks that the consensus of clinical experience speaks for more liberal feeding of kidney cases than is usually adopted, and decidedly against one-sided alimentation. It speaks by all means against an exclusive milk diet.—*Medicine.*

# New Instruments.

## A CIRRHOSIS BRUSH.

By ROBERT T. MORRIS, M.D.,
NEW YORK.

In our operations for making venous anastomosis in cases of cirrhosis of the liver, rapidity of work is a matter of consequence to the patient.

Scarification of the peritoneum, or removal of the endothelial layer at chosen sites by scrubbing as recommended by Talma, Morrison, and others, consumes more time than should be given to the work.

The brush here pictured allows one to be very expeditious in removing endothelium. The brush is nine inches in length, and has a curve of handle and of bristle surface which will allow one to reach readily the posterior border of the liver and the corresponding surface of the diaphragm. It is a five-row brush, with the stiffest unbleached bristles, varying in length from one-fourth inch at the tip to six-tenths of an inch at the summit of the convexity. When the brush is boiled in advance of an operation, the bristles soften to a degree which seems to be most useful, but if one prefers, the brush can be sterilized in formalin solution, which leaves the bristles very firm and hard. With this brush a few strokes suffice to remove the endothelium from the omentum spread out over the hand, and from the corresponding parietal peritoneum of the anterior abdominal wall. If the liver is then depressed with one hand, its cephalad surface and the concave surface of the diaphragm can be so quickly prepared for venous anastomosis that the entire operation from the time of opening the abdomen to the closing of the incision can be done in ten minutes. The work can be done through a much shorter incision than is required for some of the other methods. My views on the subject of short incisions in surgical work are generally misquoted. The tendency with most beginners in surgical work is to make too short incisions, and this leads to haggling work, and to delay in accomplishing the object of the operation. With the establishment of confidence in one's resources, the tendency is to make bolder and freer incisions, and to adopt that plan as a fixed custom without realizing that acquired expertness will allow one to go back to incisions so short that the patient is given the advantage of the mildest possible attack of incision. It is my belief that in abdominal surgery, particularly, short incisions indicate lack of skill on the part of the beginner, and that they are a test of skill, or at least a legitimate end of skill for one who has become expert out of successful experience.

In cases of cirrhosis of the liver, a long incision and a wound kept open for long time are factors inviting septic disaster, because the peritoneal lymphatics are so disordered in function that they cannot give ordinary protection.

58 WEST FIFTY-SIXTH STREET.

**Lepers in the Danish West Indian Islands.**—Dr. Ehlers, an emissary of the Danish Government, has found 102 lepers on the islands of St. Thomas, St. Croix, and St. Jean. He thinks the disease is of a mild, curable character. There are no good leper hospitals.

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report cases and deaths from contagious diseases reported the Sanitary Bureau, Health Department, New Y City, for the week ending July 11, 1903:

| | Cases. | De |
|---|---|---|
| Measles | 387 | |
| Diphtheria and croup | 354 | |
| Scarlet fever | 183 | |
| Smallpox | 1 | |
| Varicella | 56 | |
| Tuberculosis | 267 | 11 |
| Typhoid fever | 78 | 1 |
| Cerebrospinal meningitis | .. | |

**Health Report.**—The following cases of small yellow fever, cholera, and plague have been repo to the Surgeon-General, U. S. Marine Hospital Serv during the week ended July 11, 1903:

SMALLPOX—UNITED STATES.

| | | CASES. | DEA |
|---|---|---|---|
| California, Fresno | June 1–30 | 7 | |
| Stockton | June 1–30 | 4 | |
| Colorado, Denver | June 6–20 | 15 | |
| Georgia, Atlanta | June 24–July 1 | 2 | |
| Illinois, Belleville | June 27–July 4 | 6 | |
| Chicago | June 27–July 4 | 11 | |
| Indiana, Elwood | June 28–July 5 | 3 | |
| Iowa, Desmoines | June 27–July 4 | 3 | |
| Kentucky, Lexington | June 27–July 4 | 1 | |
| Louisiana, New Orleans | June 27–July 4 | 1 | |
| Maryland, Baltimore | June 27–July 4 | 1 | |
| Cumberland | May 1–31 | 24 | |
| Cumberland | June 1–30 | 21 | |
| Massachusetts, Fall River | June 27–July 4 | 1 | |
| New Bedford | June 29–July 6 | 1 | |
| Michigan, Detroit | June 27–July 4 | 5 | |
| Flint | June 27–July 4 | 1 | |
| Grand Rapids | June 27–July 4 | 1 | |
| Port Huron | June 27–July 4 | 5 | |
| Minnesota, Winona | June 27–July 4 | 1 | |
| Missouri, St. Louis | June 21–28 | 2 | |
| St. Louis | June 28–July 5 | 5 | |
| Montana, Helena | June 1–30 | 1 | |
| New Hampshire, Manchester | June 27–July 4 | 7 | |
| New York, Elmira | June 27–July 4 | 1 | |
| Ohio, Hamilton | June 27–July 4 | 1 | |
| Toledo | June 27–July 4 | 1 | |
| Pennsylvania, McKeesport | June 27–July 4 | 2 | |
| Philadelphia | June 26–July 3 | 30 | |
| Pittsburg | June 20–July 4 | 46 | |
| South Carolina, Charleston | June 27–July 4 | 8 | |
| Greenville | June 20–27 | 1 | |
| Tennessee, Nashville | June 27–July 4 | 1 | |
| Utah, Salt Lake City | June 21–27 | 7 | |
| Washington, Tacoma | June 22–29 | 1 | |

SMALLPOX—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Manila | May 8–16 | 6 | |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Belgium, Brussels | June 13–20 | .. | |
| Liege | June 6–13 | 1 | |
| Brazil, Rio de Janeiro | May 31–June 14 | .. | 1 |
| Canary Islands, Las Palmas | June 6–13 | 9 | |
| Chile, Antofogasta | May 1–31 | .. | |
| China, Hongkong | May 20–27 | 2 | |
| Colombia, Bocas del Toro | June 17–24 | .. | |
| Great Britain, Birmingham | June 13–20 | 1 | |
| Dublin | June 13–20 | 9 | |
| Leeds | June 20–27 | 10 | |
| Liverpool | To June 20 | 24 | |
| London | June 13–20 | 16 | |
| Manchester | June 13–20 | 3 | |
| India, Bombay | June 2–9 | .. | 2 |
| Calcutta | May 30–June 6 | .. | |
| Karachi | May 30–June 7 | .. | |
| Mexico, Coatzacoalcs | June 20–27 | 1 | |
| Tampico | June 20–27 | .. | |
| Russia, Moscow | June 6–13 | 3 | |
| St. Petersburg | June 13–20 | 35 | |
| Warsaw | May 31–7June 6 | 6 | |
| Turkey, Constantinople | June 14–21 | .. | |

YELLOW FEVER.

| | | | |
|---|---|---|---|
| Alabama, Mobile† | July 3 | | |

YELLOW FEVER—FOREIGN.

| | | | |
|---|---|---|---|
| Ecuador, Guayaquil | June 6–13 | .. | |
| Mexico, Progreso | June 20–27 | 1 | |
| Tampico | June 13–20 | 37 | 2 |
| Tampico | June 20–27 | .. | 3 |
| Vera Cruz | June 20–27 | 20 | |

CHOLERA—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Manila | May 8–16 | 66 | 5 |
| Provinces | May 8–16 | 338 | 24 |

CHOLERA—FOREIGN.

| | | | |
|---|---|---|---|
| India, Bombay | June 2–9 | .. | |
| Calcutta | May 30–June 6 | .. | 3 |
| Karachi | May 31–June 7 | .. | |

PLAGUE—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Manila | May 8–16 | 8 | |

PLAGUE—FOREIGN.

| | | | |
|---|---|---|---|
| Africa, Cape Colony | May 10–16 | 6 | |
| China, Amoy | May 9 | 50 deaths da | |
| Two Kwangs | May 12 (Increasing.) | | |
| India, Bombay | June 2–9 | .. | 22 |
| Calcutta | May 30–June 6 | .. | 1 |
| Karachi | May 31–June 7 | 43 | 3 |
| Japan, Negasaki | May 21–31 | 1 | |
| Yokohama | May 23–30 | 3 | |

*Two cases imported.

†1 case on S. S. Mount Vernon, from Limon, July 4. Death of c occurred at Gulf Quarantine, Ship Island.

# Medical Record

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## Original Articles.

### SOME CASES TREATED BY THE *X*-RAY.

FACIAL CANCER, CARBUNCLE, CHELOID, ACNE, ALOPECIA AREATA, SYCHOSIS, FIBROID TUMOR, PSORIASIS, AND LUPUS.

BY WILLIAM JAMES MORTON, M.D.,
NEW YORK.

CASE I.—Carcinoma of the left orbital region; inoperable. George Van A., aged sixty-three years, Jamesburg, N. Y. June 24, 1902. (See Figs. 1 and 2.) The disease began about fifteen years ago as an apparent mole on the cheek, below the lower canthus of the left eye. During ten years this mole-like growth laid fairly dormant, and then broke down into an ulcer with the formation of scabs. The ulcer increased in size until two years ago it was about one-half an inch in diameter and quite deep. It was now treated by a cancer paste, and apparently healed in about a month. But soon hard nodules formed around the edges and quickly broke down into an excavation larger than ever before, and discharged much pus. The bone of the orbit now became involved. In November, 1902, the paste was again applied, but the disease still continued to spread angrily in every direction.

He then took the Alexander treatment of about thirty-seven injections, but with no benefit; on the contrary, the disease has spread rapidly until it presents the appearance shown in the accompanying illustration. (Fig. 1.)

Present appearance: Both the upper and lower eyelids are more than half destroyed, both presenting at the junction of the diseased with the normal tissue a raised and indurated edge. The orbital socket presents a deep excavation; the raised and indurated edges of the ulcer extend outwardly beyond the orbital ridge, forming altogether an ulcer about one and one-half inches in diameter. Beyond the ulcer, extending on to the temple outwardly, is a mass of hard nodulated tissue about two inches in area, and feeling as if it were bone. The ulcer has an angry appearance, and discharges pus freely.

Since the patient had already lost the sight of the right eye by an accident, he was extremely anxious about a possible injury to the sight of the sound eye, and his anxiety led to a mild and discreet use of the *x*-ray.

Treatments were begun June 4, and continued three times weekly until August 22; time of exposure, fifteen minutes; distance of ulcer from target, nine inches; medium strength *x*-ray from a hard tube, showing plainly in the fluoroscope double bones at the wrist at a distance of two feet; a lead mask as usual; fifteen inch Ruhmkorff coil, mercury jet interrupter. In twenty days the nodules were visibly diminished in size and the ulcer was evidently almost healed (Fig. 2), and treatment might have stopped at this time except for the anxiety of the patient to make sure of a cure. In all, thirty-two treatments were given, extending over a period of eighty days.

It is interesting to note that this ulceration has not, apparently, healed by the usual process of cicatrization, for there exists not the slightest trace of contraction. The upper eyelid presents now a normal appearance, and the lower is new skin, but not scar tissue.

On January 31 the patient returned for precautionary treatment of a small point about the size of the head of a pin, and a photograph taken to-day would present even a better appearance than the one here reproduced.

CASE II.—July 2, 1902. Wm. L., aged fifty-two years, Astoria, L. I. Cutaneous carcinoma on both cheeks. Patient referred by Dr. Walter Eyre Lambert. Disease began one and one-half years ago as a small pimple on the right cheek just below the eye. Scabs formed and dropped off frequently. Soon an ulcer formed about one inch in diameter.

Treatment began July 2 and continued three times weekly up to thirteen treatments. About the eighth treatment, the ulcer showed signs of healing; it grew smaller and smaller, and ceased to form scabs and was perfectly healed in five weeks.

About one year ago a similar growth appeared on the left cheek one-half inch below the left eye. The growth was at first a round and hard lump the size of a pea. Six treatments, three times weekly, caused the ulcer to heal entirely.

Patient again examined October 17, and the skin appears to be sound. There is no sign of cicatricial tissue and no scar, nor can the site of the ulcers be found by examination.

CASE III.—October 10, 1903. M. W., aged eighty years. Epithelioma of nose. (See Figs. 3 and 4.) Existent since two years. Treated constantly by experts and no progress toward cure made. The ulcer is a deep hole with irregular, indurated, and rounded edges surrounded by a reddish areola. A scab forms continuously over the ulcer. The entire bridge of the nose is involved and a perforation of the bone and an opening into the inside of the nose has occurred.

The swelling, redness, and scab disappeared after twelve treatments, say at the end of six weeks. At the end of three months (with altogether twenty-four treatments) the epithelioma appears to be completely cured.

A perforation of small caliber from the outside to the inside of the nose remains as a result of tissue already destroyed by the cancer. The imperfections of the photograph of Figure 3 are largely due to senile tremor.

CASE IV.—April 25, 1902. B. H., aged sixty-two years. Epithelioma of lower lip. Referred by Dr. Am Ende.

Disease began fourteen years ago on the under lip as a hard, defined area. At the time of beginning treatment, the lip presented a most grievous and "ugly" appearance. The disease had invaded the entire length of the lower lip, precluding any reasonable operation by the knife. Roughly speaking, the lip looked to be very much swollen and projected forward. It was of a dark purplish

color and intensely hard to the touch. Inside the lip and involving the mucous membrane there existed a firm and indurated horizontal ridge, painful to examination and constituting an inside border to the cancer. Patient suffered much pain.

Treatment: *X*-ray, shield for upper lip and face.

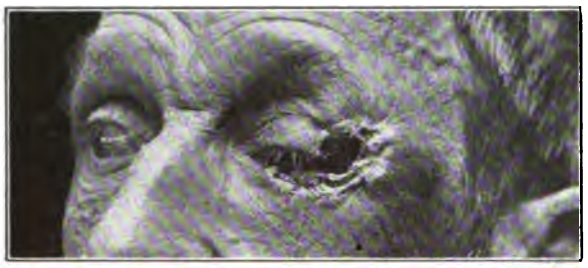

FIG. 1, CASE 1.

May 2: Complete relief from pain for twelve hours.

May 7: Scab from central and hardest portion of tumor fell off.

May 26: Now no pain at all. Hair of beard where exposed to *x*-ray has fallen out.

June 13: Cancer entirely disappeared—no symptoms and no indications of disease can be discovered.

Duration of treatments about seven weeks and about twenty-one treatments.

It should be stated in connection with this case that Dr. Am Ende during the *x*-ray treatment maintained for his patient a dosage of thyroid extract manufactured especially by himself, in order to be sure of its quality, and full weight in securing the excellent result should be given to the medicinal remedy. Up to the time of treatment by the *x*-ray, however, the thyroid by itself had produced no effect, although its use had been for a long time continued.

CASE V.—October 6, 1902. Mrs. G., aged thirty-seven years. Epithelioma of lower eyelid. (See Figs. 5 and 6.)

Twelve years ago injured the lower eyelid; four years ago the injured spot began to itch and a scab appeared, forming altogether a small ulcer with an indurated base and elevated and rounded margins. The tumor has been cut out once, once scraped out and various ointments and nitrate of silver have been used, but it refuses to heal and is now enlarging.

Patient reports that specimens examined by Dr. I. Danforth of Chicago and by Dr. Ard of Plainfield, N. J., have been pronounced to be epithelioma.

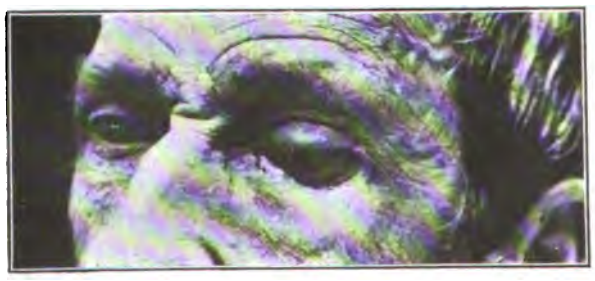

FIG. 2, CASE 1.

December 27: In about eighty days, or with about thirty-three treatments, the ulcer appears to be cured. (See cut.) Incidental to the disappearance of the ulcer is the appearance of a notch in the lower lid showing where previous operations had taken place. The new growth had previously filled up this notch.

In this case I frequently employed adrenalin 1-1,000 sol., one drop, to produce a primary ischæmia of the ulcer before *x*-radiation. As is well known, the blood offers, by reason of its density, some obstruction to the penetration of the *x*-rays, and it is quite possible, by securing an artificial pallor, to increase the effect of the treatment. I pursue the same plan frequently with other cases.

The patient now went to Europe with the understanding that she report progress on her return this spring.

Bearing in mind the case reported by Dr. Wilbur B. Marple of this city, of favorable effects due to adrenalin alone in such a case, I had thought of advising her to use this remedy while abroad, but a week's preliminary trial satisfied me that the secondary reaction more than counteracted any advantage gained from the primary pallor. I therefore am satisfied to use adrenalin merely as a mechanical producer of pallor preliminary to *x*-ray treatment and not for an otherwise curative purpose.

CASE VI.—April 4, 1902. H. W., aged forty-four years. Epithelioma of face, on cheek below the eye. First noticed a small red speck like a "broken vein" about fifteen years ago. About five years ago this spot became sore and increased in size and began to form scabs which from time to time fell off. The ulcer now measured about one inch in diameter, while the disease also extends beneath the adjacent apparently sound skin. Patient has tried caustics

FIG 3, CASE 3.

and various measures of treatment with no avail and is much discouraged.

Treatment: *X*-ray with shield.

May 23: Ulcer began to heal at once but slowly. Measurement to-day, one-half by one-half inch in diameter.

June 24: A very thin, delicate, new skin entirely covers the ulcer. This skin looks as if it might break down at any moment and causes doubt as to the results for a while yet. Referred to Dr. L. Duncan Bulkley, who writes, "There seems to be no doubt about there having been an epithelioma, but now there are almost no elements for a diagnosis. The *x*-rays have certainly done excellent work."

The case had been really cured in seven weeks with twenty-one treatments. In July, however, a very small persistent hard spot, perhaps double the size of a pin head, caused him anxiety and I gave a number more of treatments and the patient returned to Canada.

On October 17 he writes that the cure seems to be permanent, and this is corroborated on February 1, 1903.

Dermatitis was freqeuntly established. The healing is not like cicatricial tissue, but is true skin, which is indistinguishable from the adjoining skin.

CASE VII.—Miss S., epithelioma of the face, has been quite fully reported in the issue of this journal of March 8, 1902, as Case VII. It is presented here, together with an illustration, Fig. 8, as an offset to

any too favorable impression created by anything in this paper in regard to cancer of the face. The patient made, as reported, steady progress for a few months; the edges inverted, the indurations softened, the ulcer steadily decreased in size and a peninsula of healthy skin projected some distance toward the center of the ulcer. Then there steadily and slowly developed an extensive spread of the disease which no effort on my part with the *x*-ray or the violet ray could stem, and I was obliged to admit defeat. I saw but one hope remaining for her, and sent her, also with the advice and consent of Dr. Clement Cleveland, who had originally sent her to me, to Dr. A. R. Robinson, for an attempt to curtail and cure the ravaging ulcer by means of caustics. I understand that the unfortunate patient is now making favorable progress under the caustic treatment. I have no explanation to offer of this failure, except that others like myself have found this type of deep-seated epitheliomata with everted edges and "pearly nests" to be difficult if not impossible to cure with the *x*-ray. In all fairness it may be stated that doubts of the disease being an epithelioma were expressed by good authorities, but Dr. Robinson, on the other hand, whose opinion

Fig. 4, Case 3.

carries great weight, believes it to be unmistakably a true epithelioma.

Case VIII.—Carbuncle. April 13, 1902. The patient was brought to me by Dr. J. M. Liebermann, who has kindly furnished me with the data relating to the onset and final outcome of the case.

Thomas P. D., lawyer by profession, forty-four years of age, appearance of good health. Had a carbuncle a year ago. Had to stay in bed for two weeks in succession, suffering intense pain awaiting the softening of the tissues; duration of attack altogether between six and eight weeks. Two ugly scars now on the back of the neck attest the severity of the case. The patient was first seen by Dr. Liebermann on the 11th day of April; he had been suffering intense pain then for three of four days, with high temperature; a new and large carbuncle had developed on the back of the neck. The pain extended down the neck to the left scapula and induration extended to the occipital protuberance as well as downward over a large area.

Application of *x*-rays, a "high tube," powerful *x*-ray, six inches distance, hole generously large cut in a sheet of lead for a shield, duration eight minutes.

Within two minutes the immediate carbuncle area turned violent red, then purplish red and dusky in hue; this hue was maintained to the end of the treatment of eight minutes, when, upon examination by palpation, it was found that what had a few minutes before been a hard, stony tumor had now

Fig. 5, Case 5.

broken down into a softened mass three-quarters of an inch in diameter, leaving still, however, a crater-like ring of moderate induration round it; the *x*-ray had self-evidently forced a resolution in this brief space of time. At the same time the patient was completely relieved of pain and could with the greatest freedom turn his head from side to side. This in marked contrast to the fixedness of the pose of his head when beginning treatment.

Second treatment, April 14, with precisely the above effects over a wider area.

Third treatment, April 16. This treatment was really unnecessary, for the carbuncle was evidently so "ripe" that a slight touch of a knife to the very thin layer of skin over it would have permitted of an escape of its contents.

On the night of April 16 the carbuncle burst spontaneously, and on the next day in cleansing the wound no pus, except a mass of cheesy matter, was removed, and by slightly pressing on the border of the wound, the root of the carbuncle was removed in the shape of tenacious tape-like matter of two and one-half inches in length and about one-eighth inch in width.

Neither during the closing of the wound, nor at any time during the attendance, was pain experienced by the patient.

Fig. 6, Case 5.

Full recovery of the wound occurred on April 22, when the patient was discharged, making altogether eleven days for treatment of this most ugly carbuncle.

Patient during all the time was able to attend to his usual occupation in court and in office without inconvenience.

Case IX.—Cheloid. March 7, 1902. Patient, a young lady, Miss E., aged twenty-one years, referred to me by Dr. Robert T. Morris, had unsightly cheloid on the neck. On a trip up the Nile she had contracted variola; three pustules had formed and in one of these the cheloid grew. Dr. Morris removed the cheloid by the knife, but it promptly returned; he removed it again, and again it returned, larger and more vigorous than ever before. Under these circumstances a third operation was deemed inadvisable. It now measured two inches in length by three-quarters of an inch in breadth and one-third of an inch in height. It was bright red, of cartilaginous consistency and permeated by a rich and fine network of capillaries.

Fig. 7.—Alopecia Areata.

Treatment: *X*-ray, high tube, powerful *x*-ray, nine inches distance, shield, three times weekly. The shield left exposed an area of sound skin one-quarter of an inch around the growth, in order to be sure of including the entire edge of tumor within the influence of the radiation.

At the third treatment the tumor looked and felt "flabby" and was soft. Soon extensive dermatitis was established on the ring of exposed sound skin, but in the cheloid tissue itself the dermatitis was much more severe and the mass discharged serum and pus.

By May 22 (twenty-seven treatments) the inflammation seemed to be too great safely to proceed further and treatments were suspended.

June 7: Patient returns. Cheloid has greatly reduced. It measures about one inch by one-quarter of an inch, is flattened to the level of the sound skin, and offers little sensation of thickness to the touch. Patient now left the city for the summer under promise to report in the fall.

October 20: A small ridge of cheloid tissue remains at one end of the original tumor, but otherwise the cheloid has entirely disappeared.

To this spot three treatments were given, making a total of thirty treatments.

November 11: Nothing whatever now remains of the cheloid. The skin is soft and smooth.

Across the former site of the cheloid runs the thin linear cicatrix of the last operation. On either side of it a still somewhat pigmented area represents the space occupied by the cheloid. No cicatrix or scar tissue has resulted from the *x*-ray treatment.

Practically the actual time occupied in treatment was from March 7 to May 22.

Case X.—Cheloid. October 1, 1902. Mr. McF., cheloid on neck. Began about four years ago at the site of a linear scar on the neck. It now measures three inches in length by one-half an inch wide and is elevated quite one-half an inch. Ingrowing hairs of the beard within the mass cause him much annoyance.

Treatment: *X*-ray.

November 11: Cheloid growth highly inflamed and appears like a raw sore exuding serum and pus. It is flattening out and diminishing in size rapidly.

December 16: Still an open granulating surface. The amount of serous and purulent discharge is great. To palpation no cheloid thickening can be felt except a small spot at one end, apparently not so fully exposed to the *x*-ray as the rest of the tumor.

January 27: Open sore entirely healed over. Site of tumor flat and on level with sound skin. As the cheloid tissue finally retreated the patient removed from time to time three hairs about one and one-half inches in length which had been left freely exposed. The original linear cicatrix not before discernible has also come plainly to view, and, as in the prevous case here reported, on either side of it remains a pigmented area of sound and normal skin. And, as in that case, so in this, the result has not been the formation of a cicatrix but simply a retreat of a diseased condition leaving behind it a normal skin. Cheloid completely cured.

Case XI.—Acne, April 3, 1902: Miss E. B., aged twenty-one years. Acne of face, chest, and shoulders. Disease began at the age of thirteen, first as red spots upon the nose, and has since spread over the entire face and on to the neck, chest, and shoulders.

The patient experiences what she terms "bites." There is first a stinging sensation, then a small white patch, which quickly swells to a reddish or purplish lump, at the top of which a small drop of serum appears. The lump subsides in about an hour. The face is scarred and "lumpy," thick with comedones and of a dull, dusky-red, dirty color, constituting a muddy and raw complexion very disagreeable to look at. The nose is thickened and, of coarse, contour from the disease.

Dr. G. H. Fox kindly confirmed the diagnosis.

Treatment: *X*-ray to face, suspending a lead disc three-quarters of an inch in diameter by adhesive plaster before each eyeball to defend the retina. Also shield for hair of head.

May 1: A continued dermatitis of a bright red has now been maintained for two weeks. There is a remarkable cleaning up of the acne, and the face complexion is becoming decidedly fine and velvety.

Fig. 8.—Epithelioma of face not cured by *x*-ray.

June 3: Now and then a "bite" coming to a pustule. Skin of face, even to that of the ears, cleared up. The nose, which used to feel "thick and podgy," has resumed its normal shape.

At the same time the patient's general health has much improved. Her headaches have disappeared, also a general feeling of sleepiness. A distressed feeling of the stomach with frequent nausea and retching has ceased, and she can eat any sort of food without subsequent discomfort.

June 7: Some hair falling out at top of forehead.

Face shows severe *x*-ray burn and is scaly, dry, and purple red.

June 21: Last treatment on June 11. Came for treatment June 14, but the face was too purple, red, and swollen to risk another application. Applied "cold cream." Face intensely red, but in three days the swelling subsided. During this week serum has flowed freely from the surface of the

Fig. 9.—Sychosis.

skin of the face and from the swollen lips. The skin burned and itched until the watery flow was established, then it felt comfortable. The eyebrows have fallen out and the lower lashes; the upper lashes still hold on fairly. The skin of the face has entirely peeled off, and a new skin is appearing clean and delicate and pure as that of a healthy baby. The nose likewise is fine in contour and entirely clear of disease and has a delicate new skin.

June 25: Remains of dermatitis are now simply a rosy color and the skin is of a fine healthy and beautiful texture, with, of course, no sign of the former acne. The neck and shoulders shared in the transformation.

Patient cured.

Duration of treatment about two months; total number of treatments 26.

Subsequent Note.—October 8: Patient called to report results. The face presents an absolutely perfect and fair complexion and without any sign whatever of disease. The eyelashes of both the upper and lower lids fell out completely just after the patient's last visit of June 21. Also at about the same time the eyebrows peeled off completely with the skin. In three or four weeks the eyelashes began to reappear, at first quite fine and light, but as they grew longer they grew blacker and stronger and are now fully restored. In about seven weeks the hair of the eyebrows returned. The hair for one inch back of the top of the forehead extending from ear to ear fell out, but is now growing luxuriantly and has attained at the present moment one inch in length.

Case XII.—Alopecia areata, Fig. 7, April 11, 1902. Began seven years ago with a spot the size of a five-cent piece on the back of the head. The hair fell out, and from that time on to the present new and large patches have continuously appeared. The new hair would grow in snowy white and the coloring matter only appear after a growth of about one inch in length had been attained. Perhaps in six months the hair would again fall out in patches. It is not my purpose to report this case in full, but merely to point to Figure 7 and to a large patch of dark luxuriant hair of an area about as large as the palm of one's hand, indicated by the arrow. When perfectly bald, *x*-ray treatment of this spot was begun, with the usual technique referred to in this paper. The hair at first continued to fall out. On May 2 it ceased to fall. On May 5 signs of growth of the hair in the denuded area began to appear. Treatment continued until July 1.

September 8: Patient returns after an absence of two months to report that the hair had grown luxuriantly in the formerly denuded part, and that for the first time in her experience it had grown in black from the start.

At last reports, now about four months ago, the new hair remained. In the cut, Fig. 7, below the spot treated, is shown an untreated spot.

The favorable effect of the *x*-ray, is clearly demonstrated by the result in the large area alone treated by it.

Case XIII.—Sychosis of the upper lip and chin. S. S., aged forty-two years. Has had sychosis on the chin for five years and upon the upper lip for two years. Patient has tried faithfully innumerable treatments with no avail and states that nothing ever acted upon his disease so quickly or so thoroughly as the *x*-ray. The skin presents the usual nodules, papules and pustules and is deeply infiltrated. Fig, 9 illustrates the case better than would further description. Fig, 10 represents the case after six treatments, three times weekly.

Fig. 10.—Sychosis.

There is now no infiltration and no sign of the disease. The hair of the upper lip fell out at the end of two weeks. With the danger of relapse characteristic of this disease in mind, treatment will be prolonged for some time yet. Of my other cases this disease have shown identical results under *x*-ray treatment.

Case XIV.—Mrs. J. B., aged forty years. Fibroid tumor of the uterus.

August 4, 1902: Tumor began about five years ago as a swelling, noticeable in the iliac region. Present examination reveals the tumor to be a large, hard, rounded mass, filling the abdomen quite to the epigastrium, and resembling in contour an advanced pregnancy. Patient is "nervous," suffers from pressure symptoms and is continually subject to severe and dangerous hemorrhages. Frequently from month to month the flow of blood would not cease, and she often almost lost consciousness. The physicians summoned had endeavored in vain to arrest the hemorrhages by ergot and other measures. At times the pain attending the hemorrhages was excessively severe. She has been confined to her house now for nearly four years. I advised an operation for the removal of the tumor, but this the patient would not listen to, but begged that the *x*-ray might be tried in her case as an experiment. To this I consented.

Treatment: *X*-ray three times weekly, externally 20 to 30 minutes, very high tube whose radiation was conclusively shown by the fluroscope to have passed through the tumor. Relation of tube to the patient externally was frequently changed.

August 25: Patient *x*-rayed nine times and reports that her menstruation had occurred with almost no pain, with almost scanty flow, and that

Fig. 11. Case 16.—Lupus vulgaris.

this had been the first time for years when she had not been obliged to take to her bed and remain there, and take large doses of ergot and often summon a physician.

November 30: About three months' time and thirty-nine treatments to date. The tumor itself has reduced at least one-third in size and a complete symptomatic cure is obtained. The menstrual periods are regular, natural, and painless, and no hemorrhages whatever have occurred since treatment was begun. The *x*-ray therefore in this case has restored menstruation to normal, arrested the condition of severe and dangerous hemorrhages, and produced a symptomatic cure, together with a very considerable reduction in size of the growth. The patient can now get along very comfortably, but wishes soon again to resume treatment to see how much more can be attained.

Case IV.—Psoriasis. Mrs. H. C. J., aged thirty-three years. Disease began when she was ten years of age, with a small patch beneath the eye. From that time on the patches have increased in number and size and have extended in large areas almost over the entire body, mainly on the back and toward the hips, the neck and chest, knees and elbows, and general extensor surface of the limbs, and has also invaded the scalp. There are many individual patches on the body larger than the combined area of two hands. A detailed description of the disease is not essential, since its characteristics are entirely classical and typical and a picture of similar cases may be seen in any classical atlas of skin diseases. The patient had taken many kinds of treatment during all these years and without success. I had tried the brush discharge and statical electricity also, unsuccessfully. The patient was then put upon *x*-ray treatment. A large and powerful tube was provided, of high vacuum, and the patient, thinly clad, stood before the tube, taking the *x*-ray over the entire body for about half an hour or more, three times weekly. The patches of psoriasis began to thin and ceased scaling, and reduced in activity immediately after the first week's treatment. By the end of the second week at least thirteen large patches had entirely disappeared and the skin where these had formerly existed was perfectly normal, and by the end of the third week it was impossible to find the previous locality of many patches. By the end of the fourth week the arms and neck and back were perfectly clear of disease and the legs presented but faint blushes showing the locality of the disease. At the end of six weeks the patient is entirely cured, and, curious to relate, the patches on the scalp ceased at the same time, although no treatment had been applied to them specifically on account of a fear of affecting the hair unfavorably. Indeed, the patient wore a lead mask to protect the hair of the head. The fact that the scalp patches have been cured would seem to indicate that the effect upon this disease has been constitutional, as well as local, and taking into consideration that the *x*-ray thus generally administered acts as one of the best nutritional tonics to the general health, it is not strange that this should occur. Of course, in this case the usual possibility of a recurrence must be taken into account, but the rapid disappearance of extensive psoriasis in this short space of time establishes beyond question that the *x*-ray is a most potent form of treatment for this hitherto intractable disease.

Case XVI.—Lupus Vulgaris. Miss H. M. T., aged fifteen years, Halifax, N. S. At eight months of age mother noticed a small lump, size of a pea, on the left cheek. In three weeks this formed an abscess which was lanced and it appeared to be well. Soon after this noticed that the spot was becoming red, and the redness spread slowly but surely, until at two years of age it was the size of a silver dollar. The physician applied caustic and other agencies freely and frequently, but to no avail. Later on, the lupus, now larger than a silver dollar, was curetted several times, but still increased in size and activity.

Examination, 1902. On the patient's left cheek is a dull red patch measuring one and three-quarters by two and one-quarter inches and spreading aggressively on its anterior and lower borders, while posteriorly the color is paler (Fig. 11.) This patch is elevated above the surface of the cheek, firmer at its edges than in the center, and throws off fine scales. The infiltration extends deeply into the tissue of the cheek.

Microscopical examination by Dr. H. T. Brooks of the Post-Graduate Hospital Laboratory establishes the diagnosis.

I first tried in the treatment of this lupus, during a period of about two months, a fairly mild *x*-ray, producing simply a mild dermatitis of the adjacent sound skin. The lupus at first became swollen, and puffed up and looked angry, then gradually showed a shrinkage in its area and gave off large, flat scales. It presented a concavity instead of a convexity, and became saucer-shaped, but did not entirely subside,

although showing a profound reaction and a great disposition to repair.

Becoming weary of mild treatment, I substituted more powerful treatment. An aperture in a lead shield was cut, so that one-half an inch of normal skin around the edges of the lupus was fully exposed, and the *x*-ray treatment was then carried on three times a week until the sound skin presented an angry purplish red *x*-ray dermatitis, while at the same time the lupus itself began to appear swollen, angry looking, very red, exuding serum, and elevated. The normal skin was thus left exposed for a control and guide as to the extent to which the *x*-ray could be safely pushed, the presumption being that the lupus area would receive a due and proper amount of treatment within the limits of severe dermatitis upon the normal skin. This management of the case was eminently successful, for upon ceasing treatment at a time when the severe limit of dermatitis of the skin had been established and the lupus itself had been excited to an angry condition, the *x*-ray was stopped, and the lupus over a period of two or three weeks went on by itself without further treatment to a complete cure. The lupus area healed without the production of scar tissue, and the skin previously occupied by the disease is now as sound and natural as any skin of the face.

I am now treating all cases of lupus by using the sound skin as a control of the treatment, as above described, and find this method more successful than either milder or more excessive treatments.

10 East Twenty-eighth Street.

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**The Limits of Variation in the Depth of the Mastoid Antrum.**—From a series of measurements, P. D. Kerrison concludes: (1) That in operations upon the mastoid process the antrum should always be approached from the nearest point upon the mastoid cortex, which, in the great majority of bones, is the small triangular space behind the spine of Henle. (2) That this point of attack not only furnishes a guide to the site of the antrum, but also gives fairly accurate data as to the depth beyond which it is not safe to proceed. (3) That the depth of the antrum is always less than the length of the postero-superior wall of the meatus; that in the great majority of bones it is not over 12 mm., is often very much less, and is never greater than 15 mm., or ⅝ inch; and therefore (4) That in a surgical attempt to expose the antrum a depth of ⅝-inch should be regarded as the extreme limit of safety.—*Archives of Otology.*

**Sulphocarbolate Treatment of Cholera Infantum.**—William F. Waugh says that every case of summer complaint, enterocolitis, and cholera infantum that he has attended in the past twenty-five years has recovered under the use of the sulphocarbolate of zinc. His method is the following: Clear the bowels with castor oil, calomel, mercury and chalk, aromatic rhubarb, lavage or colonic flushing as seems best in each case. For lavage he prefers a solution of zinc sulphocarbolate, a grain to the ounce; for colonic flushing the same, for rectal flushing or when the type is dysenteric, silver nitrate, two grains to the pint. The solution should be as hot as bearable. Then follow with zinc salt, from one-sixth grain to two grains every hour. He has given the latter dose hundreds of times to children in their second summer, without irritation. Some take the medicine in solution, others in granule or tablet form, but if there is a decided irritability of the stomach, it is best in powder with bismuth and pepsin. When there is extreme acidity, marked by excoriation of the rectal mucosa, etc., sodium sulphocarbolate is preferable, or the triple salts, zinc, sodium, and lime, may be used with advantage.—*Alkaloidal Clinic.*

## CONGENITAL LARYNGEAL STRIDOR.*

By JAMES E. NEWCOMB, M.D.,
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During the last few years the writer has seen three cases diagnosticated as the so-called congenital laryngeal stridor, and though the circumstances in each case have been such that it could not be followed, and its later history obtained, he has been deeply interested in the study of the subject, and has deemed it one not unworthy of the attention of this association. The literature is not voluminous, and pretty much all that has been written has come under examination.

By the clinical term describing the condition is meant a stridor coming on within a few days of birth, continuing for a certain period, measured usually in months, but possibly in years, apparently not doing the child much if any injury, and finally subsiding of its own accord without sequelæ. It seems to have been first described by Rilliet and Barthez in 1853. It has been variously termed "Inspiratory Stridor of Nurslings" (Avellis), "Stridulous Respiration of the Newly-born" (Comby), "Clonic Glottis Spasm of Nurslings" (Löri), "Respiratory Croaking of Babies" (Gee), "Posticus Paralysis of Infants" (Robertson), and "Congenital Laryngeal Stridor" (Rocaz, Suckling, Stamm). No therapeutic measures have seemed to shorten or essentially modify its course. Consequently the literature has mainly concerned itself with theories of etiology and criteria of differential diagnosis.

As frequently happens in the case of rare diseases, some of the writers have endeavored to establish, from a very limited experience, a too rigid symptomatology, and in the light of our present knowledge have too sharply drawn the lines of their clinical picture. This fact is illustrated in the statements collated on the topic in the recent book of P. Watson Williams. Thus he remarks that "the usual physical signs of obstruction are presented during the exacerbations, such as cyanosis, retraction of the epigastrium and lower ribs, and depression of the supraclavicular fossa and episternal notch." On the other hand, the majority of those who have described the condition deny the presence of these clinical features. No such evidence was presented in the cases seen by the writer.

The malady seems to predominate in male babies, though no reason is assigned therefor. In so far as laryngeal examination has been applicable, it has revealed a malformation of the laryngeal vestibule, epiglottis, and aryepiglottic folds. The epiglottis has lacked its normal curvature, being folded on itself, so that its shape has been that of an arched or curved roof; or, the aryepiglottic folds have been devoid of their usual firmness, and their free ends, being thin and flabby, have nearly touched. In some instances the upper part of the larynx has seemed contracted by protuberances capable of vibrating and of playing the rôle of supplementary cords. In a second and less marked variety, the changes have been rigidly confined to the epiglottis and aryepiglottic folds, the former being rolled on itself like the end of a flute, the folds themselves approximating only anteriorly, and the *ensemble* vibrating under the effect of the air.

The causes of this condition are not always easy to find. In view of its suggestion of the familiar laryngismus stridulus, and the fact that many cases of the latter occur in rachitic subjects, some have supposed that rachitis is at the bottom also of congenital stridor. In a general way the most common

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causes of laryngeal spasm in children are rachitis and digestive disturbances; to these may be added reflex disturbances from lesions of the nasopharynx, brain, and respiratory lesions. In the experience of certain observers the stridor cases have been badly nourished, but this is contrary to common observation. Some have regarded the stridor as merely a modification of the nervous mechanism of the larynx, which is within the limits of health, and is analogous to the cardiac arrhythmia observed during the first years of life (Politzer). As a rule there has been no tendency to cyanosis or convulsions such as would indicate air-hunger. The overwhelming testimony has been to the effect that the health has generally been good. In fact, the disorder has been looked on as "more an annoyance to others than to the child itself."

The time of onset may be any period from the first day of life. In the eighteen cases reported by Sutherland and Lack, the onset occurred on the first day in eleven. These authors believe it rare to have the onset delayed after the second week. The character of the sound made varies considerably within type limits. It may be a stridor, a croak, a cluck, etc. The inspiratory sound may be the louder. With superficial breathing it may completely intermit, to be reproduced and become continuous when the breathing becomes deep or irregular. It is increased by changes of temperature, excitement, sudden waking, coughing, sitting up in bed, too rapid feeding, and flatulency. It sometimes stops when the position of the child is changed from the back to one side, or when the head is placed at a lower level than the body. (Gähnen.) It continues during sleep, though never aggravated thereby, and persists during chloroform anæsthesia.

Mendez has reported one case, that of a child of seventeen months, in whom stridor accompanied and was synchronous with inspiration; then ensued a period of quiet expiration for about one-third of the expiratory period, when the stridor reappeared and accompanied expiration to its close. At other times the breathing appeared to assume the Cheyne-Stokes' type. Mendez was inclined to refer the inspiratory stridor to the pharynx and not to the larynx.

Goodhart states that respiration is accompanied under certain circumstances by a curious clucking or croaking sound, instead of by a true stridor, and that the latter is practically constant in expiration as well as in inspiration.

In view of the scattered reports of the cases and the fact that no one writer has seen very many of them, it is not surprising to find a wide diversity of theories as to the underlying cause of the condition. Let us consider *seriatim* the various hypotheses submitted.

1. *Thymus Enlargement Causing Pressure.*—In referring to a case of Herzfeld's, Avellis states his belief in this theory and believes that the lesion may prove fatal. A woman of thirty years came under his observation, having a narrowed trachea referred to thymus pressure, She had suffered from stridor in infancy, and it recurred on violent exertion after she had grown up. He reports another case in which removal of a part of the thymus relieved the stridor, or at least the stenotic symptoms. Stamm denies that true laryngeal stridor is ever due to this cause. It is an undeniable fact that thymus enlargement has not been present except in a small proportion of cases; when present, there has been expiratory as well as inspiratory stridor.

2. *Cicatricial Band across the Larynx.*—This theory can hardly be regarded as tenable. If it were, we should expect to have children born with stridor, but of such instances we have no such record. Laryngeal bands in infancy are uncommon, and are generally referable to some pathological process as syphilis or diphtheria. A few cases of congenital laryngeal bands or webs are on record, but these cases have not presented the stridor of which we speak. The diagnosis of the condition in the earliest period of life is most difficult, often only conjectural. Such cases are apt to suffer in the later period of life from dyspnœa on the slightest exertion.

3. *Acquired Brain Lesion Causing Anatomical Deformity.*—Stamm reports a case of stridor, the child dying in convulsions soon after birth. The respiration was very rapid, running from 150 to 200 per minute. There was a deep inspiration and then a relatively long pause. The child had fallen on the head during the completion of the parturient act, and there was probably some central disturbance, but the respiratory abnormality did not come on till the fourth day of life. The seat of the trouble was considered to be in the region of the calamus scriptorius, in which locality, according to the researches of Semon and Horsley, lies the coördinating center for involuntary laryngeal movements.

4. *Lack of Development of the Cortical Centers of Respiration, Especially of the Laryngeal Centers.*—Evidence on this theory is manifestly only conjectural. Autopsy alone could verify the truth of any such hypothesis, and such testimony is lacking.

5. *Posticus Paralysis.*—This theory has received the advocacy of W. Robertson, who reminds us that bilateral paralysis of the abductors with secondary contraction of the adductors is a common phenomenon in nervous pathology. He finds the starting-point of the process in irritation arising from the region of the pharynx and postnasal space. It is probably transmitted to the region of the medulla, there exciting and exhausting the accessory vagus, and this leads to the depraved innervation of the muscles in question. The latter structures are also acted on unfavorably by the collateral catarrh of their enveloping mucosa.

The position of Robertson has been vigorously attacked by Semon, who regards the cases ascribed to paralysis as being due to spasm. In such cases he notes (Heymann's Handbook) that the cords come together in such a way that the rima glottidis remains closed for an instant while, with the beginning of expiration, the cords separate. He would regard the condition of Robertson's cases as analogous to that described in adults as "perverse action of the vocal cords." He admits that in children it is often difficult to distinguish between clonic inspiratory spasm and bilateral paralysis of the abductors. In both there is a constant stridulous breathing with a free voice. Laryngeal examination in young children offers the most severe difficulties, and in both conditions, the laryngeal image is very similar at the height of inspiration. Points of difference are (1) that in spasm the stridor usually disappears during sleep, though this is not always the case, and (2) bilateral paralysis of the abductors in nurslings has never been positively determined. At any rate, it is a very rare affection, and in cases such as those reported by Robertson, Semon maintains that the *a priori* conclusion is that we have to do with clonic spasm rather than with paralysis.

6. *Muscular Spasm, Either Glottic or Subglottic and Possibly Phrenic.*—McBride would regard the laryngeal stridor cases as due to spasm and not to paralysis. He would consider them as similar in etiology to laryngismus stridulus, adding that this view is probably correct in so far that both are due to cortical irritation, yet admitting that there are marked clinical differences.

7. *Adenoids.*—Eustace Smith advanced the theory that the condition is due to adenoids in the nasopharynx, placing himself on record as never having failed to find the latter or a thickened granular state of the mucosa. One of his cases was cured by curetting of the vault. In this case the larynx was of normal size and development. Jackson has reported the case of a boy of seven months with stridor and adenoids, but removal of the latter did not cure the former, which persisted eight months longer and then gradually disappeared. In reply to Eustace Smith, Lack contends (1) that the stridor in Smith's cases was increased during sleep, (2) that it ceased under chloroform anæsthesia, (3) that it was increased by closure of the mouth in feeding, and (4) that the patient was subject to suffocative attacks, such as are very common in adenoids, but very rare in the affection called congenital laryngeal stridor. In reply to Smith's contention that stridor is caused by the spasmodic closure of the aryepiglottic folds, and that this spasm is due to the irritation set up by the adenoids, Lack replies that the spasm is probably due to the examiner's finger and the presence of the mirror in the infant's throat—a not uncommon reflex.

Finally we come to the theory advanced by Lack himself, and the one that has met with the most general acceptance.

8. *Congenital Deformity of the Superior Laryngeal Aperture Aided by the Flaccidity of the Parts in Infancy but Not Entirely Dependent Thereon.*—The upper laryngeal aperture acts as a valve. Its lateral walls fall in during inspiration. As the patients grow and the parts become firmer this lateral prolapse gradually ceases. In this theory Thompson and Logan Turner agree, and they have reproduced the stridor in the cadaveric larynx of children by imitating forcible inspiration through the glottis. Thompson believes that in life the laryngeal deformity arises from disturbance of respiratory coördination resulting in a constant sucking in of the upper margins of the infantile larynx, "a process strictly analogous to the formation of pigeon-breast."

Naturally but few cases have afforded an opportunity for the examination of the larynx. Numerous variations occur in the few statements on record. Rocaz reports one case in which the epiglottis was bent from without inward. In another case by the same author it is said that the aryepiglottic folds were hypertrophied so that the true cords could not be seen. The mother of the last-named patient was tuberculous. Rocaz suggests that nervous heredity may be a factor in the problem. In his first case, the father was bitten by a mad dog about the time conception occurred in the mother, and he considers that this fact suggests a possible toxic infection.

In one of Gee's cases the larynx was easily seen and appeared normal. Lees found the epiglottis excessively curved in its vertical axis, as if it had been bent in half down the middle, and then the aryepiglottic folds brought almost into apposition, leaving only a narrow chink between them. Sutherland and Lack examined the larynx by passing the index-finger of the left hand over the tongue and hooking its terminal phalanx around the hyoid bone, which was then pressed well forward. The epiglottis was found folded on itself, the aryepiglottic folds were approximated and the laryngeal entrance was reduced to a narrow slit, their flapping folds seeming to bound the aperture. Examination of the nasopharynx was negative.

In a few instances post-mortem examination has been made. Lees reports one case dying of diphtheria at the twelfth month. Examination of the larynx one month previously had revealed its upper aperture as a narrow median slit extending from above downward, the epiglottis being folded on itself so that the posterior surfaces of its lateral halves were almost in contact. In the case of Refslund, the parts had the shape of a jews-harp. In another instance autopsy showed, in a boy of two and a half years, the epiglottis furrowed in the middle. The furrowed part separating the cartilaginous leaves was fastened throughout by a connective tissue band to the base of the tongue. Into this furrow the epiglottis was bent so that the inner surfaces of the lateral halves touched. This latter condition Refslund considers one always to be thought of in explaining mysterious cases of laryngeal dyspnœa in children. This latter statement, however, casts doubt on the correctness of the diagnosis in this special case, for in true congenital stridor, dyspnœa is wanting—in fact, its absence is one of the most striking features of the disease.

Variot reports two cases. His first case was that of a boy brought to the hospital with laryngeal hoarseness. No diphtheria could be made out. The voice was clear in cry and speech. He was intubated, but dislodged by coughing the tube from the glottis, and it started down the œsophagus but was recovered by the thread. The mother stated that normally the stridor was present during sleep and nursing. A second tube was inserted, but was in a few minutes rejected. As far as could be ascertained, the epiglottis seemed folded over the tube. The patient died of scarlatina and bronchopneumonia. Autopsy showed the epiglottis elongated so as to form a trough from approximation of its lateral borders. The aryepiglottic folds, instead of diverging in the usual V-shape, formed a slit 1 c.m. high, and were in contact. Variot had another case with adenoids, but curetting did not relieve the stridor.

*Prognosis.*—In weakly children the condition may lead to thoracic distortion and may prove fatal. As a rule it passes off by the end of the second year. It may return during periods of excitement or of ill health. It generally increases in severity for some weeks after its appearance, then becomes stationary until about the eighth or ninth month, and then gradually diminishes until a period from the eighteenth to the twenty-fourth month, when it disappears.

*Differential Diagnosis.*—This is called for from (1) papilloma, (2) catarrhal laryngitis, (3) essential spasm of infants, (4) phrenoglottic spasm, (5) congenital retraction of larynx, (6) paralysis of dilators, (7) hereditary syphilis, (8) retropharyngeal abscess, (9) adenoids, and (10) laryngeal stridulus. The latter alone need concern us here and now. Laryngismus stridulus is favored by the onset of the first dentition. The patients are rachitic and may have tetany, convulsions, or other nerve disturbance. The spasms are of long duration and the patients become cyanotic. Crying may set the spasm up or aggravate it, and attacks are more frequent during night hours.

Stridor comes on soon after birth. It is slight and there is no cyanosis. Crying usually stops it. Deglutition has no effect upon it. Sleep never aggravates it and may stop it. In other words, we have to do with a condition in which there is a temporary anatomical deformity and an alteration of the relations between the muscles of the throat and those of the larynx. There may be the added factor of a central nerve disturbance. Some cause may act on the adductors more strongly than on the abductors. Semon and Horsley have shown that there are cortical fibers for adduction, but none for abduction. It is also furthered by backward development and irritable weakness of the

central mechanism controlling respiration, just as the tendency to laryngismus in a rachitic child has been referred to a deficiency in the higher controlling centers. In other words, there enters into the question the factor of a developmental neurosis. It is analogous to occupation spasm, urethral spasm, and stammering.

*Treatment.*—Robertson orders ammonium bromide, alkaline sprays, and resorcin in mineral oil. He also advises the clearing out of the pharynx and nasopharynx before secondary contracture sets in. Such a therapy is based, of course, on his theory of etiology. Variot has suggested partial resection of the aryepiglottic folds if dyspnœa should ensue and threaten life. Merklen and Devaux summarize treatment as bromides, strychnine, warm baths, eucalyptus inhalations, and antisepsis of the upper-air tract. On the basis of the theory which we have accepted in this paper, a general tonic régime is all that is called for.

Dr. D. Bryson Delavan has kindly sent me the notes of two cases that have come under his personal observation. Case 1 was that of a boy, now thirteen years old, who has suffered from birth from laryngeal stridor. At first it was so severe as to threaten life. Exertion now of any kind brings on an attack. Removal some time ago of a pharyngeal adenoid was followed by a distinct improvement in the severity of the condition. At present there is a slight laryngitis, but the boy is in fair health, is moderately well-developed and ignores his laryngeal handicap, though almost any kind of exercise, such as running, riding the wheel, etc., brings on an attack. All these he does in spite of the temporary discomfort. Case 2 is that of a boy now nine years old. The difficulty began a day or two after birth. As far as is known, parturition was normal, delivery being rapid. Stridor came on every time he was put to the breast, but it did not seem to inferfere with nursing. It lasted for a short time after nursing until he went to sleep, and the total duration of the trouble was between three and four weeks when it stopped of itself. No treatment seemed called for and none was attempted.

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**Gout and Its Treatment.**—M. A. Auerbach, holding the uric-acid theory of gout, gives the dietetic treatment as the elimination of all nitrogenous or albuminous principles from the food. To this diet should be added natural mineral waters. The medicinal treatment consists of alkalies and purgatives. The author considers the quinate of piperazine (sidonal) the best remedy; while it is not so rapid in its effect in relieving the pain of an acute attack of gout as some others, it nevertheless exceeds all others in value. During an attack it should be given in doses of ten grains every hour and a half to two hours, dissolved in at least eight ounces of distilled water. Sometimes a hypodermic injection of morphine is absolutely necessary to relieve the pain in a paroxysm of gout. As many old subjects of gout have contracted kidneys, the use of morphine under these circumstances is attended with some danger, and the drug should be administered with great caution.—*Buffalo Medical Journal.*

# PERICHONDRITIS OF THE LARYNX, WITH REPORT OF A CASE.*

By EMID MAYER, M.D.,
NEW YORK.

Diseased conditions of the larynx as a complication or sequel of typhoid fever are by no means rare and their presence may be of diagnostic value. Schmidt, speaking of the aids to early diagnosis of typhoid fever, says that inflammation and infiltration of the epiglottis form a characteristic condition and enable us to make the diagnosis of typhoid positive. Kobler, on the diagnostic value of affections of the epiglottis in typhoid, reports two cases: "There was much infiltration and deep ulceration of the epiglottis in both cases and white cicatrices resulted. Aside fom the differential diagnosis, this condition is of value in prognosis—as long as the infiltrate exists the typhoid is still at its height. In all cases of cicatrices of the epiglottis, inquiry should be made for previous typhoid to avoid a diagnosis of lues."

The more serious conditions, stenosis resulting from typhoid fever, occur from time to time, and there are a considerable number recorded in the medical literature, yet in the individual experience of most physicians they are certainly rare.

Morrell MacKenzie says: "My statistics are not at all reliable as regards the relative frequency of perichondritis in different affections, for whilst I see many cases of tuberculosis, cancer, and syphilis, I scarcely ever meet with typhoid fever; indeed, all the cases of that disease in which I found disease of the cartilage came under my notice formerly, at the time I was physician to the London Hospital." Landgraf has bibliographic reference to two hundred and sixty-six articles on this subject in Heymann's Handbook. According to Keen, the large majority of these cases occurred in Germany and on the Continent, fewer in the British Isles, and still fewer in this country. A search in the twenty volumes of the American Laryngological Association fails to note the report of a single case from its members. Some of our textbooks fail to mention its occurrence, others barely note that it may occur, while Keen, Bosworth, Kyle, and Newcomb give it more extended notice. The logical sequence of these facts is that the statement that stenosis of the larynx consequent to typhoid fever is much less frequent in America than elsewhere is proven.

Pathologically it may be considered to occur in the following manner: Commencing with hyperæmia and congestion there rapidly follows an inflammatory œdema with exudation into the surrounding or adjacent soft structure, which on account of the location and the limit set by the cartilaginous wall of the larynx must extend inward and rapidly lessens the lumen of the larynx. This œdematous stage and the stage of ulceration which has gone on to necrotic involvement of the cartilages differ only in degree but not in kind. The cartilages of the larynx are at best poorly supplied with blood, rendering them at all times susceptible to necrotic change. When, during the course of typhoid fever, the nutrition is lowered throughout the body, circulation in this locality suffers to a greater extent, as it is dependent on surrounding tissue for its blood supply and rapidly undergoes necrosis which may slough out in small pieces or be discharged *en masse*. This breaking down of tissues, as in abscess formation, may penetrate toward the point of least resistance, rupture

*Read before the American Laryngological Association at its twenty-fifth annual meeting held at Washington, D. C., May 12-14, 1903.

and virtually form an ulcer. In the majority of instances of perichondritis or chondritis due to typhoid fever, the infection and inflammatory process are similar to those seen in abscess formation, which, making for the point of least resistance, open in ulceration on the mucous surface. The ulceration is only situated posteriorly and the cartilaginous inflammation on the side and toward the back part of the larynx. Thrombosis may take place in this area due also to the added weight of the decubital position. If only a part of the cartilage has been destroyed and the perichondrium remains, there may be a reproduction of the cartilage; in any event, it is likely that the abscess will be followed by a fistula and suppuration without necrosis of the cartilage may occur.

Other and varied views as to the pathology of this condition have been expressed. In a paper read before the Laryngological Society of London, Kanthack and Drysdale said that these defects are situated generally over the tip and edges of the epiglottis and in the neighborhood of the processus vocalis. It is not true that the laryngeal lesions invariably appear during the acute period of the fever before healing commences. They support Rheiner's view that the ulcers are produced by small repeated injuries acting on debilitated tissue. They declared as incorrect the view that the ulceration affects the adenoid tissue of the larynx, for along the tip and edges of the epiglottis and over the processus vocalis no such tissue ever develops.

The question as to whether these are specifically typhogenetic is negatived. Undoubtedly the lesions are caused by microorganisms; there is the strongest evidence that these are the pyococci, and not, except rarely, the typhoid bacilli. While the latter may be the cause, the soundest possible observations are necessary to make them convincing. The ulcers occurring during the course of typhoid fever are caused by fresh infections with pyogenic organisms which always abound in the larynx and which gain a firm foothold on the debilitated tissues, although they cannot deny that in an individual case the typhoid bacillus may have escaped and caused the lesion. In the discussion, Watson Williams, Jobson Horne, and Sir Felix Semon participated.

More recently (1902) Samuel West, in his article on "Perichondritis, Necrosis, and Caries of Cartilage," says: "In typhoid fever this lesion is usually described as commencing as a perichondrial infiltration which is held to be of the same nature, to run the same course, and to break down in the same way as the infiltration in the intestines. It is possible that the perichondritis is not primary in the strict sense of the term, but is the result of previous ulceration near to the affected part."

Among recent reports of bacteriological examinations Schulz (1898) was enabled to demonstrate the presence of typhoid bacilli in the laryngeal mucous membrane. Strazza in the Italian Laryngological, Otological, and Rhinological Congress at Rome in 1899, showed a specimen with extensive ulceration on the surface and in the deeper parts. In this preparation microorganisms in the form of cocci could be seen.

Rethi (1901) says it is now generally accepted that various, even specific affections of the larynx, are due to the bacillus of Gaffky. Finally, E. Bendix and A. Bickel (1902) make the very interesting statement that in a case of typhoid fever complicated by severe laryngeal symptoms, they found on each palatoglossal arch and on the epiglottis an elevated plaque-like area, while the surrounding tissues were unaffected. They introduced a platinum needle into one of these plaques after carefully sterilizing the surface, and obtained cultures of a bacillus that was identical with the typhoid bacillus and that gave the serum reaction with the blood of another patient with typhoid fever. The plaques ulcerated slightly, but soon healed. This seems to be the first satisfactory intravitam demonstration of typhoid bacilli in throat lesions.

Perichondritis may be present in any part of the larynx, mostly, however, in the supraglottic region. There may be infiltration alone, a deep ulceration with subsequent necrosis and extensive submucous infiltration. The case here presented is one of the latter variety:

In the forenoon of January 19, 1903, I received an urgent message to see Mrs. H. H., aged twenty-eight, native of Norway (eighteen years in the United States), in consultation. I saw the patient within half an hour and found her half lying on the bed, gasping for breath from some form of laryngeal stenosis. The livid expression of her face, the rapid, wearisome respiration, the stridor, inspirator depression of the neck and chest wall, the cyanotic lips and anxious expression of the countenance showed the unrest of despair, the struggle with death.

The history given was that on October 18, 1902, she had an attack of typhoid fever; four days later she was taken to one of our large hospitals and an unusually severe attack of the fever occurred. The temperatures were persistently high, remaining at 106° to 107° and requiring an ice bath on one occasion of forty-five minutes' duration; pleurisy with effusion, an abscess in the arm and phlebitis followed. At the end of two months she was discharged as cured on December 13.

Quite early in her illness hoarseness developed, but no laryngoscopic examination was made. This hoarseness remained and still exists. Four days previous to my seeing her, dyspnœa began on slight exertion. In spite of local applications her condition became worse.

*Examination.*—Patient much emaciated. Supported in an upright position, a good view of the larynx was obtained. On the right half of her larynx was a large mass beginning on a line with the ventricular band and extending down into the trachea, narrowing the lumen to a mere chink. Temperature 101½° F., pulse 126, respirations 36. The diagnosis of post-typhoid laryngeal perichondritis was made and immediate tracheotomy was advised. This was agreed to, and at 1 P.M., two hours later, under chloroform administered by Dr. M. L. Maduro, with the assistance of Drs. J. L. Adams and R. L. Longacre, I performed tracheotomy.

On January 20 a large œdematous swelling appeared over the right arytenoid, the larynx meantime being completely occluded. The œdematous swelling caused pain in swallowing, was punctured, and a quantity of serous fluid exuded. The tissues of the neck now became involved and there was considerable bulging, mainly on the right. On the 23d the whole neck was swollen and Dr. F. W. Murray saw the patient with us. He considered the swelling to be of an evanescent nature and advised temporizing. This was done and the swelling gradually subsided. At this time I found a large swelling occupying the posterior wall of the pharynx, which I incised and a quantity of serous fluid exuded. Her temperature now fell each day, so that on the 25th it was 100° F., respiration 22, pulse 100.

March 1, 1903: The history of the patient from

the last note up to the present time has been that of steady progress for two weeks, interrupted then by threatened phlebitis, which was avoided by the skilful care of her attending physician, and in the last few days of February she became able to walk about, and on March 11 came to see me in my office.

Examination of her larynx shows a degree of swelling extending from the false vocal cord downward. From the uppermost portion of the swelling there projects a globular mass, white in color and the size of a pea. The vocal cords, which can now be seen, are clearly white and apparently adherent posteriorly in one-third of their length. There was fixation of the left half of the larynx. There were abundant granulations about the tube externally and granulation tissue growing into the orifice of the tube in the trachea. The voice is reasonably clear. Respiration may be carried on for half a minute with the tube occluded; at the end of that time marked dyspnœa occurs.

On March 13, under cocaine anæsthesia, I removed the white globular swelling, which, on examination, proved to be granulation tissue. On the 15th, 17th, and 19th I introduced graded sizes of Schrotter's tubes. I also made various attempts at intubation with the O'Dwyer tube attached to a hollow handle devised by myself, and shown to this association at a previous meeting. These latter were not successful, owing probably to the large size of the tube. On March 19 I introduced a pair of long laryngeal forceps and stretched the larynx fully, hoping thereby to separate the adherent vocal cords. A great deal of reaction followed this procedure; there was much œdema, dysphagia lasting several days, so that divulsion had to be interrupted and sedatives applied.

March 24: Intubation by Schrotter's tubes continued with increasing sizes every other day without further dysphagia.

April 11: Examination shows the cords to be less adherent and quite some induration in the trachea immediately below the right vocal cord. Adult intubation tubes of the O'Dwyer pattern, marked five, six, and seven, were now introduced, but rested only on the vocal cords and were promptly ejected. Subsequently a No. 5 Schrotter tube was introduced, entering the trachea readily, and through this the patient breathed.

April 19: Schrotter tubes introduced every other day. Various attempts to introduce O'Dwyer tubes failed, the requisite force being too painful for the patient.

On April 20, under chloroform narcosis, a No. 7 O'Dwyer tube was readily introduced and retained by the patient. A hypodermic injection of morphine, one-fourth grain, was given. Intubation was done at 2 P.M. Patient vomited once or twice within the next three hours, but rested quietly, breathing well. At 4 P.M. she swallowed cold water in the Casselberry position and subsequently swallowed milk in the same way.

April 21: Slight vomiting at midnight, due in all probability to the morphine given at 10 P.M.

April 22: No more vomiting; coughs, swallows well in the usual position, but liquids only. Evening temperature 100° F.; morning, 99° F.

April 23: Morning temperature 100° F.; evening temperature, 102°F. Coughs less; complains of pain in her throat.

April 24: Normal temperature; swallows better; went home. Has been eating all kinds of food without discomfort.

May 11: The tube has now been worn for three weeks. Patient goes about feeling entirely well; swallows all kinds of food and has no complaint whatever.

During the last two years eight cases of stenosis of the larynx have been recorded in this country and a résumé of these is here appended.

J. P. Crozier-Griffith (March, 1900) reports a case of stenosis of the larynx after typhoid fever in a boy aged nine years. The case was seen by Dr. W. J. Freeman, who found œdema of both arytenoids and swelling of the left ventricular band and right vocal cord. Recovery.

Alexander Lambert reported a case of membranous laryngitis complicating typhoid fever before the New York Pathological Society on February 14, 1900. A male alcoholic subject entered the hospital with marked dyspnœa, severe cough, and laryngitis. Leucocytes were only five thousand, hence diagnosis of typhoid was made. At the end of the third week the temperature had fallen, and every evidence of improvement was noted. About this time the laryngeal symptoms were more severe and in three days aphonia was complete. Tracheotomy performed; patient died the same day of heart failure. *Necropsy*: A thick membrane was found extending from the epiglottis down into the larynx and into the trachea, and in the sulcus on the left side was an abscess cavity. In the membrane from the pharyngeal surface of the arytenoepiglottic fold there had been a diphtheritic inflammation and a line of demarkation had formed, causing a loosening of the necrotic tissue. A little beneath this line of demarkation there was an acute exudative inflammation with interstitial hemorrhage. Apparently there had been two infections—an earlier one causing necrosis of the surface and a later one causing an interstitial hemorrhage at the base of the granulation tissue. On the inner aspect of the arytenoepiglottic fold there was a fibrinous exudate on the surface with granulations beneath and a rather excessive diapedesis of red corpuscles. This was probably due to the second infection. Nearly all the organisms found were diplococci and streptococci.

M. H. Fussell (May, 1900) reports two cases of perichondritis of the larynx in typhoid. In the first case five days after temperature was normal, symptoms of stenosis and swelling of the external parts of the larynx occurred. Tracheotomy was advised and declined. Patient died.

Second case: Thirteen days after cessation of fever, chill. This seemed to be due to an abscess on the arm, as temperature ceased when this was incised. At this time stridor occurred on excitement and heavy respiration in sleep. Stenosis became apparent and tracheotomy was performed. Two days later the abscess broke and it was clear that death would have occurred had the cannula not been *in situ*. Subsequently the necrotic arytenoid was thrown off; there was ankylosis of the cricoarytenoid joint and fixation of cords. The cannula was worn for five months; was removed but later reinserted.

L. B. Lockard (January 30, 1900), on the laryngeal manifestations of typhoid fever, reports the case of a male aged thirty-five years. In the sixth week pain and dyspnœa, due to an abscess on the left arytenoid, occurred. Tracheotomy and endolaryngeal incision of the tumor evacuated considerable pus. The left vocal cord was fixed in adduction due to ankylosis of the cricoarytenoid articulation. The right cord was abducted and perfectly rigid, due no doubt to the perichondritis that had extended across the median line. Dilatation daily; cords readily separated, but would immediately fall back into their old position. Schrotter's and O'Dwyer's tubes were tried, but without benefit. The tracheal cannula was constantly worn except when the

patient was at rest. The cords were removed piecemeal by the curette of Heryng, with recovery as to breathing, but voice is almost entirely lost.

William B. Robertson and C. C. Biedert (December, 1901) report a case of Ludwig's angina complicating typhoid fever. Male, aged twenty-two years; during the third week of typhoid difficulty in breathing occurred; swelling on the left side of the neck, tender on pressure, board-like in hardness. Œdema of the pharynx, larynx, and epiglottis; larynx almost entirely closed. Six hours later dyspnœa requiring tracheotomy; ten hours later patient died of some myocardial change.

*Necropsy.*—Tissue about the neck œdematous and swollen, but showed no evidence of breaking down. Mucous membrane of the larynx, especially about the left vocal cord, and that of the epiglottis was œdematous, greatly swollen and almost purple in color. Cultures from the spleen showed Eberth's bacillus. Microscopic section from the larynx showed a pure streptococcus infection.

L. D. Brose (February, 1902) reports the case of a girl who had typhoid in the fall of 1899. When seen by the writer (six months later) she had paralysis of both adductors which he regarded as myopathic and due to a catarrhal laryngitis following typhoid. Recovery resulted.

F. Alan G. Murray (March 7, 1903) reports a case of typhoid fever complicated by Ludwig's angina. Death from œdema of the larynx. Male, aged thirty-two years. On the twenty-fifth day a swelling appeared on each side of the neck under the sternomastoid muscle. This swelling does not extend up to the angle of the jaw and is hard and painful on pressure. Voice harsh and metallic; dysphagia; breathing obstructed and labored. Tonsils not swollen; there is no record of a laryngoscopic examination.

At the necropsy the mucous membrane of the larynx was found congested, cords swollen and œdematous, and the passage almost closed.

Among the eight cases recently reported as occurring in America two recovered completely, two partially—that is to say, the tube is still worn—while four died. This indicates the serious nature of affection.

I am inclined to question the diagnosis of Ludwig's angina in the two cases, and believe them to have been perichondritis of the larynx of the submucos infiltrate variety.

The study of these cases with my own leads me to believe that early tracheotomy, subsequent dilatation and intubation is the best method of treatment.

My own case has features of interest: The early development of laryngeal symptoms during the disease, though unfortunately not recognized, the enormous submucous infiltration, both before and after tracheotomy, the success that followed dilatation, making intubation under anæsthesia very easy of accomplishment, and the subsequent ease of deglutition with the tube *in situ*. The extraction of the tube will show whether there is any paralysis or cricoarytenoid affection.

The further history of this case is as follows:

July 8, 1903: After wearing the intubation tube for nearly six weeks, it was removed on May 28, 1903. No discomfort followed its removal. Laryngoscopic examination showed absence of the adhesions of the vocal cord and some thickening of the mucous membrane on a line with the cricoid cartilage. Respirations were without any dyspnœa for four days; they then became more noisy and obstructive, and on June 4, six days after extubation, I reopened the tracheal wound, intending to remove any fibrous bands in the trachea. None were found, and the dyspnœa believed to be due to retraction at the site of the tracheotomy. Four days later the cannula was removed and the No. 7 O'Dwyer tube was inserted at my office under cocaine. This tube is now worn without any discomfort whatever, and will be permitted to remain until September of this year.

If, as I confidently anticipate, as a result of the prolonged intubation, the large tube has sufficiently distended her larynx for continued breathing purposes, as there is no paralysis resultant from the typhoid, I shall be able to add the word recovery, and further to claim this as the first case thus successfully treated, to record one more success for the O'Dwyer tubes and a triumph for modern surgery.

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25 EAST SEVENTY-SEVENTH STREET.

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**The Etiology of Cancer with Special Reference to the Parasitic Theory.**—Frederick A. Baldwin says in regard to the peculiar bodies found in the protoplasm of cancer cells that so far no one has shown conclusively that they cause cancer, nor that they are either animal or vegetable organisms. If these bodies are not parasites, what are they? The author considers that the answer is plain. If these bodies are not stained, it is impossible to distinguish one form from another. The yellow-staining body cannot be told from the red or blue, or the final granular stage. With Mallory's combination it is possible to trace the gradual formation of the granular or end stage, which, with many of the specific stains, gives the characteristic reactions of mucin. What part of the cancer cell degenerates to form this mucin cannot now be stated, but it is very probable that it is the centrosome, since the mucin always occupies the position of the centrosome, and only the most rapid fixing agents will preserve these bodies of mucin.—*The Physician and Surgeon.*

# GOUTY PHLEBITIS.*

By A. A. GETMAN, M.D.,
AND
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CHAUMONT, N. Y.

As Paget commences his classical essay on the above subject† with the words: "I have met with certain cases of phlebitis, the like of which I cannot find on record," we are led to report the following case: The father of our patient, a man of sixty-eight, died of what was called angina pectoris (first attack), but there was no post-mortem proof that the condition was *not* a pulmonary embolism. A few months before death he had suffered from phlebitis in the legs following a fall. His sister, our patient's aunt, died when past seventy, of senile (?) gangrene of the legs. An elder brother of our patient dropped dead in the street at about seventeen years of age. He is said to have had mitral disease. The patient's mother, aged sixty, died comatose, after a short illness, characterized chiefly by dyspnœa. Three brothers and a sister seem well and, until overtaken by gouty phlebitis, our patient enjoyed average good health, although suffering from obstructive dysmenorrhœa and occasional headaches of a rather migrainous type. She is about thirty-nine years of age, married, but has never had children. Her first attack of phlebitis occurred about three years ago. In January, after having nursed her husband through a rather tedious run of remittent fever, she fell from a street-car step, landing heavily on her heels. The next day she had considerable pain and tenderness in the right leg, more marked over the course of the saphenous vein, which was distinctly enlarged, tender, and hard to the touch. Its course was portrayed by a dusky, reddish line resembling the track of a lightly applied actual cautery. The pain and tenderness was continuous, and got worse, preventing rest and sleep. After a few days of great pain, discomfort, and apparently febrile excitement, the left saphenous vein became similarly affected. It was at first thought the ailment was an acute peripheral neuritis, and it was treated with ice-bags and iced lead and opium wash, the patient meanwhile being put on a very nutritious and stimulating diet with plenty of stout to drink. All the symptoms continued, and local conditions were aggravated by a tense, brawny swelling of both legs and feet. At last one of the attending physicians recalled Paget's essay, and the diagnosis and treatment were changed accordingly. The patient was put on a light diet, much to her disgust, the lead and opium wash was used warm, and iodide of potassium was given internally. The fever, tenderness, and pain gradually went away, but the œdema persisted, and it was fully five months before the patient could walk short distances, and then only with elastic bandages above tight-fitting high boots. The saphenous veins seemed occluded and felt about the size and as hard as slate pencils and, as collateral circulation seemed slow in being established, œdema and some aching pain persisted.

Anything like action or prolonged exercise on foot has been impossible since the first attack, which was followed by anæmia, treated by Bland's pills. In June of this year a partial recurrence occurred in the left leg, confining the patient to her room two weeks and rendering walking painful for two months. It is rather doubtful whether she had entirely recovered from the attack in June when she was seized with the worst attack of all about August 12. Of this no exciting cause was apparent except the fatigue of getting her summer house in order and some unusual worry. Intense pain in the region of the left saphenous vein was the most marked early symptom, with great tenderness of the part and a dusky red discoloration over the affected vein. Chilly sensations and febrile excitement with great restlessness and insomnia appeared synchronously. By the third or fourth day of the recurrence the disease had spread upward to the groin and downward to the instep. Various superficial veins on the inner aspect of the thigh, leg, and dorsum of the foot became, at different times, acutely inflamed, as denoted by local pain, tenderness, and dusky red lines, thus emphasizing Paget's characterization of the condition as metastatic. These lines were sometimes radiating or digitated, exactly mapping out the origin of a superficial vein. Here and there, in the region affected, in successive crops, there would appear dusky reddish macules from ½ to 1 centimeter in diameter.

At the height of the attack the trunk of the long saphenous vein seemed involved, as a large, tender, painful, ovoid swelling appeared over its course, right in the groin. Local inflammatory symptoms varied a good deal from day to day and, after about two weeks, gradually lessened, not entirely disappearing, however, in two months. In this last attack the disease was confined to the left side.

The local symptoms have been fully enough portrayed, except it is interesting to note that during the height of the venous inflammation the patient had her *first*, frank, gouty manifestation, namely, intense pain and tenderness in the metatarso-phalangeal joint of the left big toe, with a dusky suffusion and swelling of the foot.

The general symptoms were those of inflammation and fever. The bowels were sluggish and the liver inactive. The urine was about normal in amount but of high specific gravity and acidity. There was frequent micturition, probably due to the acidity of the urine. The pulse followed the temperature and, during the acute illness, was rapid—10 was the highest pulse counted. It was regular, except when made intermittent by quinine. The temperature was febrile for about two weeks, but never high, 100.4° F. being the highest recorded. For a time, with other symptoms, it seemed to show some periodicity, being higher on alternate days. It was always higher in the late afternoon. There was much irritability and wakefulness, due chiefly to pain (which was sometimes intense), hyperæsthesia, and an impossibility of finding a comfortable position for the limb.

All symptoms were intensified during menstruation and, during convalescence, mild, acute symptoms reappeared with menstruation for months.

Of the exact nature of the ailment and of its appropriate treatment we were at first very much in doubt. A reference to Paget's Essays cleared up the diagnosis, but helped little as to treatment, except to emphasize our caution as to complete rest in bed and the employment of heat and only soothing local applications. She had been taking lithia (gr. v. every two hours) in the form of effervescing tablets; iodide of potassium, gr. x four or five times a day, and small doses, gtt. x-xv, of the wine of colchicum seed. These continued for a few days, putting her on a diet solely of peptonized milk. After a saline purge had operated freely, she was given calumba as a bitter tonic and one or two pills of aloes and mastic each night. In the second week of her acute illness, when marked periodicity of symptoms appeared, she was given quinine sul-

*For a somewhat similar case see MEDICAL RECORD, January 18, 1890: "A Case of Recurring Phlebitis," by A. A. Smith, M.D.

†Clinical Lectures and Essays, by Sir James Paget, Bart. N. Y., 1875, p. 292; also St. Bartholomew's Hospital Reports, Vol. II. p. 82.

phate, in acid solution, in gr. v. doses and later in gr. iiss doses until, in seventeen hours, having taken gr. xviiss, very marked irregularity and intermittence of the pulse and a nearly normal temperature occurring, the quinine was stopped. While not producing a permanent lowering of temperature, the quinine did seem to break up the periodicity of other symptoms, so it was continued, in small doses, after the heart's action became regular again. Later, the salicylate of soda in gr. x-xv doses, four times a day, was substituted for it, and later still, gtt. v doses of the ammoniated tincture of guaiac were added to the iodide of potassium. For the restlessness and sleeplessness, 3 i. doses of potassium bromide had very temporary, if any, effect, and two or three nights morphine had to be resorted to, gr. $\frac{1}{10}$ giving great comfort and some sleep. Later farinaceous food was allowed in addition to the milk, of which, on the average, nearly two quarts were taken daily. Before the acute symptoms had subsided marked anæmia began to manifest itself, and a tablet of iron and quinine āā gr. i, arsenious acid gr. $\frac{1}{30}$ was ordered three times a day.

The patient was practically bedridden two months. During the next three weeks she spent part of her days in a reclining chair, but it was about three months before she could get about on crutches, and at the present writing (December 5), 115 days after she went to bed, although she says she feels, except in her leg, better than she ever remembers, the left leg and foot are still swollen from imperfect collateral circulation, indurated, and, of course, correspondingly clumsy. She is still taking small doses of mixed salicylates, Blaud's and aloes and mastich pills. While the results may seem tardy and inconsequential to the reader, to us, who for days almost despaired of recovery, and for weeks expected cardiac or pulmonary embolism, the outcome is very satisfactory. That her popliteal vein will eventually become pervious we are confident.

We are in no doubt as to the benefit, in this case, derived from complete rest in the recumbent posture, local heat, the salcylates, quinine, iron and laxatives, but we are sure the outcome would have been far less satisfactory had it not been for the assistance derived from Alexander Haig's "Uric Acid as a Factor in the Causation of Disease." This book, while shattering many of our old ideals of pathology and while playing fast and loose with some of our favorite remedies, opened up new realms in the pathology and treatment of uric-acid diseases and contributed largely to the successful treatment of this and subsequent germane cases. There no longer remains in our minds a doubt that all medicinal treatment of such conditions is only palliative, unless it is supplemented by a rigid diet, and we also fully believe that all such ailments, when not too far gone, are curable by his method. His statement that it is easier to keep uric acid out than it is to get it out when once in, needs no argument, and this he does by taking from the diet, as far as possible, all uric acid containing or generating substances. The fact that this regimen eliminates all animal foods and their derivatives (except milk, butter, and cheese), eggs and food containing them, peas and beans, coffee, chocolate, tea and alcohol. does not matter to those who prefer simple food and health to "the flesh-pots of Egypt" and chronic mental and bodily infirmity.

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**A Place to Steer Clear of.**—An example of English as she is spoke, or written, is to be found in Italy in the shape of a notice placed in the entrance hall of a certain charitable and nursing establishment in Tuscany. It runs as follows: "The little fathers of the poor of St. Francis harbor all kinds of disease, and have no respect for religion.—*San Francisco Argonaut*.

## HYBRID MALARIA.

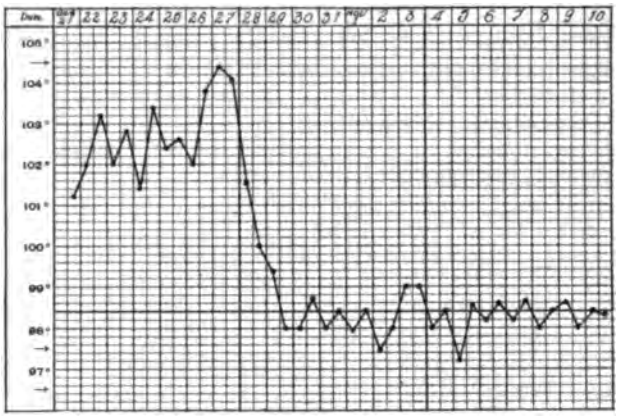
By J. LINDSAY PORTEOUS, M.D., F.R.C.S.Ed.,
YONKERS, N. Y.

For some time past there have been in this locality many cases of a disease presenting symptoms analogous to those of several well-known maladies, and which, for want of a better name, I have called "hybrid malaria."

It may be defined as a remittent continued fever, with or without diarrhœa, characterized by rose-colored spots (sometimes, however, absent), appearing at times solitary, and at other times in groups, both on abdomen and sides.

*Etiology.*—Uncertain, but seems to be caused by a specific poison which is allied to that of typhoid fever and malaria. It does not seem to be influenced either by age of person or by conditions of life.

*Invasion.*—The invasion does not seem so insidious as in typhoid, nor so sudden as in malarial fever. The first symptoms noticed are a coldness of lower limbs, feet, and hands, but no distinct chill, a sensation of fulness in the head, flushed face. Appetite may or may not be impaired. Bowels rather constipated. Abdomen slightly tympanitic. Urine high-colored and of offensive odor. A certain amount of drowsiness is experienced, but is relieved by exercise and purgation. In the second




stage there is a rise of temperature to about 99½ in morning and 100½ in evening. There is now pain in back and limbs, which gradually increases, especially between scapulæ, the temperature at same time rising to 102° in morning, and 104°, or even 105°, in evening. The pain in muscles is now very great. Insomnia is very marked. Rose-colored spots appear generally about fourth day, either isolated or in groups. They disappear on pressure, returning immediately when pressure is removed. They do not come in crops, but seem to remain three or four days and disappear. Sometimes there are groups on sides as large as a silver dollar, but the spots do not coalesce. There is no pain or gurgling in right iliac region. Sometimes there is considerable tympanitis in this stage, which is not relieved by purgation. Sometimes, but *seldom*, there is a muttering delirium resembling that of delirium tremens, and tremor of tongue, when protruded or when speech is attempted. By speaking loudly, the patient at once seems to recover himself and will answer intelligently any question put. The Widal test showed negative results in all of the cases I have used it in.

*Duration.*—One week to four weeks. In one case there was considerable diarrhœa, which would not yield to the usual treatment, but after taking one quart of an aqueous solution of acetozone in twenty-four hours it entirely ceased.

*Alimentary Canal.*—The tongue is at first white and moist. About the fourth day it becomes brown and dry. The fæces throughout are very offensive and of a dark color. Diarrhœa alternates with constipation. Sometimes there is vomiting. The following case is a typical one: E. S., aged twenty-four, married, consulted me on the 21st of October. She stated that for several weeks she had chills and fever at irregular intervals, but was able to go about her household duties until three days before I saw her, when she became nauseated and could not retain any food. She was very much exhausted when she sent for me. I found her temperature 101° (evening), pulse 120°, pale face, very weak and nervous, nausea was excessive. The bowels were loose, the discharge dark and of a foul odor. There were clusters of rose-colored spots on abdomen and side. These conditions continued until the 27th, when, under the influence of Warburg's tincture, the temperature rapidly fell, and the patient made a rapid recovery. By the 11th day of November, three weeks after I first saw her, she was able to attend to her home duties, and has since remained well. On the 27th of October she had her first dose of Warburg, and the steady fall of temperature began, as will be seen by chart.

Most of the cases I have seen were considered cases of pure typhoid, but none of these reponded to the Widal test when I applied it. All had many symptoms of typhoid, and some of the symptoms of malarial fever. On the other hand, the most prominent symptoms of both of these diseases were wanting.

*Diagnosis.*—From paratyphoid, by its having no limitations as to age of patient, by having no subnormal temperature at the beginning of the attack, and no purulent monarticular arthritis appearing on the 5th day, as is said to be the case often in paratyphoid. From typhoid, by its more rapid onset, by its freedom from complication, by absence of iliac pain or gurgling; and by the eruption not coming in crops, but often in clusters, and appearing in first week, and remaining several days, and then disappearing gradually; by the sudden subsidence of fever, and rapid recovery, and by the negative results obtained in Widal test.

From malarial fever, by the absence of intermittent febrile conditions, by the appearance of a rash, by the absence of a chill.

*Treatment.*—A calomel purge and large doses of Warburg's tincture give the best results. If the diarrhœa is obstinate, acetozone seems to overcome it.

Such is an accurate account of this, to me, peculiar disease, a disease presenting so many symptoms of some other disease, but not exactly resembling any.

83 Warburton Avenue.

## "AUTHORITY AND FACTS."

By J. R. CLEMENS, M.R.C.S. (England),
ST. LOUIS, MO.

THERE are three statements copied from textbook to textbook that, from force of repetition, have acquired what appears to me to be unwarranted guarantees. They are: (1) That early albuminuria in cases of sore throat is suggestive of diphtheria in contradistinction to scarlet fever. (2) We are told to look for *absolute constipation* in acute intestinal obstruction as confirmatory evidence of the condition. (3) In the headache of chronic renal disease the chief indication is to lower the arterial pressure. Without reservation, these three statements are absolutely valueless and for the following reasons:

I. *Albuminuria in Conjunction with Sore Throat.*—*Afebrile* sore throat plus albuminuria is willingly conceded to be highly suggestive of the premembranous stage of diphtheria, but what of *febrile* conditions accompanied by sore throat?

There is such a thing as albuminuria of fever *without* the association of any sore throat. Such being the case what is the relationship in point of time between the onset of fever and the first appearance of albuminuria. There is a certain chronological relationship between the onset of typhoid fever and the appearance of rose spots. Is there any such relationship between the onset of febrile conditions and the appearance of albuminuria? Until this question has been worked out such generalizations of differential diagnosis in distinguishing between early diphtheria and scarlet fever are relatively worthless, as how are we to tell what part the angina and what part the fever has in bringing about the albuminuria?

If we knew, from clinical observations and research, that the albuminuria of fever in general did not, for example, tend to appear before the end of forty-eight hours, an onset earlier than this of albuminuria in cases of *febrile* sore throat would be highly significant, but in the meanwhile for want of certainty the wise man will assume the worst and act accordingly.

II. *The Absolute Constipation of Acute Intestinal Obstruction.*—No one denies this condition does not exist in acute intestinal obstruction, but the difficulty lies in eliciting the fact. The books include it under *physical* signs. If so, *subjective symptoms* of the patient are included under this term. Take for example a patient who has been accustomed all his life to an evacuation of the bowels on every third or fourth day prior to the onset of acute intestinal obstruction. Let him be now seized with acute intestinal obstruction. Of what value is a history of absolute constipation? It is only a relative term. What is absolute constipation to one man is merely the natural condition of another. It is only when a patient suffering from acute intestinal obstruction *volunteers the statement that he thinks if he could pass flatus or have a motion that he would be better* that absolute constipation *per se* becomes a valuable sign of the morbid condition. It is a loaded rectum or meteorism synonymous with absolute constipation? He is a bold man who would so assert.

III. *The Lowering of Arterial Tension by Drugs in Chronic Renal Headache Cases.*—Without qualification such routine practice is distinctly dangerous. In such cases we are to sail between the Scylla of uræmia on one side (if we lower the tension) and the Charybdis of apoplexy on the other side if we do not interfere, perilous navigation certainly.

Is the headache in such cases itself a minor manifestation of uræmia, or is it symptomatic of arterial tension? This is a question we must ask how to answer. In view of the fact that a very great authority in the *English Medical World* recommends the following for the high arterial tension of chronic renal disease, the question may, perhaps, assume additional importance:

| | | |
|---|---|---|
| ℞ | Potass. bicarb. | gr. xxvii. |
| | Potass. nitritis | gr. xviii. |
| | Sodii nitritis | gr. ss. |

M. Sig. To be taken in the morning dissolved in a tumblerful of water.

**The Practice of Massage in Hungary.**—A decree has been promulgated in Hungary forbidding the practice of massage except by duly qualified medical practitioners.

# MEDICAL RECORD:

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## MORE GERMS—THE INFRA-VISIBLE WORLD.

IT has, of course, long been a question whether there might not be a world as vast as the visible one, lying beyond the power of our microscopes. The paper of Dr. E. Roux, in the *Bulletin de l'Institut Pasteur* for February 28, 1903, in the nature of a résumé of work along this line during the last four years, is therefore of the greatest interest. The known microorganisms exhibit great variations in size, some being as large as 3 to 6 micromillimeters in length, while the Pfeiffer bacillus of influenza measures only 0.5 micromillimeter, or $\frac{1}{50,000}$ of an inch. One-fifth of this size, however, measures the limit of visibility with our present microscopic appliances, but it is *a priori* almost certain that organic life does not stop short at just the point where we lose sight of it, and there presumably must be an entire world invisible to us.

And as early as 1881 we find Pasteur assuming that the virus of rabies is so small as to be invisible. It is, however, only since 1898 that this deduction of the existence of infra-visible life has been confirmed by observation. If a drop of lymph be taken from an unbroken vesicle in a cow suffering with aphthous fever, it appears perfectly clear, and under the microscope shows only some lymph cells, red blood cells, and very refringent granules of very variable dimensions. The granules appear at times as barely perceptible points. The most varied staining and culture methods fail to reveal microbes, but they are there none the less, as the lymph transmits the disease. These microbes are smaller than the smallest known bacteria, as further experiment shows. If one part of this lymph be diluted with thirty-nine parts of water, and the mixture passed through a Birkefeld filter of infusorial earth, a cubic centimeter of the filtrate reproduces the disease. That the filter is in good order may be proven by its arresting the passage of the *Bacillus fluorescens*. Similarly the filtrate of the mixed lymph and water retains its virulence after repeated filtration through Birkefeld filters. Yet the most powerful objectives fail to show any organisms. They are, however, present, as passage through a Kitasato filter renders the fluid inert.

Löffler and Frosch's results thus warn us that while the filters which are usually depended upon to sterilize fluids, may arrest the ordinary bacilli, much may pass through that we wot not of. Another case in point is the disease, bovine peripneumonia. This disease is characterized by a thickening of the interlobular connective tissue septa of the lungs which are infiltrated with serum. This serum, though it contains nothing visible, is nevertheless very virulent. And by culture in a small sac of collodion full of ordinary nutrient bouillon with a trace of lymph, incubated for fifteen days in the peritoneal cavity of a rabbit, along with a control culture of bouillon to which an equal amount of serum, which has been sterilized by heating to 55° C., has been added, one finds in the bouillon with the active lymph a slight suspiciousness, so slight that it would not have been perceptible without the control culture. Microscopic examination shows very fine, mobile granules which, after staining with thionin, appear, under the strongest possible magnification, slightly elongated. They are, however, so small that it is very difficult to pronounce on their form. After successive cultures, as described above, reinoculation produce the original disease. There is consequently here no question of a toxin, but of a self-producing virus. It is thus certain that the peripneumonia germ is a microbe at the limit of visibility. Later, it has been found possible to cultivate the microbe outside the body, at 38° in bouillon plus 6 to 8 per cent. of beef serum; and, by adding gelatin, to obtain colonies upon a solid medium. The colonies are stained with the anilins, and decolorized by Gram's method. Filtration through a Birkefeld filter renders solutions containing this microbe sterile, as tested by both culture methods, and inoculation.

In 1898 Sanarelli observed a disease in the laboratory rabbits, which consisted of a purulent discharge from the conjunctivæ, and the anal and genital orifices; and later, the formation of myxomatoid neoplasia. The virulent fluids (pus, blood, pulp of the organs) showed nothing under the microscope, and culture methods failed entirely, yet the fluids in question transmitted the disease.

These facts led Sanarelli to believe that here, too, we are dealing with an infra-visible microbe. The "mosaic" disease of the tobacco plant is another case in which nothing can be found, yet the fluids retain their virulence, even after filtration through the usual bacteria-proof filters. Again, the majority of the horses brought to Europe from South Africa suffer from a disease known as "horse sickness." The fact that horses properly sheltered at night are usually spared, suggests that perhaps infection may occur through some nocturnal insect. The symptoms consist of fever (with nocturnal remission), respiratory disturbances, and speedy death. At autopsy the lungs are found engorged with serum, which is virulent. The virulence is retained in spite of filtration (in one-thirtieth dilution), yet culture methods reveal nothing. A Chamberland F filter arrests the passage of the germ, as the filtrate is sterile. This shows that we are not dealing with a toxin which would, of course, pass through in solution. Altogether Roux's paper, while most interesting, is far from reassuring, as it shows that the catalogue of our foes is by no means complete.

## RECENT SEROTHERAPEUTIC PROGRESS.

IF the dreams of such men as Ehrlich, Brieger, Marmorek, Dunbar, Wright and others take tangible shape; if what may to-day seem to us the too-vague flights of their imaginations can be crystalized or conglomerated into practical therapeutic entities, there will be a profounder medical revolution in the coming century than was even dreamed

of by the great captains and masters of the past.

In a lecture on "Therapeutic Inoculations of Bacterial Vaccines," published in a recent issue of the *British Medical Journal*, A. E. Wright says: "The method which I propose to consider to-day is as yet almost unexploited. None the less does it seem to me to be one destined to revolutionize our ordinary practice in dealing with localized bacterial invasions. Our treatment in the past has consisted in making repeated applications of antiseptics, or, if impractical, extirpating the seat of infection. The time will come when, before embarking on either of these methods of treatment, an endeavor will be made in every case to arrest the invasion and to prevent its recurrence by calling into action the forces of resistance which lie latent in the organism. The physician of the future will, I foresee, take upon himself the rôle of an immunizator."

The declaration of such a creed in the leading article of the *British Medical Journal* is in itself enough to make one pause, only to realize an utter inability to grasp what a practical verification of these concepts may mean. For humanity, such a step in advance would inaugurate a blest passing of fully 95 per cent. of all bodily ills and pains. Death in childhood, in adolescence, in adult life, would occur only as the rarest exception.

For the medical and for the kindred professions which cluster about it, it would mean dissolution. One man with a case of phials from the municipal laboratory could minister to the great town which to-day absorbs the life energies of a score of physicians. The practitioners of medicine, the imposing drug stores, as well as the mighty corporations which manufacture pharmaceutical preparations—all would pass away.

What justification, if any, exists for believing us to be upon the threshold of such a medical upheaval; such a therapeutic revolution?

The success of Haffkine's antiplague vaccination has been second only to that attending the use of diphtheria antitoxin. Yersin's plague antitoxin, which differs from Haffkine's vaccine in being obtained from immunized horses, is curative as well as immunizing. Dunbar of Hamburg has prepared in like manner an antitoxin for the treatment of hay-fever, which "produced immediate disappearance of the subjective and, after a few minutes, great amelioration of the objective symptoms."

Nevertheless, there is no denying that the attempt to create "anti" sera to combat the common infectious diseases has, so far, largely failed. Some one has truly said that as a rule they contain "too much horse and too little 'anti,'" This, happily, is not so true of immunization efforts as of attempts to cure.

The results of the most recent experiments point, however, to a possible solution of the problem. They explain the cause of failure by assuming that the sera were prepared without fixed attention to what Wright calls the "law of the negative and positive phase and the attainment of the higher base line." The "negative phase" is that condition of depressed bactericidal power of the blood which follows the introduction into the system of a toxin. This is followed by the "positive phase," if conditions be favorable, and this, in turn, by a base line, which, in the absence of further inoculation, gradually returns to normal.

This law was probably first observed by Ehrlich. Madsen and Morgenroth subsequently took it into consideration in the preparation of their sera, but Wright believes that thus far the technique of applying the law has, in most cases, been faulty. He seems to have demonstrated the truth of this assertion by the success of his antistaphylococcus vaccine in the treatment of acne and furunculosis.

The reason why it has been so comparatively easy, with the crude methods at hand, to prepare efficient diphtheria antitoxin is that the negative phase is always of short duration and, most fortunately, corresponds very closely with unmistakable clinical symptoms. The abatement of these marks the elimination from the system of all negative-phase blood. Thus, an interpretation of the clinical symptoms may easily predict the establishment of the positive phase and a higher base line of immunity.

If it be true that a more careful application of this law—which, it has been shown in the case of all infections save diphtheria, must be made by observing bacterial, chemical, or phagocytic reactions rather than clinical symptoms—will give powerful anti-coli sera, the long-sought goal is not far off. If such infections as cholecystitis, appendicitis, cystitis, endometritis, and many others dependent upon bacillus coli invasion, can be combated by anti-coli vaccinations as successfully as Wright has treated staphylococcus infections occurring on the outer surface of the body, the hand of the surgeon will, indeed, be stayed.

In the light, then, of these most recent observations the preparation of an "anti" serum should be attempted by so gauging the quantity of vaccine given, and so determining its frequency of administration, that the negative phase may be limited in extent and duration; that the positive phase may be marked, and that the base line of immunity may be high and prolonged. The manifestations of this law should, in future, be watched with the utmost care, for it indicates the trend along which progress must be made. The success of therapeutic inoculation will, however, continue to depend, particularly from a curative rather than from a protective standpoint, upon the power of response of the individual.

When we shall have learned to choose in a given case between the introduction of a vaccine for the treatment of localized infections, and a serum prepared in strict accord with the law above quoted; when to a degree we shall understand the chemical reactions which elaborate the complex immunizing products; when we are able indefinitely to preserve unaltered these products after their withdrawal—then, indeed, distinct serotherapeutic advances will have been made. There are those who believe that this degree of knowledge is not far distant.

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### The Mortality in the French Army.

The health of the French army is arousing great concern among persons of all classes in France. The mortality amongst French soldiers is abnormally large, and shows no signs of decreasing. In the *Revue de Paris*—according to the *Review of Reviews*—is an article by an anonymous writer, who plainly states the facts of the case, and discusses the question as to why the death rate is so much higher in the

French army than in the German. Typhoid fever during the past twenty-five years has been the bane of the French army, but recently tuberculosis has made fearful ravages amongst its ranks, owing, it is believed, to the increase of drunkenness throughout the nation. The chief reason given by the writer for the ill-health which pervades the French army is the insanitary accommodation provided for its members. Although every effort has been made to enlarge the army, little or no money has been expended in building barracks. The consequence is that "whole regiments of soldiers shiver in winter and perspire in summer, their dwelling any kind of old farm building near the regular barracks which the government is able to hire at small cost." Again, most of the barracks are defective in sanitation, and there are constantly occurring in military quarters terrible outbreaks of what are presumably water-borne diseases. There is only one feature of the German military system of which the French soldier has no need to be envious, that is the food. The feeding of the French troops is greatly superior to that of the German army. The army of which the French people are so proud would seem to be veritably draining the life blood from the nation.

### Further Experiments with Formalin.

Dr. Antonio Fanoni published in the *Post Graduate*, June, 1903, the result of some experiments he has been making upon rabbits with formalin. His object was to determine: (1) The efficiency of formalin solution 1:5000 in septicæmia. (2) Whether the favorable results claimed for formalin, 1:5000 in 0.7 per cent. saline solution are due to the formalin or to the so-called salt-solution. (3) What part the virulence of bacteria plays in septicæmia. His aim also has been (1) To test the efficiency of intravenous injections of formalin in anthrax and pneumococcus septicæmia. (2) To test the efficiency of so-called physiological saline injections, and to determine, if possible, whether or not the favorable results claimed for formalin should be attributed to the water. (3) To decide which solution was preferable. Being unable to secure a culture of streptococcus of sufficient virulence to kill rabbits, Dr. Fanoni was compelled to experiment with the anthrax bacillus and attenuated cultures of the pneumococcus of Frænkel. Although it is difficult to compare the results obtained upon animals with those which might be secured with human subjects, the conclusions reached as the results of experiments with intravascular injection of 1:5000 formalin upon rabbits, even in doses of 0.00031 to 0.00061 per 100 grams of body weight, convinced the writer that this method of treatment is not only useless, but actually dangerous in experimental septicæmia. Recovery, he thinks, is not due to the formalin, since the same results were obtained with simple saline solution, and no treatment, with the advantage of not exposing the animals to any danger during the first two or three days, at which time the organism should be strengthened and not weakened, and retain all of its resources in order to combat the disease. Recovery is due to the attenuated virulence of the pneumococcus.

"The virulence of the bacteria is also a grave factor in a case of sepsis," says the author. "Fortunately in practice, bacteria are very often attenuated, and in such instances recovery nearly always occurs. If, however, they are very virulent or are made so experimentally, death will be the result."

Dr. Fanoni thinks that the experiments carried out by him prove that the organism may recover from septicæmia as the result of its natural resistance provided the virulence of the bacteria is not as intense as that of the microbes used experimentally.

The results of his experiments upon rabbits with formalin and with saline solution are supported by four cases of septicæmia in man, reported by Dr. Park, all of whom "received from 500 to 750 c.c. of a 1:5000 solution of formalin, and all four of whom died in from five days to three weeks after injection with formalin solution."

Finally Dr. Fanoni states that upon the basis of his experiments, he would recommend in septicæmia and sapræmia fractional intravascular injection of so-called physiological saline solution (0.9 per cent.), which at present, he thinks, gives better clinical, as well as experimental, results than formalin solution of any strength.

### Tuberculosis in Childhood.

Prof. Clifford Allbutt enjoys a well-deserved reputation for profound knowledge of medicine. In addition to the medical lore which he has acquired he is endowed by nature with the genius of expressing himself both in speech and in writing with remarkable eloquence and lucidity. On November 6, 1902, he delivered an address on tuberculosis at Glasgow which was a model of its kind both in matter and in phraseology. Referring to tuberculosis in childhood he said, "An opinion has been held by physicians at home and abroad, physicians of the highest authority, that in most cases, perhaps in all, it is during childhood that tubercle establishes itself in the human frame. This opinion I would not propose to you too confidently; yet as a broad and effective aphorism, I believe it to be not unveracious, and if this be so, it points to a still more jealous care of our children. The passage of tubercle from parents to child is so rare as to be negligible; the disease is usually incurred during the years in which the child inhabits the floor, and inhales its dust. Again, the fungus may be taken in with the food, or by licking pencils and slates, by sucking dirty finger-nails, and so forth." Dr. Allbutt, although he has little hope of entirely preventing tuberculosis in childhood, at any rate for some time to come, thinks that when the fact is taken into consideration that inoculation of it in early life may often be the origin and source of an outbreak many years later, no work can be more important than the provision of sanatoriums for delicate children. He suggests that large cities should erect by the seashore a group of cheap dwellings on the "cottage" system, to which should be sent children of consumptive tendencies. Such a scheme would be inexpensive, and ought to give good results. The proposition seems to be an excellent one, and by no means difficult of execution. Sanatoriums for children are quite as important, if not more so, than those for adults, for the reason that in childhood the seeds of the disease can be more completely eradicated than in grown-up persons.

### Physical Qualifications for Tropical Residence.

It is of paramount importance that those who wish either to reside or to travel in the Tropics, should first ascertain whether they are physically fitted to bear the change of climate. A person to be able to live in health in a tropical land should be perfectly sound. In *Climate*, April, is an address delivered by Dr. Charles F. Harford of the British Church Missionary Society, in which he gives his views as to the physical qualifications for tropical residence. Some of his remarks are somewhat well-worn, while

others bear the mark of freshness, but all are interesting and valuable as coming from a man who has had a wide and long experience of tropical life. He says in part: "The liability which there is in tropical regions to disorders of the digestive system renders it imperative that the person going abroad should be free from bowel disorder, liver trouble, constipation, diarrhœa, or indigestion in any form, seeing that not only are bowel complaints exceedingly common, but malarial fever itself affects chiefly the organs of digestion. The teeth also should be in good order, and there should be no faddiness as to food. Freedom from any form of nervous derangement is the next point of importance, and any tendency to headache, insomnia, hysteria, insanity, depression, or fits should be carefully inquired into. Slight valvular disease of the heart with full compensation need not exclude, while chronic bronchitis in a slight form is likely to be better in a hot climate." As to age, the writer is of the opinion that between twenty-five and forty years is the most suitable period of life in which to go out to the Tropics. Referring to sex, Dr. Harford says: "It has usually been taken for granted that men will stand the changes of climate better than women, but experience does not prove this to be the case. It is also a strange fact, which may be only a coincidence, that I have known more men returning from a tropical climate with a breakdown of nervous system than women." Speaking of the kind of physique best calculated to resist the inroads of a tropical climate, the author thinks that the person of spare and wiry build is better adapted for the Tropics than the stout and full-blooded individual.

The writer's suggestions as to habits of life, diet, and exercise are of much the same nature as those of other authorities on the subject. Of course he gravely warns Europeans in the Tropics against excess in alcoholic beverages—in fact, he deems it the wisest course for white men in tropical countries to refrain entirely from strong drink. Dr. Harford concludes by pointing out that if a person physically ill-fitted to stand the unaccustomed strain put upon his constitution by the climate of the torrid zone goes out to take part in any undertaking in a tropical country, that it is not only the risk to the individual himself which has to be considered. Many such an undertaking has been demoralized, not only by failure of health on the part of the few, but from the fact that the more able-bodied have been obliged to spend their time in nursing the weaker members of the party.

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### Treating General Puerperal Septicæmia by Intraabdominal Irrigation with Saline Solution.

Dr. James Hawley Burtenshaw recently read before the New York Polyclinic Society an account of a case of general puerperal septicæmia which came under his care, treated in the manner described above with successful results. The woman thus infected was in a very grave condition, and Dr. Burtenshaw resolved to irrigate the entire abdominal cavity thoroughly with saline solution as a last resort.

The methods of procedure were as follows: Several gallons of saline solution, prepared according to the formula of Locke, containing sodium chloride 3 iiss; calcium chloride, gr. 3¾, and potassium chloride, gr. iss to the quart of sterilized water, was prepared and kept at a temperature approximating 110° F. A four-quart fountain syringe and tube were sterilized by boiling. The patient was given a few whiffs of chloroform, and a two-inch incision was made into the abdominal cavity, midway between the umbilicus and pubes. A rubber pad was placed under her to catch the overflow, and the tube of the syringe was inserted through the opening as far as possible into the pelvis. For one hour the solution was permitted to flow into the cavity without intermission, and twenty minutes after the irrigation had been begun, ten ounces of urine of a specific gravity of 1,024 was obtained by catheter, and fifteen minutes later six ounces. At the end of an hour her temperature, which had been 104 F., had dropped to 102.6° F., her pulse rate, which had been 120, to 110; she was in a profuse perspiration, and her mental condition had greatly improved. At ten o'clock at night the irrigation was repeated for half an hour. A large quantity of urine had been collected. The bowels had moved freely twice, and her temperature and pulse rate had fallen in a satisfactory manner. A third irrigation was practised the following morning again for half an hour, and at three-hour intervals until ten o'clock the next morning, the cavity was filled with the saline solution. The next day the abdominal wound was closed with stitches, and the patient eventually made a complete recovery. Dr. Burtenshaw is of the opinion that the report of the above case is unique, on account of the length of time the irrigation was practised, the effect of the irrigation on the kidneys and peritoneum, and the ultimate recovery of the patient without the ordinary sequels of septic peritonitis.

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### Medical Attendance in Department Stores.

When the summer shopping season is at its height in New York and in other large cities, it naturally often occurs that persons—principally women and children—who visit the hot and crowded department stores, are taken suddenly ill. As a rule, the individual is hurried into the street, or into the nearest druggist's store, where, if sufficiently ill, he or she must wait until an ambulance or physician appears. This involves much discomfort, and occasionally even more unpleasant consequences. The New York *Tribune*, June 29, describes a system now in vogue in many of the large department stores of New York, by means of which medical attendance or nursing aid may be obtained on the premises. These stores have sick rooms, suitably furnished and provided with the necessary equipment. A woman is in attendance who is supplied with a number of simple remedies, the use of which she understands.

In most of the large stores there is also a physician, either on the place or within easy reach, while a trained nurse is always kept on the premises. If the patient is not relieved by simple remedies, the trained nurse is sent for, and then, if dangerous symptoms supervene, the store physician is summoned. In a human hive, like a modern department store, where thousands are employed, and where thousands come and go during the day, facilities at hand for medical attendance are not only a necessity, but, as the writer in the *Tribune* says, "represent actual money-saving to the firm. Employees, who would lose a day's work if sent home, can frequently return to their duties after being treated in the physician's office. In case of an accident to employees or customers, the presence of a physician may not only prevent serious consequences which would follow delay in receiving medical aid, but insure a valuable witness in case of a damage suit."

It may be said that in most stores the physician's salary is paid by the firm and employees in conjunction, while he treats all employees free of charge.

### Plague and Fleas.

Simond's theory that fleas traveling from rats which have died from plague have frequently bitten human beings and thereby disseminated the disease, has up to the present met with little favor among those who have closely investigated the malady. Simond's view, as set forth in *Annales de l'Institut Pasteur*, Vol. XII, 1898, p. 628, is as follows: "The idea of transmission by means of a parasite, which would seem to be the conclusion drawn from clinical experience, is in accordance with the invasion of sick rats by fleas, which several hours after death abandon the cadavers to attack other animals and man." This is confirmed (1) by the presence of the specific microbe in the intestinal contents of the flea; (2) by other certain peculiarities of transmission from rat to man, and from man to man, in which latter case it is possible that other parasites, more particularly the bedbug, may intervene; (3) by the possibility of the transmission of plague to a healthy rat by his cohabitation with an infected rat with fleas, when such cohabitation of healthy rat and flealess infected rat is uniformly innocuous. The great stumbling-block to an acceptation of Simond's theory has been the assertion made by several authorities—and especially by Professor Galli Valerio—that fleas from rats will not bite human beings. Now, however, Dr. Frank Tidswell of Sydney, well known for his studies and reports on plague, has come forward with the statement that some of the fleas which infest rats will bite human beings. He writes thus in the *British Medical Journal*, June 27: "In opposition to Simond's hypothesis that bubonic plague is disseminated by fleas from infected rats, it has been urged that the fleas of rats will not bite human beings. Simond himself, whilst admitting his inability to pronounce upon the species of fleas found by him upon rats, nevertheless clearly states that they bit human beings upon whom they were placed. Prof. Galli Valerio of Lausanne has reported that the species of fleas found by him upon rats are Typhlopsylla musculi and Pulex fasciatus, and that neither of them will bite man. Simond's observations were made in India and Valerio's in Europe, and it seemed by no means improbable that their conflicting results were due to the fleas found by them being of different species. It does not follow that the fleas harbored by rats in two widely different places would be exclusively of the same species. With a view to determine this point a collection of fleas was made from the rats coming under my examination during the recent epidemic of plague at Sydney. Of 100 fleas obtained 10 were identified as Pulex fasciatus, 8 as Typhlopsylla musculi, 1 as Pulex serraticeps, and 81 as Pulex pallidus. It will be seen that no less than four species were represented, and most abundantly one (pallidus) not hitherto mentioned, as far as I am aware, as occurring on ordinary rats. Its stated hosts are Mus albipes of Socotra and Herpestes ichneumon of Egypt. This species bit in laboratory trials, as did also Pulex fasciatus upon one occasion. Pulex serraticeps is well known to attack man. The remaining species, Typhlopsylla musculi, did not bite us." Dr. Tidswell announces that an official report on the matter will be forthcoming soon, and remarks that in the meantime it may be noted that the results of his observations tend to remove an otherwise fatal objection to Simond's views.

## News of the Week.

**Roof-garden for Tuberculous Patients.**—Dr. Edward Martin, Director of Public Health and Charities of the City of Philadelphia, has had erected on the roof of the Philadelphia Hospital a capacious garden, 200 feet long by 30 feet wide, with accommodations for 100 tuberculous patients, who will spend all of their time there. The floor is well boarded, and a covering of heavy duck canvas affords protection against inclement weather.

**To Suppress the Toy-pistol.**—The Pennsylvania State Board of Health, in view of the number of deaths due to the toy-pistol, will recommend to the State Legislature the passing of an act surrounding the use of this dangerous weapon with suitable restrictions.

**A Graduate Prize at the Medico-Chirurgical College of Philadelphia.**—By the will of Spencer Morris, formerly professor of medical jurisprudence and toxicology, the sum of $12,500 is bequeathed to the Medico-Chirurgical College of Philadelphia, the income from which is to be awarded annually to the member of the graduating class who receives the highest general average at the final examinations for the degree of doctor of medicine.

**Association of Surgeons of the Southern Railway Co.**—This meeting was held at Fortess Monroe, Va., July 7, 8, and 9, under the Presidency of Dr. Rhett Goode of Mobile, Ala. The following officers were elected for the ensuing year: *President*, Dr. R. L. Payne of Norfolk, Va.; *First Vice-President*, Dr. J. S. Voyles of Corinth, Miss.; *Second Vice-President*, Dr C. P. Martin of Blockton, Ala.; *Secretary* and *Treasurer*, Dr. J. J. Harrison, Jr., of Loudon, Tenn. As honorary members were elected Drs. Floyd W. McRae of Atlanta, Ga., and E. Franklin Smith of New York. The next place of meeting will be Louisville, Ky.

**Bequests to Philadelphia Hospitals.**—By the adjudication of the will of the late Mary M. Johnson of Philadelphia bequests to the following hospitals become operative: Pennsylvania Hospital, $10,000; Insane Department of the Pennsylvania Hospital, $10,000; Asylum for the Relief of Persons Deprived of Their Reason, $10,000; Hospital of the University of Pennsylvania, $10,000; Woman's Hospital of Philadelphia, $10,000; Howard Hospital, $5,000; Pennsylvania Training School for Feeble-minded Children, $5,000; Orthopedic Hospital, $5,000; Philadelphia Home for Incurables, $2,000; Children's Seashore House, Atlantic City, $2,000.

**New Jersey State Dental Society.**—The annual meeting of this society was held at Asbury Park on July 15, 16, and 17. The election of officers resulted as follows: *President*, Dr. Herbert S. Sutphin of Newark; *Vice-President*, Dr. W. D. Chase of Princeton; *Secretary*, Dr. Charles A. Meeker of Newark; *Treasurer*, Dr. Henry A. Hull of New Brunswick. It was decided to hold the convention next year at Asbury Park.

**Medical Department of the University of Chicago.**—It is announced that Mr. John W. Rockefeller has expressed his approval of the various items contained in the $1,000,000 fund raised by the trustees of Rush Medical College as a condition to the admission of that institution to the University of Chicago. The approval of the fund means that the college will soon become an integral part of the university, that Mr. Rockefeller will make another donation of several million dollars; and that the college within a few years will have new buildings with a hospital attached.

**The New Jersey Consumptives' Home.**—It has been discovered that, although the New Jersey Legislature appropriated $300,000 for the erection of a State Home for Consumptives at Glen Gardner, no bill for the disbursement of this sum was passed, consequently the appropriation is not available. As a result of this omission, it has been necessary to stop work on the sanatorium and to wait until the Legislature meets again and a bill for the proper distribution of the money can be passed.

**Another Consumption Cure.**—The Chicago Board of Health, having shown that a drop of lemon-juice on an oyster will give a quietus to the typhoid bacilli in its stomach, has now issued a bulletin calling attention the anti-tuberculous serum of Maragliano of Genoa. This scientist, who resembles the traditional prophet to a certain extent, delivered an address before the Madrid International Congress, abstracted in our cabled report of May 2, in which he decried the sanatorium treatment of consumption and lauded the use of a so-called immunizing serum. There is nothing new in the preparation of anti-tuberculous sera. They were prepared and tried long before Maragliano's announcement, and have proved to be of little, if any, practical value. Tuberculosis is not a self-limited disease, nor is one who has been cured of the disease necessarily, or even usually, immune against future invasions of the tubercle bacillus. It would be a great calamity if the popular movement in favor of sanatoria should be arrested now by the preachments of the Maraglianos with their anti-tubercle serums.

**Dr. Henry L. Shively** of this city has been appointed visiting physician to St. Joseph's Hospital.

**Typhoid Fever at Ithaca.**—The newspapers have recently published reports that typhoid fever was again epidemic at Ithaca. These reports have been denied, but at the same time it is admitted that there are some cases in the city and that the public water supply is still liable to pollution. Dr. George A. Soper of the New York State Board of Health has made a statement that the total number of cases in Itacca on July 16 was nine, of which three were more than two weeks old, and that there were less than half a dozen suspicious cases under observation. The general health conditions of the city, he says, are satisfactory, "except for the water supply. The attention of the local Board of Health has been called to this subject, and energetic steps are now being taken to remove the sources of pollution." Those "energetic steps" should have been taken last spring, and the fact that they are only "now being taken," at the beginning of the season of typhold-fever prevalence, is not reassuring.

**A Strike of Hospital Nurses.**—Seventeen nurses at the Milwaukee, Wis., county hospital, the entire staff, went out on strike on July 17. They rebelled against the strict discipline enforced by the head nurse, and when the superintendent refused their demands for the discharge of the offender, the young women all left at once.

**The Plague in Chile.**—The United States Minister at Santiago de Chile has sent a cable dispatch to the State Department reporting a serious state of affairs in Chile in consequence of the rapid progress of bubonic plague in nearly all the seaport towns. He says that the plague, which it was thought was confined to a few places, is now spreading to nearly all ports. The alarm in Chile is so great that the postal service is disorganized, and only one American mail has been received at Santiago in nine weeks.

**A Dinner to Mr. Jonathan Hutchinson.**—A number of friends of Mr. Hutchinson gave him a complimentary dinner on Thursday of this week, which was the seventy-fifth anniversary of his birthday. The dinner was held at the Trocadero Restaurant, London, and in deference to the honored guest's views on the causation of leprosy it is understood that the usual fish course was omitted.

**The New York City Hospital for Consumptives.**—Mr. Homer Folks, Charity Commissioner of this city, recently presented to the board of estimate a report setting forth his views as how best to establish a hospital near the city for the treatment of consumptives. He says that the new hospital must have an elevation of from 600 to 1,000 feet, must be sufficiently remote from thickly settled regions to insure pure air, must be sheltered from northerly winds, have an abundant supply of good water and be accessible by rail. He recommended that the sanatorium be built to accommodate 500 patients, and that the buildings and grounds cover an area from 250 to 400 acres. It will not be necessary to construct many expensive buildings. Cheap wooden structures for some of the patients, and tent cottages, such as have been constructed at the Tuberculosis Infirmary on Blackwell's Island by this department, are inexpensive and are probably better suited to the needs of the patients, so far as dormitory purposes are concerned, than more expensive buildings. The cost of these tent cottages at Blackwell's Island, accommodating twelve patients each, is about $90 for materials and $30 for labor. Such a site as is desired, Mr. Folks says, could be secured for from $100 to $250 an acre. He estimates the yearly cost of the maintenance of 500 patients at $182,500.

**Care of Consumptives in the City.**—In a lecture delivered by Dr. S. A. Knopf before the Summer School in Philanthropic Work, conducted by the Charity Organization Society of the City of New York, July 17, 1903, a plea was made for increasing the open-air facilities for the poor suffering from tuberculosis. Two things, he said, could be done for the immediate relief of these sufferers: First, one or two recreation piers should be reserved exclusively for pulmonary invalids. There they could spend the greater part of the day; one or two nurses could be detailed to supervise them. At least a few hundred of the consumptive sufferers among the poor could thus be made comfortable. Another way of caring for the earlier cases of tuberculosis during the summer would be to take them on daily excursions on the river or sound. There they could be cared for in the same way as on the pier. The hospitals within the city limits, besides the two on the islands, which offer a number of their beds to consumptive sufferers, could also, Dr. Knopf said, increase the comfort of this class of patients during the hot weather by making the top of their buildings into roof-gardens suitable for the open-air cure and for sleeping quarters for the consumptives at night. On the top of nearly every hospital a roof-garden could be improvised by covering it with a canvas roof to which were attached side-flaps for use when protection from sun or rain was necessary. With a few flowers and a little shrubbery here and there, the place could be made very attractive and the whole system could be installed with relatively little expense.

**The Medical Uses of Radium.**—A despatch to *The Sun* quotes from an article in the London *Times* of July 18, dealing with the practical uses of which radium can be put. "Some of the most hopeful and most important uses of radium," the writer says, "are in the field of medicine. Physicists and doctors

complain of the impossibility of regulating the character of *x*-rays so as to repeat with certainty any desired result. Radium gives a beautifully consistent and uniform supply of rays. Instead of the cumbrous focus tube, nearly as large as a football, and the manifold expensive items of the *x*-ray outfit, a glass tube somewhat smaller than a toothpick and containing from one-tenth to one-fifth of a grain of radium, has already been successfully employed in cases of cancer, since the little tube can be inserted in cavities no larger than the nostril. In a great many cases in which it was impossible to use the *x*-rays, radium has been readily employed, as is shown by the following case at Charing Cross Hospital: A rodent cancer of the nose which had recurred after an operation and had been successfully treated by the *x*-rays, was subjected to a short exposure of radium. Four exposures, aggregating about an hour. were given at intervals of a few days. In three weeks the diseased part was healing well, and in six weeks, after two further exposures, the cancer disappeared completely without leaving any visible scar. Similar success in treating a cancer was reported from Vienna last week. The fact that radium inclosed in a lead box an inch thick and brought near a person in a dark room causes the same feeling as a flash of light on the retina, even when the eyelids are tightly closed, and that the same sensation is experienced by the blind, is attracting the serious attention of medical men, and the successful treatment of many other diseases than cancer may be confidently expected in the near future.

**Obituary Notes.**—Dr. EDWARD V. ARMSTRONG died in the Presbyterian Hospital in New York on July 16. He was thirty years of age, and was a retired assistant surgeon of the United States Navy. His death was due to a tropical fever he contracted while serving in the far East. When the Spanish war became inevitable, Dr. Armstrong offered his services, and was appointed an assistant surgeon on April 15, 1898. He served on the *Scorpion* during the war, and then went to the Philippines. There he contracted the fever, and was very sick, but recovered partly. His eyes were affected, and this caused his retirement from the navy. He returned here and never regained his strength.

Dr. A. E. ROGERS, assistant physician at the Bonner Springs, Kansas, Sanatorium, lost his life on July 16 in an attempt to save one of the patients in a fire which destroyed the building. Three of the patients were burned to death at the same time.

Dr. THOMAS M. ROCHESTER of Brooklyn died on July 12, at the home of his mother in Rochester, N. Y., of pulmonary tuberculosis. He was a great grandson of Col. Nathan Rochester, the founder of the city which was named after him. He was a graduate of the Medical Department of the University of Buffalo in 1878, but settled in Brooklyn soon after entering the profession, and practised there until compelled by the state of his health to retire, three years ago.

Dr. W. D. HAMILTON died at Kennett Square, Pa., on July 2, at the age of thirty-eight years. He was a graduate of Jefferson Medical College.

Dr. ISAAC N. F. BEEDLE of Ocean Grove, N. J., died of cardiac and renal disease on July 20 in Asbury Park, at the age of fifty-five years. He was graduated from the Bellevue Hospital Medical College in the class of 1870.

Dr. WILLIAM H. PARISH of Philadelphia died recently. He was a graduate of the Jefferson Medical College in the class of 1870, and was professor of anatomy at the Woman's Medical College of Pennsylvania.

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

HISTORY OF MEDICINE; FITZPATRICK LECTURES—ANEURYSM—THE CARLYLE DISPUTE—NEW COLONY FOR EPILEPTICS—JENNER INSTITUTE—SUNDAY FUND—THE LATE WM. CADGE OF NORWICH

LONDON July 3, 1903.

THE first FitzPatrick Lectures have been duly delivered at the Royal College of Physicians. This lectureship was founded by the widow of the late Dr. FitzPatrick, and the "History of Medicine" was the subject chosen by Mrs. FitzPatrick as one in which her husband had been greatly interested. Dr. J. F. Payne delivered the first course, and having said that the "pious and generous gift" of the foundress deserved the cordial thanks of the college, already rendered, but also recognition from all who are interested in the progress of the two sciences, medicine and history. He further said the services of Dr. Norman Moore, who had been Mrs. FitzPatrick's adviser as to this scheme, deserved recognition, and added that he would have wished Dr. Moore to be the first lecturer, but he had decidedly declined.

Dr. Payne spoke of Dr. Norman Moore as "our eminent *Fellow*" and as an "intimate friend of our deceased *member*" This member he described as "a physician of great worth, learning, and accomplishments," but he expressed no surprise that such a physician had never been elected a Fellow. One would have supposed that Dr. Moore, who knew his "worth, learning, and accomplishments," would have reported them to his fellow-officials at the college. But then these are not precisely the qualifications for election to the Fellowship, and no doubt his intimate friend knew that Dr. FitzPatrick's modesty would never permit him to ask for admission to the self-elected inner circle. Curiously enough Dr. Payne, in commenting on the "lamentable apathy and little industry" of English physicians toward medical history, went on to say that in medical biography we have an unequalled work in the late Dr. Munk's Roll of the College. But that work, valuable as it is, by its nature excludes all practitioners who did not belong to the college, and it cannot be pretended that any one of the corporations embraced at any period the whole of the profession. Still the roll which was produced by the patient accumulation of the materials through many years before Dr. Munk was asked to print it is an important contribution containing all that he could ascertain about those who joined the college from its foundation in 1518 down to 1825. Though Dr. Payne lamented our apathy and perhaps exaggerated it a little, he did justice to continental productions and added that "our cousins across the Atlantic are now displaying characteristic energy and zeal in the study of the antiquities of medicine."

To return to the lectures, Dr. Payne began, so to say, at the beginning of the history, and it being impossible to extend his view over a long period confined himself to Anglo-Saxon medicine, dating its commencement from the introduction of Christianity by Augustine (A. D. 597), though it must be admitted that there are vestiges of earlier medical beliefs. It is to the schoolmen we must look for the few hints of anything like medical teaching. King Alfred evinced interest in medicine, and Helias of Jerusalem sent him certain prescriptions, including the Theriaca of Andromachus. Next came the "Leech Book," a sort of primitive manual of medicine, borrowed for the most part from the later Greek physicians as freely as our modern textbook writers copy from each other. I may say the same for the Herbaria which followed, especially as to the figures of plants which were copied by the compilers of the Anglo-Saxon MSS. With regard to native plants, of course the descriptions could not have been taken from Greek or Latin writers, and they show considerable knowledge of botany. These and other Anglo-Saxon books were referred to by Dr. Payne, who dealt particularly with the magical rites and charms described in them.

Passing by these, which the lecturer divided into seven classes and commented on each, we come to the later Anglo-Saxon books. One of these *Περὶ Διδάξεων* differs much from the others; it gives recipes which are collected from them and many others. It is also quite free from the charms and superstitions, and seems to be based on the writings of the school of Salerno. It belongs to the early part of the twelfth century and shows that the Anglo-Saxons were profiting by Salerno before that school came under the influence of the Arabian medicine. It also shows the continuance of Anglo-Saxon medicine long after the conquest, as does a MS. of the Herbarium of Apulieus of about the same period, and which closes the early English medical literature, as does the Anglo-

Saxon chronicle that of its general literature about the same time.

The treatment of aneurysm by subcutaneous injections of gelatin has not been extensively tried here. Some cases reported at the Medico-Chirurgical Society may therefore interest you. Dr. Guthrie Rankin related four which he had treated at the Dreadnought Hospital, using a two-per-cent. solution. The average number of injections was seventeen. In three out of the four cases there was a diminution of the pressure on surrounding tissues, which was probably the cause of the relief to the symptoms obtained. The after-histories showed the beneficial results to be permanent. Dr. Rankin considers the injections given with proper precautions to be safe, and that they alleviate all the subjective and many of the objective symptoms.

Dr. Robert Maguire said he had treated eight cases, seven of them with improvement. In one an aortic regurgitant murmur disappeared after the third injection, showing it was due to stretching of the aorta, not valvular disease. Another case which seemed about to burst externally was greatly relieved. One of the cases succumbed to tetanus, the spores of which are commonly present in commercial gelatin, which should, therefore, always be boiled for ten minutes. Dr. Maguire mentioned the risk of clot-formation in other arteries if they were diseased. He attributed the rise of temperature to the introduction of a foreign proteid into the circulation.

Dr. F. H. Hawkins said there were other risks besides tetanus. In one case in which he had tried the treatment, it was followed by a rigor with collapse and persistent vomiting for three days.

Dr. A. J. Whiting asked how soon symptoms of tetanus followed the injection in Dr. Maguire's case, and whether the coagulability of the gelatin was impaired by the boiling. To this Dr. Maguire said one week elapsed from the first injection before the onset of tetanus. Boiling did not alter the coagulability of gelatin.

Dr. Rankin, in reply, said he had met with no symptoms to cause anxiety.

Another paper on aneuyrsm was communicated to the same meeting. This was by Mr. D'Arcy Power and Mr. G. H. Colt, and consisted of a case of abdominal aneurysm in a man of twenty-nine years, who had previously been treated by five injections of gelatin without benefit. The sac was very thin—life seemed in peril and an operation was decided on—the artery to be tried if practicable, and if not the sac to be filled with silver wire. The sac was exposed but could not be isolated, and eighty inches of silver wire were introduced by means of an ingenious instrument, devised and made by Mr. Colt. It only took two and one-half minutes to introduce the wire. The patient seemed comfortable next day, but the pulse kept rising and he died fifty hours after the operation. The post-mortem showed that the aneurysm sprang from the aorta just below the diaphragm. The sac was full of recently clotted blood entangled in the wire. On cutting across the aorta seven inches of wire were found projecting upward into the arch. A patch of adherent pericardium was the only other abnormality.

The Carlyle controversy continues with unabated virulence. In the new *Contemporary*, Sir J. Crichton-Browne returns to the subject in order to reply to Mr. Ronald M'Neill's article in the June number, but as his reply was in the editor's hands before the publication of Froude's apologia he announces that later on "a full, and it is hoped final, answer, will be given." He declares it would "be criminal to allow Froude's hideous and bedaubed portrait of Carlyle to go down to posterity as in any degree authentic." That Froude disregarded Carlyle's injunctions as to his own papers is practically admitted in his apologia. But what is worse, is the publication of Mrs. Carlyle's love letters. This betrayal of trust has been condemned in all directions, and Sir J. Crichton-Browne remarks on the horror with which Mrs. Carlyle would have felt at their being canvassed by the million. "And not only the love-letters but the journal containing the most secret communings of Mrs. Carlyle's spirit in her hours of solitude, which she had kept under lock and key from Carlyle himself." But enough of this dispute—if you think more than enough for a medical journal, consider that it is occupying columns of newspapers, pages of magazines, and intruding into nearly all medical or literary conversations. Even the legal journals find an excuse for referring to it in warning disputants that slanders of dead persons are misdemeanors, and that the surviving relatives, who are pained by the comments which cannot be justified as properly historical, may bring an action in the courts. I hope the warning may not be without effect on those who maintain that the public—"the many-headed beast," as Tennyson called it—has a right to pry into the private affairs of every dead distinguished writer.

The Princess Louise, accompanied by the Duke of Fife, opened the new colony for epileptics of the County Council. The Asylums Committee of the council determined in 1898 to establish this colony, and has erected the buildings on the Ewell estate of the council, utilizing above 100 acres of the estate for the purpose, in a very beautiful locality. In the center is the administrative block, and dotted about the grounds are eight pretty villas, each arranged to accommodate thirty-eight patients. Great attention has been paid in the designs to secure for the inmates plenty of freedom and yet to be under supervision. Around each villa is a garden, which the colonists will cultivate. There will also be cricket and other sports, dining hall, recreation rooms and, in fact, everything desirable for such an institution. At present, provision is made for 266 men and 60 women. The cost has reached £98,000.

Death by misadventure was the verdict of a coroner's jury on Wednesday, in a case in which a man went into a chemist's shop for a dose of morphine, to which he was addicted, and was given strychnine instead.

Besides the birthday new honors I mentioned, there were several promotions. Thus Dr. P. Manson, who was C.M.G. becomes K.C.M.G. Surgeons-General Colvin Smith and Cole Reade, in the same way, from C.B. pass to K.C.B. Surgeons-General G. J. H. Evatt and A. Scott Reid were given the C.B.

The Jenner Institute of Preventive Medicine will henceforth omit the name of Jenner and revert to its former title, British. This has become necessary on account of a manufacturer of calf lymph having long before called his establishment the Jenner Institute. The money subscribed to the Jenner Memorial will probably be used to found a scholarship. Dr. C. J. Martin, F.R.S., has been appointed the new director of the institute. He is professor at Melbourne University.

Up to the present time only a little over £40,000 has been received for the Hospital Sunday Fund—a sad record of the wet and cold June.

Yesterday Messrs. Butlin, Makins, and Dent were elected to the vacancies in the council of the Royal College of Surgeons. Mr. Butlin's was a re-election.

"Cadge of Norwich" died on the 25th ult. You will recognize him by this title, for I hear he was as well known by this name on your side of the Atlantic as on ours. He was in his eighty-first year and had for a long time retired from practice. But his works follow him, and among them may be put forward the rebuilding of the Norwich Hospital, in which he had won his world-wide reputation, and to which he devoted munificent sums during his life. You will know him best as the great authority on stone in the bladder, for his world-wide reputation as to that branch quite overshadowed his skill in other departments of surgery. It seems like ancient history to think of his presence at the first operation under anæsthesia in this country, of his election on the staff of University College Hospital, and then throwing up a London career for one in his native city, and with which his name will always be associated. In 1874 he gave the address in surgery at the British Medical Association. In 1886 he delivered the Hunterian Lectures at the Royal College of Surgeons, in which he embodied his ripe experience as an operator for stone.

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**A Rare Case of Staphylococcomycosis in Diabetes Mellitus.**—The connection between the presence of sugar in the urine and affections of the skin was noticed long ago. On one hand the incontrovertible fact has been established that those suffering from sugar exhaustion are much more subject to affections of the skin than those suffering from other diseases, that the organism of a diabetic offers much less resistance to the entrance and development of pus-producing bacteria; on the other hand, it has been observed that certain affections of the skin may occasionally call forth the appearance of sugar in the urine. In the first case the connection of cause and effect is, to some extent, proved by the observations of Professor Bujwid, who found that the staphylococcus thrives best in a medium containing sugar, and that the tissues in the presence of sugar cannot resist the action of this microorganism. J. B. Studzinsky describes a case under his observation. In a patient suffering from diabetes mellitus, an apparently pustular eruption appeared upon the extremities. The pustules kept growing, and upon reaching the size of a dime broke down, followed by the formation of granulation-tissue, and proliferation of the surrounding epithelium. Cultures of staphylococci were obtained from the affected areas, so that the diagnosis of cancer had to be excluded, in spite of the marked proliferation of the surrounding epithelium.—*Russkii Vratch.*

# Progress of Medical Science.

*The Boston Medical and Surgical Journal, July 16, 1903.*

**Subparietal Injuries of the Kidney.**—Francis S. Watson reports his own cases, six in number, with results of the treatment. The most striking features in the analysis of the clinical data are the high death rate attending the expectant treatment, as compared with any form of operative intervention, and the conspicuously low mortality of the series of cases treated by operations other than nephrectomy. The expectant treatment shows at its worst in the cases with intraperitoneal complications. The low mortality in the series treated by operations other than nephrectomy, compared with that attending the latter, is obviously due to the fact that the operation which was selected instead of nephrectomy—lumbar incision and suture, tamponing and drainage, or nephrectomy, etc.—was chosen for the reason that the kidney was not found to be so seriously damaged as to require nephrectomy. In other words, the cases were of a less grave nature. Hemorrhage is the one factor which most often demands prompt operative treatment. The writer appends a series of nephrectomies, 1,118 in number. The deaths from these were 301; mortality, 26.9 per cent. The total number of lumbar operations was 722; recoveries, 557; deaths, 165; mortality, 22.9 per cent. The number of abdominal operations was 365; recoveries, 234; deaths, 131; mortality, 35.6 per cent.

*Journal of the American Medical Association, July 18, 1903.*

**A Study of the Histological Changes in Epithelioma under the X-ray.**—J. C. Stewart reviews the theories previously presented in reference to the effect of the *x*-rays on superficial malignant growths, and gives the clinical history of a cancer of the wrist following an injury. Portions of the excised tissue were submitted to the usual manipulations and a study of them (illustrated in his paper) leads him to offer the following conclusions: (1) It is probable that when epitheliomata react favorably to *x*-ray treatment that characteristic histologic changes will be found. (2) The important early changes are fatty degeneration and vascularization of the epithelial pearls. (3) Leucocytic infiltration and various degeneration processes complete the destruction. (4) Bodies indistinguishable from "Plimmer's bodies" multiply as epithelia degenerate.

**Clinical Diagnosis of Intestinal Parasites.**—C. W. Stiles dwells on the absolute necessity of examining the fæces in order to arrive at a positive diagnosis of intestinal parasites. Such examination must be made with the microscope, for mere gross examination does not suffice. An increased eosinophilia is an indication of possible parasitic infection, and such a result from blood examination should make us suspicious. The blotting-paper test is reliable in about 70 per cent. of cases. It is made by allowing several ounces of the stool to be wrapped up in the paper. In severe and very median cases it will be noted that a reddish-brown stain appears on the paper. The technique of microscopical examination is described. The author states that the biologic principle on which fecal examination rests is that the eggs of different animals are more or less characteristic. Accordingly, to carry out properly the examination one must become familiar with the eggs and embryos of different species, also with the form of certain plant cells and fibers which might be mistaken by the uninitiated for eggs or embryos of parasitic worms.

**Sunshine and Fresh Air vs. the Ultraviolet Rays and the Röntgen Rays in Tuberculosis of the Bones and Joints.**—Dr. Forest Willard presents the following conclusions: (1) Sunlight, fresh air, and good food, together with fixation and protection of the affected joint, are the most important agents in the contest with tuberculous infection. (2) Direct exposure to the rays of the sun is essential, and all hospitals should be provided with solaria or sun porches and roof gardens. (3) Patients lying in bed should have the diseased joints exposed to the direct rays of the sun, their heads and eyes being protected by green glasses or shades. The joints may be covered with blue, so as to secure easiest passage of the ultraviolet actinic rays, and local medications rich in iodin may be also employed as desired. (4) Tent life on the hospital grounds, or better, in the open pine forest, can be successfully employed through both summer and winter. (5) Sanatoria should be established for tuberculosis of the hard tissues, as well as of the soft. (6) The concentration of the sun's rays by lenses is of positive benefit in bactericidal influence. As final curative agents, however, the direct sun's rays are most effective. Electrical rays can be used when sunlight is lacking. (7) The Röntgen rays in the laboratory have an inhibitory power on the tubercle bacilli, and may prove useful in restraining the growth of these microorganisms in living tissues. (8) The actinic rays and the *x*-rays are both apparently helpful in the fight with tuberculosis, but several years will be required to determine accurately their effect. They should be employed not to supersede, but to antedate and to supplement operative procedures, to assist the mechanical protection of the joint, and to increase the general therapeutic measures employed.

*Medical News, July 18, 1903.*

**The Daily Rhythm of Epilepsy and Its Interpretation.**—L. Pierce Clark summarizes his paper as follows: This study of 150,000 seizures shows that there is a more or less definite daily rhythm in the epilepsies, in the early morning, which roughly divides the twenty-four hours of the day into eight-hour periods. There are also smaller or secondary rhythms. The interpretation of the rhythm is explained on the basis of cerebral fatigue and the accumulation of waste products at these periods which produce auto-intoxication, and, which, in turn, exhibits itself in seizures during light sleep and during the day, when the loss of cerebral inhibition is greatest. Secondary and contributing factors are: manner of living, diet, exercise, occupation, sedatives, and the character of the epilepsy.

**Therapeutic Suggestions in Diphtheria.**—Louis Fischer declares that the specific treatment of a case infected with diphtheria consists first and foremost in giving it the required dose of antitoxin. The dose depends upon the severity of the disease. In laryngeal stenosis, in all 4,500 units can be injected during the first twenty-four hours. The treatment must be based on scientific data, hence it should conform with the result of what is found by culture from the throat and by the thorough examination of the blood. The streptococcus sometimes present, in addition to the Klebs-Loeffler infection, bronchopneumonia, nephritis, arthritis, otitis, and local abscesses are often present, due to the streptococcus. As a tissue and blood builder, no medication equals food. Milk, concentrated broths, and acid fruits are well borne. Older children can take raw scraped steak, calf's foot jelly, and ice cream. When rectal feeding is necessary, no more than two ounces should be injected at one time; milk, predigested, one ounce, starch water, one ounce, laudanum, one minim, can be injected slowly through a colon tube, after both colon and rectum have been cleansed by a soap-suds enema. If this enema is retained, the yolk of a raw egg may be added to it. The putrid membranes and the catarrhal discharges should be removed from the nose and throat. Fresh air is most important in the treatment of this disease. In fever it is well not to use antipyretic drugs. Sponging with alcohol and water or acetic ether, locally, is better. Cold packs and flushing the bowel with cold water are serviceable in some cases. The bowels should be kept clear. Stimulation should begin early. Strychnine, whiskey, tokay wine, champagne, coffee, caffeine, citrate, and sparteine may be used.

*New York Medical Journal, July 18, 1903.*

**A Case of Black, Hairy Tongue.**—The patient of R. H. Johnston was a man of fifty-six years in good general health, complaining of a peculiar sticking sensation in the mouth, and a blackness of the tongue. The trouble had existed for two months. Protrusion of the tongue showed a black discoloration almost round, measuring about 10 mm. in both diameters. It was located in the median line in front of the circumvallate papillæ, and was seen to be covered with hairs about half an inch long. These were removed with forceps, and under the microscope were found to consist of hornified epithelium, one cell on another. There was no swelling of the filiform papillæ. The mass of hair could be moved about on the tongue with a probe. The patient passed from observation and the later history is not known. The cause of this condition has never been accurately ascertained. Only about thirty-five cases are on record. The present case is the eighth reported in America. A bibliography of the literature of the subject is appended.

**Subconjunctival Medication, with Special Reference to the Use of Salt-sugar Solution in Acute Affections of the Anterior Portion of the Eye.**—H. McI. Morton states that in very acute affections of the anterior ocular chamber he has used the several mercury salts, but has more recently found that the injection of a large amount—say two to six grams—of sterile water alone, brings about a more speedy resolution of the inflammation and is less painful than the chemical agent. Still more recently he has used a three-per-cent. solution of sugar in normal salt-solution in corneal ulceration, acute uveitis, simple iritis (followed by the usual mydriatic), etc. The fluid is introduced by an ordinary hypodermic syringe, the capacity of which is just 1 c.c., and is injected so that it fills the subconjunctival space about the corneal margin entirely. This necessitates the introduction of

the syringe at several points just anterior to the insertion of the recti. In sthenic individuals where one eye alone is involved, the introduction of a large amount of fluid subconjunctivally is very properly an office procedure, but to be followed by slight pressure from Liebricht's pad, and the patient directed to use hot fomentations for periods of five minutes, with half-hour intervals. Bad effects from the injections have never been noticed.

**Artificial Immunity in Experimental Tuberculosis.**—E. L. Trudeau has succeeded in producing a relative immunity in rabbits and guinea-pigs against tuberculosis, though in his experiments thus far it has always been possible by flooding the systems of the animals with a large dose of highly virulent bacilli to produce death. The writer declares, however, that this is an unnecessarily trying test, and is in no way comparable to exposure to natural sources of infection. A typical experiment on a guinea-pig is thus described: On June 10, 1902, the animals to be protected received in the left thigh an injection of one-quarter milligram of attenuated T. B. R. 1 culture. Slight loss of weight followed, and on September 26 they failed to react to ten milligrams of tuberculin. They then received one milligram of living attentuated tubercle bacilli in the peritoneal cavity, which produced little appreciable disturbance of health. On January 7, 1903, they, together with five controls, received an injection of one-half of a milligram of highly virulent tubercle bacilli culture subcutaneously in the right thigh. The controls all died, with an average life of fifty-five days. The vaccinated animals survived, and now, one hundred and fifteen days after virulent inoculation, are in good condition. Some show at present no trace whatever of virulent inoculation, though some undoubtedly have chronic tuberculosis, as they have enlarged inguinal nodes. He has known such animals to live over a year. Further questions suggested by results obtained are these: What are the dangers of the immunizing process? What is the duration of the immunity produced? Is a living but attenuated germ necessary to the protective process? Can the immunity it produces be strengthened or not by additional inoculations of the toxins of the bacillus or of the serum of already immunized animals? Can the young be protected by the milk of immunized cows? Can the serum of protected animals produce immunity of shorter or longer duration and favorably influence the course of the disease in tuberculous men or animals? To all these questions no positive answer can as yet be given. The article should be read in the original by all physicians specially interested in the tuberculosis question.

*American Medicine, July* 18, 1903.

**The Etiology of Leukæmia.**—John Benjamin Nichols concludes that: Heredity, traumatism, and precedent disease conditions in a few cases may have some causative influence, but are of no more than subsidiary etiological moment. Almost nothing is known as to the specific primary cause of leukæmia. Aside from a nervous origin of the disease which has been suggested, the possible explanations seem to be limited to three. That it is due to a vice in the internal processes of cell life and division that comes into generalized activity, and results in exaggerated leucocytic hyperplasia; that it is the result of the action of toxic substances, autogenous or exogenous, generated at some unknown place in some unknown way; and, that it is of infectious or parasitic origin, the parasites acting by the production of toxins or otherwise. Of these only the infectious theory has been at all subjected to direct investigation. In the failure of proof of the infectiousness of leukæmia, the explanation of its causation would appear to lie between the toxic and the hyperplastic theory, with the probabilities, perhaps, in favor of the former.

**Diseases of the Gall-bladder and Bile-ducts.**—C. A. Ewald says that bacterial infection is not confined to the inflammation of the wall of the gall-bladder, with its consequences. It may also be followed by the formation of gallstones. Of the invading germs, B. coli communis is most frequently found. The reason for the stagnation of bile and the subsequent bacterial invasion is not truly known, and perhaps we must always consider predisposition. The gall-bladder at times becomes enlarged, either because of increased fluid or of obturation of the ducts by a catarrhal swelling of the mucosa, or both, which condition causes pain. Colic may be due to contraction because of the presence of stone, or to inflammation. For the diagnosis of gallstones there have always been three symptoms: colic, icterus, and tumor. The different kidney diseases attended by attacks of colic are easily recognized through a careful examination of the urine. A hyperleucocytosis speaks for a suppurative appendicitis and against gall-bladder disease. Empyema of the gall-bladder has no hyperleucocytosis. There are primary diseases of the stomach and pancreas which point rather to disease of the gall-bladder, and, conversely, there are diseases of the gall-bladder with secondary manifestations in the stomach and pancreas that obscure the primary condition. Under such circumstances the chemical examination of the stomach contents is very important. We must differentiate between gall-bladder colic and most cases of acute and chronic pancreatic disease. Jaundice may be the result of a mechanical obstruction or of functional disturbance. Tumor of the gall-bladder is more often absent than present. Finally, the complications of a cholecystitis and a new growth have to be considered. As to therapy, the internal treatment of cholelithiasis is very uncertain. The writer adopts the following measures: During the acute inflammatory stage and during colic he uses the known means for relief, and he advises, besides, lavage of the stomach with hot water or with a solution of nitrate of silver (Ehrlich), or the drinking of large quantities of hot water; in a severe acute infection, immediate operation; patients with rapidly recurrent favorable attacks he would rather treat internally, as the stones are probably of small size and able to pass. After such attacks the bile flows freely and the infection subsides. In unfavorable cases, with recurrent attacks, he advises operation, especially when stones lie in the ductus hepaticus or choledochus. Preventive means against recurrence should always be used.

*The Lancet, July* 11, 1903.

**The Uses of Sodium Salicylate in the Treatment of Malarial Fever.**—A. D. Kennard calls attention to the value of this drug in malaria. He believes that it reduces the temperature just as quickly as does quinine, and is of the greatest value in relieving the pains in the limbs of the fever sufferer. It will sometimes break the attack when quinine fails. The weak points in the writer's reasoning, are, first, that in the three cases reported he used the salicylate in connection with the quinine, though the two were not used simultaneously, and, second, that as the cases occurred on shipboard, he was not able to confirm his diagnosis of malaria by an examination of the blood.

**Arsenical Idiosyncrasy.**—John Phillips reports the case of a woman who was taking a tonic preparation containing, among other ingredients, one thirty-second of a grain of anhydrous arseniate of sodium. This dose, after three administrations, led to violent vomiting and a condition of severe acute irritant poisoning. It was necessary to give strychnine hypodermically, brandy internally, to apply hot bottles and poultices to the abdomen. Subsequently a saline infusion was given per rectum. Castor oil by the mouth and a hypodermic injection of morphine to arrest the retching and pain, followed at a later period by frequent doses of dialyzed iron, were given, and she ultimately made a good recovery. The interesting point in the case is that the total amount of arsenate of sodium was *less than one-tenth of a grain*, and this amount had been given in three separate doses with an interval of some hours between each dose, yet this minute quantity was sufficient to cause such alarming symptoms.

**The Treatment of Aneurysm by Subcutaneous Injection of Gelatin.**—Guthrie Rankin reviews the literature of this subject, and adds the clinical histories of four personal cases, all successful. In his judgment the cases show: (1) that gelatin injections may, with proper precautions, be given subcutaneously with safety; (2) that they produced a marked and speedy decrease in all the subjective and in some of the objective symptoms presented by internal aneurysms; (3) that this relief of symptoms is only explainable on the theory of a diminution in pressure-effects from shrinkage in size of the aneurysmal sac; (4) that this diminution in size, accompanied with marked increase in the resistancy of the tumor wall, was capable of physical demonstrations in three of the cases treated; and (5) that the after-histories of the patients, so far as they could be obtained, afforded evidence that probably the beneficial results were permanent—that, at least, they had not been seriously invalidated by the habits and exertions of the patients between the date of their discharge and that of their being last seen.

**Smallpox in the Fœtus.**—A. Warner reports two cases. The first case was that of a woman who aborted with twin female fœtuses at the fifth month. She had a very short time before passed through an attack of smallpox. Both of the fœtuses were covered with a well-marked eruption, distributed chiefly on the back, the head, and the neck, less on the abdomen and limbs, and there were two spots on the sole of one foot. The eruption consisted of yellow, circular patches with a central depression, the size of the majority of the patches being equal to the thirty-second part of a square inch. In the second case the patient aborted during her attack of the disease, the fœtus being three months old but showing no eruption. The author,

however, includes the case in his paper for the following reasons: First, there is the great difficulty in making the diagnosis in so young a fœtus; second, the mother had been successfully vaccinated in infancy, and therefore had no natural immunity to vaccinia; third, her primary vaccination could not have protected her up to the time of her illness (thirty-nine years), and fourth, while at the time of the miscarriage she had only the primary symptoms of smallpox, every other individual in the house where she was had the disease. It seems reasonable, therefore, says he, to suggest that her immunity to vaccinia (she had been unsuccessfully vaccinated during her sickness) was created by an abortive attack of smallpox modified by the fœtus.

*British Medical Journal, July* 11, 1903.

**A Case of Prolapsus Uteri Treated by Paraffin Injections.**—John J. Douglas and William Gream Stone describe this case. The patient was sixty-nine years old, and too feeble for a radical operation. The prolapsus was complete. Pessaries were useless. Injections of paraffin were made in several places under the mucous membrane of the lateral and posterior vaginal walls, and about the cervix. A finger was kept in the rectum for a guide, and a probe passed into the urethra. The lumen of the vagina has been very much narrowed, and its walls stiffened. The uterus is now completely held up during walking and defecation. The patient has no discomfort.

**The Necessity of Shortening Large Nerves When Amputating.**—Walter G. Spencer reports several cases which illustrate the necessity of drawing out the large nerves from the surface of the stump and cutting off a piece from them. When this procedure has been omitted, there has been an indefinite delay to the patient's recovery. The patient has been hindered from wearing an artificial limb and from returning to work. There has been continuous pain in the stump, and after several minor operations, at last a resection of the affected nerves has had to be resorted to. Amputation is done nowadays only as a last resource, and the patient's condition is generally bad. Therefore, haste is essential, yet the minute or two required for shortening large nerves is indispensable.

**A Case of Ascites Most Probably Caused by Infective Thrombosis of the Hepatic Veins.**—Henry Waldo reports this case. The patient was a married woman of forty-seven years. A few months ago she had cellulitis of one arm. Incisions revealed no pus. The arm was completely restored. Some months later ascites developed with pain and tenderness in both iliac regions. The ascites increased and interfered with breathing. The ankles were slightly swollen. By a process of exclusion, the diagnosis was narrowed down to infective thrombosis of the hepatic veins. There was no likelihood of syphilis. By rest and elaterium, and by inducing profuse diaphoresis and diuresis, the patient recovered in three or four months. It is possible that the climacteric was intimately connected with the fous atorigo mali.

**The Value of Lumbar Puncture in General Practice.**—Herbert Rhodes sums up some of the advantages of lumbar puncture. For the patient, it relieves pain and headache, diminishes coma, while consciousness may return after coma has been established through the increase of intracerebral pressure; it may indicate the necessity or otherwise for operation; it has been a definite aid toward recovery. For the physician, it may correct or confirm a diagnosis, by rendering less intense a coma from excessive intracranial pressure; it obviates the necessity of nasal feeding, and other such tedious and often dangerous, nursing procedures. The operation is practically without risk, as long as it is carefully performed and rigid asepsis ensured. It is rarely at all painful. There are almost always some good results.

**Brachial Neuralgia.**—Robert M. Simon states that neuralgic pains affecting some of the branches of the brachial plexus are sufficiently common in aneurysm, cancerous growths in the thorax or axilla, and in aortic disease; but brachial neuralgia not symptomatic of these causes is a rare condition, and one of such extremely painful nature as to demand more than the very prefunctory attention it has received. It is questionable if the term "neuralgia" is a proper one to employ, for the majority of these cases are not cases of neuralgia, but rather of perineuritis and secondary pain. It is quite possible that a depressed condition of health may predispose to the occurrence of brachial neuralgia, but some violence is always necessary to its development. The writer then reports several cases in which the patients suffered from pain in the arm along the distribution of the brachial plexus. He does not think that they justify the diagnosis of brachial neuralgia, for they were clearly traumatic in origin, and associated with definite pressure upon the branches of the brachial plexus. The other cases seen by the writer were similar in origin and symptomatology, and not due to neuralgia dependent upon constitutional condition. In all of his cases there has been a history of injury.

*Deutsche medicinische Wochenschrift, June* 18, 1903.

**Further Researches Regarding Streptococci.**—Hans Aronson has again taken up the subject of the unity or multiplicity of the so-called species of streptococci. He has taken streptococci from various sources (fifteen in all), including scarlet fever, puerperal septicæmia, otitis media, rheumatism, etc., and submitted them to agglutination and immunization tests. It is thus found that between all of these species there exist inter-agglutination and inter-immunization reactions. Since these are the most refined biological tests known it must be assumed, as the result of their application, that there is no such thing as multiplicity of species of streptococci, and hence, that they all come under one genesis. It can hence be affirmed that there is no such thing as a specific scarlet-fever serum which has been obtained from the inoculations of streptococci. These results in no way, however, negative the endeavor to produce a multivalent antistreptococcus serum similarly as other multivalent serums have been obtained, and it is feasible to suppose that such a polyvalent serum would be more efficient against streptococcus infection than any of the univalent sera which have hitherto been used.

**Kidney Death, Kidney Insufficiency, and Functional Kidney Research.**—Leopold Casper defends his methods of functional kidney research (phloridzin injections, etc.), against Israel's recent attacks. There can be no doubt but that these methods give precise information regarding the condition and functional activity of the kidneys, and that this is valuable information in those cases in which it may be thought advisable to a unilateral nephrectomy or nephrotomy. In such instances the subsequent outcome of the case depends in a large measure upon the condition and functional activity of the kidney which is not to be operated upon. For, if this is not sufficient to sustain life, such an operation is contraindicated unless the life of the patient is immediately threatened. An examination of Israel's kidney operations previous to 1901 shows that, in many instances, the condition of the kidney not operated upon was not understood, and that hence life was shortened instead of prolonged by the operation. If, in the eighty cases reported by him since that time, the results have been better it can only be ascribed to improved methods of examination used by him. What these methods are he does not state, although he says that "methods" have been used. Whether such methods are superior to those used by Casper it is not possible to say, but it is certain that the methods of the latter give an accurate diagnosis, and if put in operation will reduce the mortality attending kidney operations.

*Deutsche medicinische Wochenschrift, June* 25, 1903.

**Dissemination of Typhoid Fever by the Means of Butter.**—Carl Bruck, by experimental researches, shows that when butter is made from milk infected with typhoid bacilli, the bacilli pass from the milk into the cream and thence into the butter, where their presence may be demonstrated. It is thus apparent that butter is one of the chief factors in the indirect transmission of typhoid fever. The experiments were divided into three series: In the first series, pure cultures of typhoid bacilli were added to the milk from which the butter was made. In the second series, the milk cans were washed out with water which had been infected with typhoid bacilli. They were then filled with the uninfected milk from which the butter was to be made. After a short time the cream was centrifuged from this milk and butter made therefrom. The third series were identical with the second, except that the water used to wash out the cans was infected with the stools of a typhoid-fever patient, in which stools typhoid bacilli had been previously found. In every series the result was positive, typhoid bacilli being isolated from the butter.

**Symbiosis of the Influenza-bacillus.**—M. Neisser points out the fact that between the influenza-bacillus and the xerose bacillus there takes place a true symbiotic growth which is markedly to the favor of the first-named organism, so that in such symbiotic growth it can be easily cultivated upon the ordinary culture media without the addition of any hæmoglobin whatsoever. This fact was discovered by the author accidentally while "plating out" some of the fluid of a conjunctivitis accompanying measles. Colonies developed on the plates and these colonies were made up of both influenza and xerose bacilli. Transplantations were made, and it was found possible to continue this symbiotic growth through twenty generations. When the influenza bacilli were isolated from this symbiotic growth and inoculated on to ordinary culture media, they at once assumed their well-known characteristics and refused to

grow, except in the presence of hæmoglobin. These results were confirmed by experimenting with influenza bacilli obtained from other sources, in every instance the results being positive as above described. It was also found that a symbiotic growth takes place between the influenza and diphtheria bacilli, but such growth is not nearly so pronounced as that first described. It is thought as the result of the above, that a method may be developed which shall render more simple than hitherto the isolation of influenza bacilli, and also that further experimentation with the symbiotic growth of other organisms which refuse to grow, or grow only very slowly upon our ordinary culture media, may develop simpler methods for their isolation and growth.

*Berliner klinische Wochenschrift, June 29, 1903.*

**An Additional Case of Unilateral Compression of the Ureter.**—A. Steyrer reports another case. The compression of the right ureter due to tuberculosis of the right kidney and ureter. The urine from the right ureter was three times as great in amount as that from the left. The specific gravity and freezing point of that from the right side were 1008 and 0.69° C., while the corresponding figures of that from the left side were 1019 and 1.32° C. respectively. Tubercle bacilli were found in the urine from the right side. The case is cited in support of Ribbert's view, which has been confirmed by his own observations, as well as those of Bujniewicz and Strauss that a reabsorption takes place in the kidneys under certain conditions.

**Fatal Cachexias Without Anatomical Lesions.**—E. Grawitz reports a case which simulates others that frequently come under observation. The clinical picture is that of a progressive and fatal cachexia without apparent cause, and in which careful examination fails to reveal malignant growths. Addison's disease, pernicious anæmia, or any organic lesions. At autopsy nothing is found which throws any light upon the condition, and no satisfactory cause of death can be assigned. Such a case is here reported. The side lesion present during life was the absence of free hydrochloric or lactic acid in the stomach, and it is thought that this anacidity may be the etiological factor sought. Upon theoretical grounds such an acidity might give rise to an autointoxication, productive of a cachexia in either of two ways: (1) As its result the bactericidal action of the gastric juice fails, and microorganisms which are introduced into the stomach might thrive and produce toxins which slowly but progressively poison the system. (2) Because of the want of acids the metabolism of the albuminoids might be interfered with, so that the usual end products would not be formed, but in their place poisonous intermediate products arise. In practice both of these factors might be simultaneously operative. The fact that many healthy persons bear gastric anacidity with apparent impunity does not prove that in other healthy persons such anacidity might not give rise to a progressive cachexia, for it is a well-known fact that many individuals bear with impunity want of functional activity in various organs. Furthermore, it has frequently been observed that in various diseases (notably phthisis) the patient remains in fairly good condition until gastric anacidity develops, when they promptly show a marked cachectic condition, which usually runs a fatal course. It cannot, therefore, be doubted that in certain individuals gastric anacidity is the chief etiological factor in the development of a cachexia. This is further proven by the results of treatment in such persons, for if measures directed toward the gastric condition are instituted, and as the result free hydrochloric and lactic appear in the stomach, the cachexia usually promptly disappears. It is not intended to assert that the obscure class of cases here considered always appear in connection with gastric anacidity, but to point out the fact that at least in some of them this is the case, and to invite further observations along this line.

**Etiology and Specific Therapy of Hay-fever.**—Dunbar reviews the history of hay-fever and his previous experiments with the various pollens. Many clinical facts show that this disease is to be in no way considered as a nervous coryza, as has been thought by many. In susceptible persons it occurs only at a specified time of the year, even invariably beginning on a definite day. This fact alone differentiates it from all other known forms of coryza, and definitely proves that some other cause than the neurotic must be assigned for its development. Experimental research with the pollens has shown that a toxin may be extracted therefrom which is evidently albuminoid in nature, and which, when instilled in minute quantities into the eyes of persons susceptible to hay-fever regularly produces the characteristic symptoms of this disease. There are also other substances contained in the pollens, which may be extracted therefrom, and which possess the properties of an enzyme, but these are not at all specific, and when instilled as above never produce the symptoms of hay-fever. By the successive inoculations of the pollen-toxin into horses it has been found possible to produce a serum in them which when added in vitro to the toxin will absolutely neutralize it. Furthermore it will dispel the symptoms arising from the instillation of the toxin into the eyes of susceptible persons. The amount of the serum necessary to do this varies directly with the period of time which is allowed to elapse between the instillation of the toxin and the application of the serum. If this period is very short, one or two drops of an efficient serum cause an almost immediate disappearance of all the subjective symptoms. If, however, the period is long and chemosis has appeared, the frequent application of the serum becomes necessary. The author's experience with the serum has been thus far entirely experimental—that is, he has treated no ordinary cases of hay-fever therewith, but has only used it in laboratory experiments in which the symptoms alleviated were produced by the instillation of pollen toxin. Others have, however, used it in ordinary attacks of hay-fever with marked success, and the clinical evidence of its utility is daily increasing. It has been proposed to use the serum hypodermically instead of locally, and it is behind that so used it will dispel the symptoms produced by the instillation of the toxin. Its hypodermic use is, however, attended by disagreeable symptoms (swelling, etc.) at the site of inoculation, and hence at present the local instillation is to be regarded as preferable. Further research, it is hoped, may result in the production of a serum which gives rise to no irritation at the site of inoculation.

*French and Italian Journals.*

**Dermoid Cyst of the Nose.**—W. Dubreuilh reports a case in a child of seven years. According to Lannelongue and Menard, dermoid cysts of the nose are primarily congenital fistulæ which become cysts only by temporary obliteration of their orifice. They admit, however, that they are formed by the inclusion of the ectoderm in the dorsal groove. The diagnosis of nasal dermoid cysts is not difficult. They are characterized by their orifice, from which they project hairs, and from which there is always a whitish exudate formed of corneal cells easily recognized by a microscopic examination. Extirpation is the only treatment. It is sometimes difficult on account of adhesion of the cyst to the skin; in the author's case there was inclusion within the bone without adhesion.—*Journal de Médecine de Bordeaux*, June 28, 1903.

**The Anti-pertussis Serum of Leuriaux.**—Victor Jacques reports a number of cases in which injections of this serum were made to overcome the attacks of coughing in pertussis. In nearly all of them the attacks were reduced after five or six days to one or two in twenty-four hours, following one injection of the serum. Not only the number but the intensity of the coughing spells were diminished. In cases treated from the onset, recovery appeared complete in from ten to fifteen days. In a few cases in which the action of the remedy appeared to be slow, a second injection was administered. The serum does not induce a rise of temperature as a rule; if any occur it is slight. Five times out of twenty-eight cases, urticaria followed the injection, but the pertussis was cured nevertheless. The serum does not increase the number of white corpuscles.—*Bulletin de la Société Royale des Sciences Médicales et Naturelles de Bruxelles*, May, 1903.

**Chloroform in the Treatment of Tænia.**—Celestino Carratù holds that chloroform is the best medicament in the case of tænia because of its easy administration and its certain posology; because it is perfectly tolerated and is absolutely innocuous, so that if necessary it can be repeated within two or three days. Its efficacy is equal to that of any other remedy, it is inexpensive and simple to use, because the patient does not have to undergo any form of preliminary treatment. The dosage is six grams of chloroform to sixty of simple syrup, taken fasting in three or four doses of a teaspoonful each every hour and a half, followed by a purgative dose of castor oil about an hour after the last dose of chloroform. This is the maximum amount needed; sometimes three or four grams will be sufficient, and the intervals between doses may be two hours.—*Giornale Medico del Regio Esercito*, Vol. LI, Nos. 3, 4, 5, 1903.

**The Hysterical Eye.**—M. A. Trousseau states that in cases in which it is difficult to decide whether the patient is suffering from a cerebral or medullary lesion, or merely from a traumatic neurosis, an examination of the eye frequently clears the diagnosis. Hysterical amblyopia is frequent; it is characterized by a weakening of central vision, which does not go below ½ to ⅓; the visual field while contracting preserves its normal form, and there is perversion of the color sense which is subject to definite laws. The power to see colors disappears in the following

order: violet, green, red, orange, yellow. Blue is the last to go. When the disease improves, blue reappears first, then yellow, orange, red, and finally violet. This form of amblyopia is absolutely characteristic of hysteria, since it is found in no other affection. If hemianæsthesia exist, there may be anæsthesia of the palpebral and bulbar conjunctiva, and even of the cornea. More or less marked photophobia, attacks of ophthalmic migraine, pains in the pupil, orbit, and back of the neck while working are often the accompaniments of hysteria. There may be contractures of the intrinsic and extrinsic muscles. Trophic or vascular troubles consist in œdema, sweating, hemorrhages or ecchymoses of the eyelids, chromidrosis or a blue coloration of the integument, or more rarely ecchymoses of the conjunctiva, hypersecretion of tears, or even tears of blood if a conjunctival hemorrhage coexist with lacrymation.—*Le Bulletin Médical*, June 27, 1903.

**Splenomegaly in Acquired Syphilis.**—Nicola Sorrentino concludes, from his investigations, that during the primary period of infection the spleen as a rule remains normal. It is only during the latter part of the second period of incubation, or during the manifestation of prodromal symptoms, or during the period of involvement of the lymphatic glands or of the skin, that the spleen becomes appreciable. Splenomegaly in syphilitic infection is the manifestation of infection of the whole organism, and has therefore the same clinical significance as general involvement of the lymphatic glands. It is almost a constant manifestation of the first months of the second stage. As the disease progresses, the enlargement of the spleen diminishes, this being due to the attenuation brought about by time and by special treatment. The almost constant presence of enlarged spleen in the first part of the second stage may serve as a means of diagnosis when other symptoms are lacking.—*Giornale Internasionale delle Scienze Mediche*, June 30, 1903.

*The American Journal of the Medical Sciences, July*, 1903.

**The Lymphatic System and the Tonsils.**—Henry L. Swain believes that the practical deduction from his study of this subject is not to give free rein to indiscriminate attempts at removal of tonsils first, second, or third, nor is it to let them alone. The practical point is in operating, to be thorough, and that to remember when it is done, we have some tonsillar tissue left. Immunity is not conferred by operation, only less liability to infection and disease. There is a broad field for progressive work along the lines of strengthening the bulwarks which nature has erected.

**A Xiphosternal Crunching Sound.**—Myer Solis-Cohen has observed this sound in six patients out of 492 cases, or one and one-fifth per cent. This sound is superficial, and may be compared to the sound of a boot treading on soft snow. It is heard over the lower end of the sternum and a little to the left of it. The exact area varies, as well as the intensity, and occasionally slightly, the position, but never the character. It is not influenced by exercise, respiration or pressure. In every case the heart was enlarged and the cardiac sounds were weak and of poor quality. Retraction of the interspaces was noted in three cases. The pulse averaged about 82. The blood count was normal, practically, the hæmoglobin about 85 per cent. The sputum was negative. The cause of this sound can only be conjectured till more work has been done on the subject.

**Hiccough, Report of a Case.**—L. W. Atlee, after discussing the etiology of hiccough, states that owing to the great variety of conditions which may give rise to hiccough, the treatment found successful, has been of the most extreme diversity. When a case proves rebellious to remedies directed only to the correction of the apparent cause of the hiccough, resort may be had to medicines of a purely antispasmodic character. Chloral is the most effective, and should be given in full dose. When gastric irritation is largely the factor in its production, counterirritation to the epigastrium is of the greatest benefit. The diet should be very simple. Violent emotion has been known to stop hiccough. When it is due to sudden large losses of fluid from the body by hemorrhage, or in Asiatic cholera, it is relieved by its restitution through the introduction of normal saline solution.

**The Indications for Operative Intervention in Middle-ear Suppuration.**—Barton H. Potts reviews the symptoms indicating operation in many cases of chronic suppurative otitis media: Profuse and long-continued discharge is suggestive, but not diagnostic, of antrum or mastoid involvement. The fluctuating swelling over the mastoid is diagnostic when present, but its absence does not contraindicate operation. Œdema behind the auricle is more apt to be due to furuncle. Tenderness over the mastoid, especially in the region of the antrum, is of great significance whenever present, especially if it is persistent; but this may be doubtful or absent if the outer table is much sclerosed. The inflamed, tender, and bulging upper and posterior canal wall, is one of the most important signs of all, and its non-relief by treatment is a sure indication for operation. A sinus, whatever its location, leading into the mastoid is a positive indication. Facial palsy is of interest, but not important. Epileptiform attacks are unusual, but indicate possible cerebral pressure. Marked and rapid failure of health is more apt to be found in adults than in children. The temperature is more apt to be elevated in children than in adults. The rapid fluctuation of temperature through a range of several degrees is the most important sign in cases of pyæmia. The slow and steady pulse, out of proportion to the elevation of temperature, irregularity or sluggishness of pupils, rapid failure of health, rigors or convulsions, are signs of intracranial pressure. Tenderness and œdema over the occipital are very apt to be present when the sinus is thrombosed. Bacteriological examinations are not positive, but important.

**Histological Character and Diagnosis of Malignant Neoplasms of the Digestive Organs and Peritoneum.**—John G. Hemmeter declares that it is a characteristic of malignant tumors that cells of other types than the original are never involved in the growth. In the diagnosis, first the anatomical properties should be considered; second, the topographical; third, the distribution of the various tissue types in the tumor, and fourth, the properties and peculiarities of the cells. The most reliable criterion of malignancy is the metastases. In examining sections of neoplasms of the gastrointestinal tract, the muscularis mucosæ is, as a rule, an important landmark. Any proliferation of epithelial cells around a gastric ulcer, for instance, which has extended downward along the peptic ducts and broken through the "muscularis mucosæ," the writer is in the habit of considering malignant. The most difficult histological diagnosis of stomach tumors has been encountered in deciding between chronic hyperplastic gastritis and scirrhus. The proliferation of the great majority of cancers in the digestive tract starts from the surface, cylindrical, or columnar epithelium, or from the gland cell. All observations of mitosis have reliable value only when made on faultless material. All malignant tumors show an especial tendency toward disintegration, and especially cancers, which are situated on the surface, almost always form ulcers. Although the diagnosis of the two forms of tumors, cancers and sarcomas can be formed with tolerable certainty, the malignancy of complex tumors is exceedingly uncertain, and only to be diagnosed from the anatomical picture when its malignancy has already become manifest, that is, when real metastases have been developed. It is well known that the human gastric or peptic ulcer may become transformed into an adenocarcinoma apparently spontaneously. A structural characteristic of the adenocarcinoma which has developed on the basis of a gastric ulcer consists in an oblique ascension of the fibers of the true muscular layer, and a descension of the fibers of the muscularis mucosæ, the fibers of both muscular layers converging toward and fusing into each other in front of the edge of the ulcer, which is here composed mainly of connective tissue. A section made perpendicular to the surface of the stomach, and through the entire bed of the ulcer, almost invariably exhibits the general outline of a fish-hook. The writer believes that we are justified in concluding that any gastric adenocarcinoma presenting these striking features, has been developed on the basis of a pre-existing gastric ulcer.

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**Why Minor Gynecological Operations Fail to Give Anticipated Results.**—Sigmund Goldberg first defines a minor gynecological operation as one which does not involve the opening of the peritoneal cavity. To be of any permanent benefit, he says, it must be performed within at least one year from time of the infliction of the original lesion. After the passage of about a year, either Alexander's operation, trachelorrhaphy, or curettage, or all combined, will be insufficient to restore the patient to perfect health. The reason for such failure in the great majority of such cases, after one year, is that the adnexa are sure to be involved. The best course will be to do some operative procedure intraabdominally, and not by the internal inguinal ring puncture of Goldspohn, but by free incision, so that the exact condition can be ascertained and properly treated, and this the author holds to be the proper procedure, rather than to depend upon the uncertainty of physical palpation.—*Buffalo Medical Journal.*

of the palate, deduced from the examination of many dead skulls; and to Alkan's work of a similar nature from measurements of living subjects; and commented on the peculiarities of the relation of shape of skull to palatal arch, in different races; and noted also, that upon examination of many children with and without adenoids (or other nasal obstruction) the former were found to have uniformly a higher arched palate than the latter; and noted also that anomalies in the position of first or deciduous teeth are frequent in those having deformities of the palate, and may be due to the latter condition. Dr. Swain found that in Flathead Indians, who deformed, by depression of vertex, the heads of their children, the arch of palate was very low (though the septum was not affected), showing that outside influences tending to alter the shape of the skull can and do affect the palate. He said that deformities of the arch were due, not to any *one*, but to many and complex factors. The nose, in these cases, is usually a non-functionating organ; in the new-born babe the level of palate is above that of the eustachian tube; at puberty below it, and, consequently, the palate has grown down, away from the base of the skull, this being due to the downward growth of the superior maxilla, the septum and the pterygoid process of the sphenoid bone. From improper, or no functional activity of the nose, this downward growth may be stopped; and, perhaps, because the nasal obstruction prevents the proper aeration of the maxillary sciences, the lack of air causing non-development or atrophy. The author also called attention to the added weight of the cheeks and inferior maxilla, dragging on the outer part of the superior maxilla when the mouth was constantly open and relaxed, thus tending to pull the sides together and narrow the arch. He also noted the dental fact that the shape of the adult palate, as well as the alignment of the permanent teeth, depends largely upon the preservation of the first or milk teeth as long as possible. When noting the great results in adults of the comparatively slight force used by dentists in straightening teeth and spreading them apart, Dr. Swain thought it reasonable to grant that the forces mentioned in his paper, when acting upon young, soft, and pliant bones, might easily be sufficient to cause the deformities found in these cases. Summarizing his paper, the author noted particularly: (1) That outside artificial deforming forces acting on the skull may alter the palate. (2) That when such forces do act on the skull and palate, the septum seems to accommodate itself to the altered conditions. (3) When the superior maxilla fails to descend, a bent septum is likely to result, just as it is when the palate is much narrowed and so arched up laterally. (4) Importance of lack of proper aeration of maxillary sinuses due to nasal obstruction. (5) Importance of preservation of first or deciduous teeth as long as possible.

Dr. DELAVAN of New York commended Dr. Swain's paper, especially for its calling attention again to the old idea of the importance of the first teeth, and of nasal obstruction; the moral being that attention, and early attention, should be given to those two things in every young child.

Dr. BROWN of Toronto, speaking of the examination of skulls, said that of many which he had examined he found only 50 per cent. normal or approximately so.

Dr. MAYER of New York said that he thought the reason that the teeth seemed to have such influence upon the shape of the palate was on account of their weight. That is, the borders of the maxillary bone are the heaviest parts, and when the weight of the teeth is added to them, the combined weight would surely be an important factor in influencing the shape of the palate.

Dr. MAKNEN of Philadelphia called attention to the great importance of nasal breathing, and referred to the estimate made by some observers, that 70 per cent. of all people breathe through the mouth at night, even when there is no obstruction to nasal breathing.

Dr. SIMPSON of New York asked Dr. Swain if he had noticed any influence upon the palate from nursing or from the constant use of a rubber nipple, when not actually nursing. He also referred to the habit of mouth-breathing during active exertion. Mouth-breathing at night not due to nasal obstruction he thought due to position, viz., lying upon the back.

Dr. KING of New Orleans said that while he had not made any definite measurements in the negro, he had observed that deformities of the palate and adenoids were not so frequent as in whites. That adenoids, when present, were not often associated with palatal deformities; and that the palate, as a rule, was larger, and the postnasal space more roomy; and so, when adenoids were present, they did not cause so much obstruction.

Dr. Swain, in closing the discussion, said that he had not observed any influence of nursing, or the use of the artificial nipple upon the growth of the palate. In reference to the negroes, he thought that, as negroes usually have such good teeth, perhaps their first teeth last longer and thus help in the production of a normal palate.

**Acquired Cicatricial Deformities in the Respiratory Tract, Due to Other Causes than Syphilis and Traumatism.**—Dr. G. HUDSON MAKUEN of Philadelphia read this paper. He said that deformities of this character were rare. He had sent a circular letter to 300 laryngologists, asking for information and data, and had received notes of 447 cases, in only 167 of which, however, was a definite cause assignable with certainty. Of these 16 per cent. were due to diphtheria, 8 per cent. to scarlatina, 3 per cent. to lupus, 1.6 per cent. to tuberculosis, 1.5 per cent. to a combination of scarlatina and diphtheria, 1.1 per cent. to typhoid fever, and .5 per cent. to measles. The author gave histories of two cases of his own, and argued that, in these common acute infectious diseases, more care and attention should be given to the throat and nose.

Dr. FARLOW of Boston said, in discussion, that while diphtheria might cause moderate adhesions between the tonsil and the pillars of the fauces, or between the pillars and the posterior pharyngeal wall, he did not believe that it could cause very extensive adhesions or contractions. He had never seen such a case. He thought that in many of those cases the history was defective, and that the cause was probably syphilis.

Dr. MAYER of New York noted that the cases were all in this country; that typhus was a common cause of such conditions, and was a common disease in some foreign countries, and very rare in this country. He thought if foreign statistics were included, that the number of cases would appear much greater.

Dr. THEISEN of Albany reported two cases of laryngeal cicatricial stenosis, one following typhoid fever, and one following a severe attack of influenza.

Dr. BROWN of Toronto reported one case of tuberculous origin.

In connection with the following papers on sinus disease, Dr. GEO. B. WOOD of Philadelphia gave, by invitation of the council, an exhibition of head sections of a six-months old child which were beautifully made and mounted, and were of special interest in showing the size and location of the accessory sinuses in a child of that age.

**Improvements in the Radical Treatment of Chronic Suppurations of the Accessory Cavities of the Nose.**—Dr. H. LUC of Paris read this paper. He considered, in order, the maxillary, frontal, ethmoid, and sphenoid sinuses.

I. Maxillary Sinus.—He stated first that radical surgical treatment was to be strictly limited to the chronic forms. He noted the distinction to be made between two classes of cases; first, the properly so-called sinusitis, with a primary infection of its mucous membrane; and second, cases in which the pus does not originate in the sinus, but merely accumulates there, coming from a frontal or dental abscess. In latter cases washing out may effect definite cure, in connection with proper treatment of the source

(frontal or dental inflammation). In former class of cases, puncture and washing should be tried first, and if unsuccessful, should be followed by operation. As to operation Dr. Luc advised an extensive bony resection—first of the anterior wall of antrum making a temporary opening into mouth; and second of internal lateral (or nasal) wall to make a permanent opening into nose, the latter including the ablation of the greater part of the inferior and middle turbinated bones.

II. Frontal Sinus.—Dr. Luc referred to the Ogston-Luc operation, and spoke of the frequent poor results from it, in cases of very large sinuses, due to the closing of the nasal drainage opening before the cavity of the sinus is healed up. This unpleasant result had caused many to go back to old method of leaving the wound open, or to use the Kuhnt operation of resection of whole of the anterior wall, with its consequent great deformity. Dr. Luc recommended and now uses the Killian operation, a combination of the Ogston-Luc with the Kuhnt and Jansen operations, getting the immediate closure of the wound and nasal drainage of the Ogston-Luc; the opening in floor of sinus of Jansen's; and the removal of a part of the anterior wall of Kuhnt's method; but preserving a bony bridge between the two openings, which reduces the deformity, and extending the inferior bony opening to the ascending part of the maxillary bone, giving opportunity to enlarge the fronto-nasal opening, and also giving access to the ethmoid cells. Dr. Luc recommended this for cases of large sinus and the Ogston-Luc for cases of small sinus.

III. Ethmoid Cells.—These, the author said, were practically never involved alone, but always in connection with frontal or maxillary suppuration. They may be attacked through the nose, or as a sequel to operation on frontal or maxillary sinus. Dr. Luc stated that it was impossible completely to destroy the ethmoid labyrinth through the nose, as the *anterior* cells cannot be reached without making an external bony opening. But may do a good deal intranasally as a preliminary step to further operation from without. Dr. Luc had abandoned all nasal curettes as too small and weak, and used a special type of forceps, large and strong and flattened to pass readily into the narrow middle meatus. For the intranasal part of the operation the author advised first clearing out any myxomatous tissue in middle meatus; then removal of the middle turbinated; then attack with his curette-forceps upon the ethmoid cells, this being done under cocaine and adrenalin. Externally he recommended the Killian, or the Caldwell-Luc operation. In one case, intranasally, he opened into the sphenoid sinus, but this did no harm, and suggested a direct method of attacking that sinus, as he has done since then.

IV. Sphenoid Sinus.—Here Dr. Luc said that we could operate by intranasal route, or by external method through the maxillary sinus—always the former if the sphenoid sinus alone is affected and there is room in the nose—(or if not room, if we can make room); the latter if the maxillary sinus is also affected, or if we cannot get room in the nose in which to work. If only the middle turbinated bone and the ethmoid cells are in the way, remove them and enter sphenoid sinus through ethmoid region, as mentioned in speaking of ethmoid operation. The author noted that it was important to remove a large part of the anterior wall of the sinus.

**Diseases and Treatment of the Sphenoidal Cells, with Report of Case.**—Dr. ROBERT C. MYLES of New York read this paper. He first showed a number of instruments, made with a projecting flange or shoulder as a safety device, for operations on sphenoidal and ethmoid cells, and also some special forceps. He called special attention to the frequent irregularities and anomalies of size and position of the sphenoidal cells, and showed a very fine wet specimen, with sphenopalatine and internal carotid arteries injected, the former crossing the field of operation, the latter lying close against the very thin inner wall of the sinus. Dr. Myles said that he considered disease of the sphenoid cells much more common than usually reported. He advised the removal of posterior end of middle turbinated, when necessary, as a diagnostic measure; and when diagnosis is made advised making a free opening in anterior-superior wall of the sinus, 10 to 15 mm. in diameter, and close to the septum. Dr. Myles reported several cases, in one of which there was violent secondary hemorrhage nine and fifteen days after operation; from which case Dr. Myles thought that all these cases thus operated upon should remain under close observation for at least three weeks after operation.

**Observations on the Diagnosis of Nasal Sinusitis.**—Dr. WALTER J. FREEMAN of Philadelphia read this paper. He noted the frequent failure of the transillumination test for disease of the maxillary sinus, and called attention to the fact that when only one antrum was affected it was usually on the narrower or more obstructed side of the nose. In regard to the frontal sinus, he mentioned the usual train of symptoms, but gave special weight to the appearance of pus in the upper angle of the vestibule, claiming, that when persistent, this was practically pathognomonic. In inflammations o maxillary sinus, acute or chronic, the author considered pus flowing over the upper surface of posterior end of inferior turbinated as the surest and most frequent sign. He also claimed that an intermittent cacosmia was a frequent and valuable sign. If any of the molar or bicuspid teeth were capped, or were at all discolored, they should be very carefully examined. The author claimed to be able to wash out the maxillary antrum in most cases through the natural opening, and showed a slender, hard rubber cannula for that purpose. As to ethmoid disease, he expressed great skepticism as to the frequency of its occurrence, and the number of cases reported, and thought that most of them were undiscovered cases of antrum, frontal or sphenoidal suppuration. As to the sphenoid sinus, the author seemed to think that, excepting by process of exclusion, or by opening the sinus by an external operation, a definite diagnosis was impracticable or impossible.

Dr. BRYAN of Washington, in discussion of papers on the sinuses, spoke of the frequent anomalies, and showed a specimen, in which the sphenoid sinus was very large, and extended far down into the pterygoid process of sphenoid bone. He also expressed disapproval of the maxillary route for operation on sphenoid sinus.

Dr. MAYER of New York claimed that it was very seldom that the maxillary sinus could be washed out through the natural opening, but that it must be punctured—a very simple matter. He thought the antrum route to the sphenoid sinus was the best one, and would be *the* operation of the future.

Dr. HARRIS of New York spoke of the use of the Ogston-Luc, and the Killian operations, and strongly commended the latter. He also spoke of the puncture of the antrum as a routine procedure for diagnostic purposes as well as to wash out the sinus.

Dr. KING of New Orleans said that for most cases he considered the Caldwell-Luc operation the best for frontal sinus cases, but spoke of the occasional recurrence, due to closure of the nasal drainage opening, before the complete healing of the sinus cavity. He objected to the Kuhnt operation, on account of the great deformity resulting therefrom. He reported one or two cases done by the Kuhnt-Luc combination operation, with good results, and called attention to the frequent temporary infraorbital neuralgia following the Caldwell-Luc operation.

Dr. GLEITSMANN of New York spoke of a case of secondary hemorrhage, apropos of Dr. Myles' case, and said that he used liquid vaselin to loosen up the packing in all cases, thereby he thought lessening the tendency to hemorrhage. He also spoke of the distance to which

an instrument must be passed into the anterior nares in order to reach the sphenoidal sinus or its posterior wall. He found it very variable, in some cases 3½ to 4 inches, in others 5½ to 5¾ inches. He also mentioned the fact that in acute cases the anterior wall was not eroded, but in chronic cases it usually was eroded.

Dr. BRYAN of Washington asked Dr. Luc if he had found that the wound, *i. e.* the opening made between the maxillary sinus and the sphenoidal sinus, tended to close.

Dr. LUC, replied that he had not noted that fact especially, but felt that it did not. He said that he had not found any great difficulty in working through the floor of the frontal sinus. That the object of the operation was to obliterate the cavity of the sinus, and that often it was a choice between complete success in that point, and a considerable degree of deformity—as, *e. g.* in the Killian or Kuhnt operation. But if necessary, we must choose the latter. He said that the uprising of the fatty tissue of the orbit through the wound in the floor of the sinus (roof of orbit) helped to obliterate the cavity and reduce the deformity. As to drainage opening into the nose, it must be large enough to allow the finger to go *up* through the nose into the cavity of the sinus. He had not observed any cases of neuralgia, as noted by Dr. King, but had seen a number of cases of anæsthesia of a small area.

**Complete Removal of Left Vocal Cord for Malignant Disease; Presentation of the Patient.**—Dr. WALTER F. CHAPPELL of New York reported a case as described in above title. In January, 1901, the larynx was much infiltrated, with a small red growth on anterior end of left cord. In October, 1901, the case was operated upon, with tracheotomy, and thyrotomy, and total removal of left vocal cord and immediately adjacent infiltrated tissue. There was good recovery, and there has been no recurrence to date. The author urged early diagnosis and early operation by thyrotomy with radical removal.

**Perichondritis of the Larynx Following Typhoid Fever, with Report of a Case.**—Dr. EMIL MAYER of New York read this paper (see p. 130.)

Dr. DELAVAN of New York said that the condition was a rare one, and in about 94 per cent. of the cases was fatal. He felt that the general consensus of opinion was that dilatation was usually not successful, and that the use of the O'Dwyer tubes was the only rational treatment. He called attention to the importance of thorough cleansing of the upper air passages in typhoid fever; and said that while this measure might not prevent the occurrence of the laryngeal complications, it was the proper thing to do in order to try to attain that result.

Dr. SIMPSON of New York advised the introduction of the tubes, under ether, as in that case we could use a larger tube, and could probably use the O'Dwyer tube and not have to use a Schrotter tube.

Dr. SWAIN of New Haven referred to a case, which occurred before the present use of intubation, in which there was a double adductor paralysis. The patient died, and at the necropsy the whole of the cricoid cartilage was found necrosed.

**(a) Early Appearance of Paralysis of the Vocal Cords in a Case of Mediastinal Tumor. (b) A Case of Sarcoma of the Nasopharynx.**—Dr. WILLIAM K. SIMPSON of New York gave histories in detail of two cases as above.

In the first case, after following the course of the case for several months, noting particularly the progress of the paralysis of the cords, the aphonia and the cough, ending in the death of the patient, the author gave the findings at the necropsy; these being a large cancerous mass involving the mediastinal glands and completely filling the posterior mediastinum; carcinoma of the left lung; carcinoma of retroperitoneal glands, and an area of acute lobar pneumonia in left lung. He presented the case to put on record an instance of complete bilateral paralysis of the vocal cords, which is the rarest form of laryngeal paralysis; to emphasize the early appearances of laryngeal paralysis as an indication of intrathoracic pressure, which is often observed in unilateral paralysis, and often antedates any positive physical signs in the chest; and to note the difficulty in exactly defining the lesion in such cases, even when autopsy has shown it to be extensive.

(*b*) In the case of sarcoma of the nasopharynx the patient was twenty-seven years of age; there was a large mass nearly filling the nasopharynx, bleeding easily and looking like an ordinary adenoid growth; it gave no symptoms excepting moderate obstruction to nasal breathing and some ear symptoms in one ear, which later cleared up under local treatment, the patient for a time refusing to have the growth in the nasopharynx removed. Later he suffered from frequent and copious nasal hemorrhages and consented to operation. The growth was removed in January, 1903, by curette, under cocaine and adrenalin, with very little hemorrhage at time of operation. There had been no recurrence to date, and the patient's general health was much improved.

Dr. THEISEN of Albany spoke of a patient, with adductor paralysis and dyspnœa, upon whom he did a tracheotomy for relief of the dyspnœa. A radiograph was taken, and from that and from the other symptoms, a diagnosis was made of aneurysm. On autopsy a large mass of glands was found behind and pressing on the trachea, and both the recurrent laryngeal and pneumogastric nerves were involved in it.

**Notes on Cases of Nasal Sarcoma, with Exhibition of Pathological Specimens and Micrographs.**—Dr. J. PRICE-BROWN of Toronto read this paper. He detailed several cases of from one and a half to eight years' standing without recurrence. He advised removal of these growths by snare, when they were pedunculated; and by snare electric or cold, and forceps and scissors, when sessile, taking it out piecemeal and at many sittings if necessary, rather than doing an open external operation, which caused such deformity. He found the hemorrhage severe in all the cases, but fairly well controlled by adrenalin; and had had no secondary hemorrhage. Urged *early* diagnosis and operation, because then could operate easily intranasally, and also, of course, have less chance of recurrence.

**Additional Notes upon the Treatment of Nasopharyngeal Fibroma.**—Dr. D. BRYSON DELAVAN of New York read this paper. He called attention to the high rate of mortality which has attended the formidable methods of the older surgeons for the removal of these growths, and presented an extensive series of cases to prove the superiority of operation through the natural passages. His statistics showed that the mortality rate of such preliminary operations as resections of the superior maxilla, and of the nose, and the like, was very high, while removal through the natural passages, by such methods as evulsion, or cold snare, or electrolysis, galvanocautery snare, or electrolysis followed by snare, gave brilliant results. A brief summary of 135 cases was as follows:

| Fibroma. | Total Cases. | Cured. | Died. | Recurred. |
|---|---|---|---|---|
| Preliminary operation | 27 | 10<br>59.25 per ct. | 7<br>25.9 per ct. | 4<br>15.4 per ct. |
| Evulsion or snare through nat'l passages | 41 | 39<br>95 per ct. | 2<br>5 per ct. | 0<br>0 |
| Electrical methods through nat'l passages | 66 | 66<br>100 per ct. | 0<br> | 0<br> |

He noted the excellent work done in this field by the late Dr. Rufus P. Lincoln, and by Dr. E. Fletcher Ingals of Chicago. He also spoke of the unreliability of the published records of the various hospitals in regard to these cases, the Royal Infirmary of Edinburgh being the only institution in the world whose histories had been of any value in compiling his work. He expressed satisfaction that such a master of modern surgery as McBurney had spoken with open approval of the newer methods, and predicted that removal by preliminary operation would soon become obsolete.

**A Method of Rapid Extirpation of Nasopharyngeal Fibromata, with Report of Cases.**—Dr. GORDON KING of New Orleans read this paper. He had found that these growths continued to increase up to twenty-five or thirty years of age, and then generally atrophied. He had noted that ignipuncture, *x*-rays, and other methods of trying to make the tumor shrink up, were unavailing, and felt that radical and complete extirpation was the only satisfactory plan.

The author spoke of three special difficulties in operating: (1) That of getting at the tumor; (2) hemorrhage during operation; (3) suffocative pneumonia. He made his examinations digitally. If the growth was pedunculated, the operation was a simple one—merely snare it off. If sessile, he then operates with finger in the nasopharynx, as a guide, and passed long, strong scissors through the nose, cutting out the mass with them. The hemorrhage, though troublesome, and sometimes dangerous, during the operation, was readily controlled by pressure, and when once stopped did not tend to recur. He advised preliminary tracheotomy. Several cases were reported illustrating the method.

**The Removal of Cicatricial Contraction, or Obstruction of the Nose, by the Subcutaneous Plastic Method.**—Dr. JOHN O. ROE of Rochester read this paper, and demonstrated several of the delicate operations by means of plates, and showed a number of special instruments. He said that such contractions of the anterior nasal opening were common, resulting from ulcerations, of an acute inflammatory nature, from syphilis, from lupus, smallpox, etc. Internally, they were usually due to acute inflammations or ulcers, or frequently secondary to intranasal operations. In connection with the last mentioned cause, he urged great care, when operating, not to wound two opposite surfaces, and advised never to operate on both walls of one side of the nose at the same time. He spoke of the usual methods of treatment, by stretching or plugging for obstructions of the anterior orifice, and by nerve division and separation for internal adhesions, and said he had found them generally unsatisfactory. For obstructions of anterior opening of nose, the author used a crescentic incision, denuding the surface of the contracted or filled in portion, leaving the skin attached at one end as a long flap; then after excising the mass in the angle of the nostril, used the flap to cover in the raw surface thus exposed, or as much of it as the flap could cover, leaving the balance to granulate.

**(a) Facial Neuralgia Due to Disease in Nose and Antrum. (b) Immediate Tracheotomy for Foreign Body, with Comments.**—Dr. W. PEYRE PORCHER of Charleston read this paper. He called attention to the fact that, in very few instances, had any connection been observed, claimed, or proved between facial neuralgia and conditions in the nose. He claimed that it is really the rule rather than the exception, in these cases, that the neuralgia is a reflex neurosis due to pressure or inflammation in the nose or antrum; and deprecated the many extensive operations on the nerve trunks, and also on the teeth, when generally relief of the difficulty in the nose or antrum would cure the neuralgia. Dr. Porcher then detailed several cases with the usual train of symptoms, in which operations in the nose, relieving pressure and obstruction, stopped the neuralgia. He also reported an interesting case of foreign body in the larynx with immediate tracheotomy, and recovery. The foreign body was a small green pine burr in the larynx of a child eight months old. After unavailing efforts to extract it from above, the burr fell through into the trachea, from which it was extracted by tracheotomy. The child wore the tube for three weeks, and then made a perfect recovery.

Dr. ROE of Rochester spoke of a case of neuralgia with the pain all referred to the cheek; a large spur on the septum was found and removed, with prompt cure of the neuralgia. He reported another case in which there had been a blow on the side of the face, and drainage to antrum wall. After healing of the wound a marked facial neuralgia persisted. Upon exploration a spicule of bone was found projecting into the antrum, which was removed; and then the neuralgia ceased.

The following papers were read by title:

"Bony Cyst of the Antrum; Report of a Case," by Dr. Cornelius G. Coakley of New York.

"Removal of Nasopharyngeal Tumor; Report of Case, and Description of a New Instrument for the Operation," by Dr. E. Fletcher Ingals of Chicago.

"A Case of Gangrene of the Tonsil," by Dr. Charles W. Richardson of Washington.

"Nasal Polypi; a Study of 145 Cases," by Dr. J. Payson Clark of Boston.

"Congenital Laryngeal Stridor," by Dr. James E. Newcomb of New York (see page 127.)

"A Study of Certain Acute Inflammations at the Base of the Tongue," by Dr. Alexander W. MacCoy of Philadelphia.

"Medical Treatment of Adenoids," by Dr. William C. Glasgow of St. Louis.

**New Members.**—At the executive session of the association the following new members were elected: To corresponding fellowship, A. Anodi, Budapest; P. McBride, Edinburgh; Herbert Tilley, London. To active fellowship: Thomas J. Harris, New York; Clement F. Theisen, Albany; Francis R. Packard, Philadelphia; W. Scott Renner, Buffalo; William Lincoln, Cleveland.

**Officers.**—The following officers were elected for the ensuing year: *President*, J. H. Hartman, Philadelphia; *Vice-President*, J. H. Lowman, Cleveland; *Second Vice-President*, W. P. Porcher, Charleston, S. C.; *Secretary and Treasurer*, James E. Newcomb, New York; *Librarian*, J. H. Bryan, Washington; *Member of Council*, Jonathan Wright, Brooklyn.

The next meeting will be held at Atlantic City.

## NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting, Held May 21, 1903.*

CHARLES L. DANA, M.D., VICE-PRESIDENT, IN THE CHAIR.

**Symposium on Puerperal Infection.**—This was the subject for the evening, the meeting being in charge of the Section on Obstetrics and Gynecology.

**Historical Review.**—Dr. BROOKS H. WELLS presented this opening paper. He said that the fatal fever which so often took the life of the young mother in ages past, had been attributed to various causes, such as the sinister influence of an offended deity or a mysterious atmospheric influence. The first dawn of truth occurred on February 13, 1843, when there was read before the Boston Society for Medical Improvement, and in April of the same year, appeared in the *New England Quarterly Journal of Medicine and Surgery*, an essay by Oliver Wendell Holmes, who had been recently appointed professor of anatomy and physiology in Harvard College. It was bitterly assailed by the so-called authorities of the time. His initial proposition was that the disease known as puerperal fever is so far contagious as to be frequently carried from patient to patient by physicians and nurses. He defended this with a mass of evidence just as unimpeachable now as when he placed it before his alarmed and hostile audience on that February evening. In 1847 Ignatz Semmelweiss, a young assistant physician in the large Vienna clinic, became imbued with the idea of the identity of puerperal infection and the surgical affection then termed pyæmia. He felt that many of the cases were due to infection carried by the students from the autopsy rooms to the maternity wards. This idea marked an enormous stride in advance, for it was a matter of history that after the attempt had been made to destroy the decomposing organic matters on the hands of the attendants the mortality fell lower than ever before in the history of the institution. However, this new doctrine was received with derision and

apathy just as in the case of Holmes's epoch-making and brilliant essay. Now, we knew that puerperal fever was always puerperal infection, and that with rare exceptions this infection was by the hands or instruments of midwife, nurse, physician, or the patient herself. We could not shift our responsibility by the excuse, autoinfection, since there was practically an absence of pathogenic organisms in the secretions of the birth canal. The speaker said that the object of this introduction was to bring forward a picture which would enable all to realize the great advance that had been made in obstetrics, and also to afford an opportunity for each practitioner to ask himself the question whether the marvelous reduction of the mortality from puerperal infection secured in well appointed lying-in institutions had been paralleled in private practice. To our shame it must be said, No, emphatically, no. The vital statistics of this city showed that of the reported deaths one per cent. of the entire number was from puerperal causes—in other words, one woman in twenty-five of those in the child-bearing period died from some puerperal cause, and by far the greatest cause was infection.

**Pathology and Prophylaxis.**—Dr. J. CLIFTON EDGAR read this paper. He said that endometritis was the most common lesion in cases of puerperal infection, but it was possible for the endometritis to start from a vaginitis. The two principal varieties of endometritis were septic and putrid, though there was a third variety called mixed infection about which there was yet much to be learned. It was worthy of note that in some fatal cases of puerperal infection there were no macroscopical evidences of such infection. Two illustrative cases were reported, in one of which, although no local treatment whatever had been adopted and death had not occurred until the thirteenth day after a full-term delivery, the endometrium appeared normal.

With regard to prophylaxis the speaker said that it was most important to treat during pregnancy all constitutional conditions tending to impair the general health. The antepartum tub bath must be condemned because it favored infection, not only of the birth canal but of the nipples. The necessity for great personal cleanliness on the part of the physician and nurse was insisted upon, and the value of wearing sterile rubber gloves was pointed out. The limitation of internal examinations was of special importance if the physician had recently been in attendance upon contagious or suppurative cases. With proper asepsis the danger of infection from such examinations was minimized, but it still existed, and the physician should endeavor to acquire such familiarity with abdominal palpation and the clinical history of labor that there would be no necessity for frequent examinations. In normal cases one careful examination early in the first stage, and another after the rupture of the membranes, should be sufficient for an experienced obstetrician. In many cases it was easy to conduct a normal labor without any internal examination. While one could not speak enthusiastically concerning the effect of antistreptococcus serum, it could not be denied that there was a possibility that the future would give us an effective antidote against puerperal infection.

**Intravascular Antisepsis.**—Dr. CHARLES C. BARROWS presented a clinical paper on this subject. He said that the treatment of puerperal infection should be based upon the same general principles as underlie general wound infection. It was self-evident that the source of the infection should if possible be cut off, and that free drainage should be promptly established and maintained. It has been estimated that from 6 to 10 per cent. of all deaths in women of the child-bearing age were due to puerperal infection, and hence, the medical profession was on the alert for any remedy which held out hope of improving these statistics. Dr. J. Whitridge Williams in 1899, in a report to the American Gynecological Society on the treatment of puerperal infection with antistreptococcus serum, stated that out of 101 cases of undoubted streptococcic infection, thirty-three died. The streptococcus pyogenes was the organism most commonly present in the fatal forms.

In the treatment of cases of general infection he believed intravascular antisepsis was likely to yield better results than had been obtained in the past. The idea of such medication was by no means new. Many years ago, while serving on the western plains as a medical officer in the army, he had had experience with intravenous injection of a solution of permanganate of potash in cases of bite from the rattlesnake, and this experience was responsible for the idea that intravascular antisepsis might prove successful in these desperate cases of puerperal infection. On January 13, 1903, he had reported to the New York Obstetrical Society a case of puerperal infection that had been successfully treated by injections of a 1 to 5,000 solution of formaldehyde. This communication, and the experiments by Drs. W. H. Park and W. A. Payne, reported to the New York Pathological Society on February 11, had attracted wide attention. The last two authors concluded that injections of weak solutions of formaldehyde were not only useless but positively dangerous. As to the danger of employing solutions of formaldehyde, such as the speaker had himself suggested, he said he would refer to the brilliant work of Maguire of London, who had been employing much stronger solutions of formaldehyde for years in the treatment of tuberculosis without any untoward results. Dr. Barrows said that in his own experience no injury had been done to the blood, and the convalescence had been unusually rapid and satisfactory. Certain alarming symptoms had been reported, but as such symptoms were not uncommonly observed in connection with the intravenous injection of normal salt-solution it did not follow that these symptoms were attributable to the use of the formalin. His own method was to make use of a solution of formalin in normal salt-solution, injecting it into a superficial vein while at a temperature of 100° F. The ordinary technique of the intravenous injection of saline solution should be observed. He had a series of fourteen cases treated by this method. The histories of four of them were detailed, of which the following is a fair specimen: The case was proved by bacteriological examination to be a streptococcic infection. On coming under observation, about ten days after confinement, the pulse was 150, respirations 39 and the temperature 105° F., and the abdomen was greatly distended. An intravenous infusion of 650 c.c. of a 1 to 5,000 solution of formalin was given. This was followed by a chill and a rise of temperature. but the temperature quickly fell again, and in twelve hours the temperature was 100° F., the pulse 90 and the respirations 24, and the whole aspect of the case had changed for the better. Twenty-four hours after the infusion the temperature reached the normal. Convalescence was exceedingly rapid and satisfactory, and several examinations showed no abnormality of the blood. All of the cases represented a profound type of puerperal sepsis, and they had been previously treated unsuccessfully by the approved methods. He believed a careful study of these cases would show that all of the patients appeared to be rapidly approaching dissolution at the time of instituting this treatment. The rapid improvement in their condition following the infusions, and the negative findings of microscopical examinations of the blood should at least set at rest the question as to the possible harm from such injections. He had hoped to be able to secure a series of control cases in which only salt-solution was used, but his professional work had been suddenly arrested by an accident to himself, so that this portion of the study was at present incomplete. Sajous had suggested that the good results obtained from the formalin injections were to be explained by the stimulating action of the formalin on

the adrenal system. In conclusion, Dr. Barrows said he did not wish to stand as the champion of the single chemical agent which had given such satisfaction in his own hands, but he hoped these suggestions would stimulate others to work along these lines and in a field until now practically wholly unexplored.

**Iodine Treatment.**—Dr. WILLIAM R. PRYOR discussed this topic. He said that it must be recognized that, with very rare exceptions, puerperal sepsis was a type of lymphangitis. The mortality was due to the propagation of the septic germs in points remote from the uterus. The local lesions were insignificant in comparison with those produced in remote organs. Great as was the mortality from this affection, the morbidity was sufficient to call for the most earnest attention of the profession. Impressed with the futility of performing a radical vaginal or abdominal operation for this condition, he had, in 1895, begun curetting the uterus, opening the cul-de-sac and packing both with iodoform gauze. He was soon struck with the fact that even in the worst cases there was nothing to drain away except serum, and yet the results of the treatment were perfect. He then began the examination of the uterine discharges, most of the bacteriological examinations being made by Dr. F. M. Jeffries. The cases operated on numbered thirty-seven, and only one of these gave no streptococci in the uterus, and yet even in this case they were found free in the pelvis. In all the other cases streptococci were found in both situations. In all of the cases but one he had been unable to find any streptococci at the second dressing and none after that time. This sterilization had been effected by the use of massive iodoform dressings. When iodoform was brought in contact with a serous membrane it at once gave up its iodine, and it was this which sterilized the pelvis. A sudden fall in the temperature and pulse rate uniformily followed the operation already alluded to, and in order to ascertain whether the treatment actually exerted a constitutional effect the urine was examined and it was found that a strong iodine reaction was present in the urine in five hours, and often considerably earlier. This threw light upon the possible effect of the treatment on the destructive processes taking place at remote points. Not only was the mortality under this treatment much less than with any other, but the morbidity was also decidedly less.

**Surgical Treatment.**—Dr. HERMAN J. BOLDT discussed this phase of the subject. Abscesses should be opened freely, he said, as soon as their presence was recognized, and the cavity packed with sterile gauze or gauze impregnated with some non-toxic medicament. The indiscriminate curetting, which was unfortunately being done even now to a large extent in puerperal women having a slight elevation of temperature or a chill, could not be too severely condemned. He had seen a number of deaths which could be reasonably attributed more or less directly to that procedure. The chills occurring after curettage could usually be ascribed to it. Extirpation of the uterus should only be considered in those grave instances in which the infection seemed to be limited to the uterus, and no other treatment was likely to be of avail; in other words, in the gravest forms of puerperal infection. In the reported cases of cure from hysterectomy he had been struck with the fact that they did not bear a critical analysis. We could not say from an examination of the secretions or of the blood that the patient was positively suffering from a definite and limited form of sepsis. Even if the uterus alone seemed to be the source of infection this would not invariably indicate that this organ must be removed to save the patient's life. This he would insist upon because he had known patients presenting such a condition saved without such a grave and radical operative procedure. His experience was that chills were absent in about one-third of the cases of puerperal sepsis; hence, although the symptom was one of importance it was not absolutely reliable as an indication of puerperal infection, even though followed by elevation of temperature and a rapid pulse. It was upon the continuance of such symptoms that the diagnosis of puerperal infection was based. It was very difficult to find a correct indication for surgical intervention, especially for an operation like hysterectomy. The shock from the abdominal operation was much greater than from the operation done by the vaginal route. In his experience it had been impossible to secure definite information from a bacteriological examination in less than twenty-four to forty-eight hours, but this involved the loss of too much precious time. There were instances of puerperal infection in which hysterectomy was indicated, as, for example, when there were decomposing substances in the uterus which could not be removed by the natural channels. Such cases were extremely rare, and he had not personally met with a single instance of this kind. The operation was indicated in cases of septic phlebitis, also in cases of sloughing fibromata. Women who had had criminal abortion performed upon them were most apt to suffer from the acute form of infection.

**The Danger of the Curette.**—Dr. EGBERT H. GRANDIN opened the general discussion. He said that those who had been fortunate enough to witness the phases of treatment that had arisen within the last quarter of a century would agree with him that the line of progress had been in the direction of prophylaxis. He did not think that we had acquired much more definite information with regard to the treatment of these conditions than those who practised twenty-five years ago had; on the contrary, he was thoroughly satisfied that since that time many of us, himself included, had done much harm by the surgical treatment. He had seen the time when the mortality from puerperal sepsis varied from 15 to 30 per cent., and when in hospital practice it was reduced to 0.25 per cent. This result was not obtained through the use of the knife, however, but by prophylactic measures. It occurred to him that we were not careful enough to differentiate the types of puerperal infection before beginning treatment. Sapræmia, the type of puerperal infection due to the presence within the uterus of a decomposing body, should rarely be fatal if not needlessly interfered with. In 1886, in this very room, he had read a paper before the Medical Society of the County of New York on the use of the curette. The report of the paper was widely circulated, and he now believed that this had resulted in much harm and many deaths. His present belief was that the curette should not be used in cases in which he had recommended this operation at that time, *i.e.* in that form of puerperal infection resulting from the presence in the uterus of decomposing secundines. This change of opinion had been brought about by the fact that he saw many cases in which the protecting wall against general infection had been broken down by the curette. In this class of cases the uterus was usually open, and the curette was not needed because under anæsthesia the hand alone would accomplish all that the curette should do, and could be employed without the risk attendant upon the employment of the curette. This sapræmia would remain a local condition unless by needless resort to such surgery the infection were disseminated throughout the uterus. Moreover he did not believe that in these cases the irrigation of the uterus was of any service whatever. Each irrigation carried with it the risk of new infection by the introduction of outside organisms, as, for example, the streptococcus.

**Future Possibilities.**—He had been deeply impressed with the papers presented by Drs. Barrows and Pryor. The formalin injections had certainly yielded marvelous results in Dr. Barrows' hands, and Dr. Pryor's use of iodoform had likewise yielded remarkably good results. We had all seen cases of the streptococcus type, or mixed infection, recover without either method of treatment, and yet he was willing to admit that it was probably

along the line of Dr. Barrows' suggestion that we would be able to cope with the only type of puerperal infection he feared, *i.e.* streptococcus infection. Of course, as complications arose they would be met. If pus were present in the uterus, one would naturally clean the uterus; if abscesses were found in the pelvis, these would be opened. He believed no living person could tell him when hysterectomy was indicated in puerperal infection. He had been guilty of doing hysterectomy twice, but the time when this operation should be of service was too early for us to decide as to whether or not the disease was strictly local. If the infection were general the removal of the uterus was about as logical as cutting off the woman's head.

**Saline Infusions Successful.**—Dr. H. C. Coe said that the point made here, that it was impossible to give an absolute prognosis, was only too true. He would be very glad if we could find some chemical agent which would prove inimical to the streptococcus without injuring the patient, but, to his mind, the line of investigation should be rather in the direction of looking for an antitoxic treatment. He could match Dr. Barrows' cases with six cases of severe puerperal infection that had been carried to a successful issue under intravenous injections of normal salt-solution. One of these patients presented all the appearances of one who was moribund, nevertheless recovery took place under this simple treatment. He had never yet seen a case of *acute* puerperal endometritis—say ten days or two weeks after delivery—in which he could feel that the infection was confined to the uterus.

Dr. H. N. Vineberg said that, no matter how careful the attending physician might be in a given case, sepsis might arise, and this fact should be squarely met. There was a tendency at the present day for the attending physician to shut his eyes to the possibility of sepsis, to avoid taking the temperature for a few days, and to try to conceal the disease until its severity became so great that he was compelled to do something—usually, at this stage, to call in a consultant. This suggested that there should be a revision of our teaching on this point. Every puerperal patient having a temperature over 100° F. should be looked upon as one of possible puerperal infection, and should consequently receive prompt and careful attention. He did not have the same fear of the curette that had been expressed by some of the speakers this evening. It was not always easy to get into the uterus with the finger even when there was considerable placental tissue remaining in the uterus. He was glad to see that Dr. Boldt had taken such a safe and conservative position with regard to the operative treatment. He would not think of subjecting the patient to operation unless she had been under his personal observation for three or four days. It must be admitted that in a certain percentage of the cases one could determine whether or not the infection was local or general, and consequently whether it was advisable to resort to hysterectomy.

Dr. Benjamin Torrens reported six cases of puerperal sepsis in all of which the presence of streptococci had been demonstrated in the discharge from the cul-de-sac incision. Four of the cases were treated by the cul-de-sac incision, irrigations of the uterus with saline solution and packing of the pelvis with iodoform gauze. All six patients recovered, and two subsequently became pregnant and went to full term.

Dr. S. W. S. Toms of Nyack called attention to the excellent results obtained in puerperal sepsis in the old days at Bellevue Hospital by Dr. Alonzo Clark's opium treatment. The statistics presented this evening seemed to him not to differ materially from the statistics of those times.

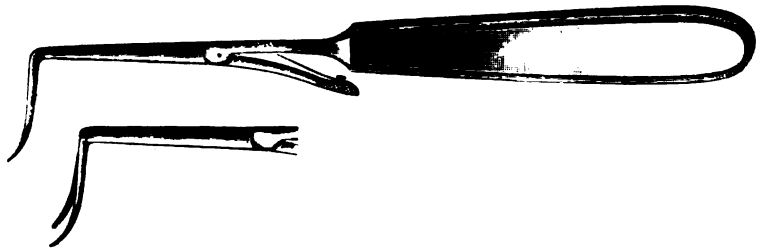
# New Instruments.

## LIGATURE AND SUTURE CARRIER.

By JOHN W. KEEFE, M.D.,

VISITING SURGEON TO RHODE ISLAND AND ST. JOSEPH'S HOSPITALS, PROVIDENCE, R. I.

This ligature carrier has the following advantages: The handle may be firmly grasped, insuring a more ready and accurate entrance into the tissues at the point desired. Either the forefinger or the thumb may be used to open the blades of the instrument to allow the placing of the ligature between the blades. The instrument can also be made with sharp points, and used to introduce sutures in the repair of the perineum immediately following labor, as well as in hernia and other operations.



The instrument is superior to ligature carriers with scissor handles on account of the perfect control of the instrument to be obtained at all times. It is made with long or short blades, the short blade instrument being suitable for the majority of cases. The long blade instrument may be used when working at a great depth, and for such cases the shank of the instrument is made longer.

The instrument may be used as both a suture and a ligature carrier. It is made by George L. Claflin & Co., of Providence.

# Books Received.

Diseases and Injuries of the Eye. By George Lawson. Sixth Edition, 8vo, 587 pages. Illustrated. G. B. Putnam & Son. Price, $6.00.

On Syphonage and Hydraulic Pressure in Large Intestines. By Ralph W. Leftwich, M.D. 12mo, 80 pages. William Wood & Company, New York. Price, $1.00 net.

Protozoa and Disease. By J. Jackson Clarke, M.D. 8vo, 177 pages. Illustrated. William Wood & Company, New York. Price, $2.50 net.

Tumors, Innocent and Malignant. By J. Bland-Sutton. Third Edition, 8vo, 556 pages. Illustrated. W. T. Keener & Co., Chicago.

A Reference Handbook of the Medical Sciences. By various writers. Edited by Albert H. Buck, M.D. Volume VI, 4to, 1004 pages, highly illustrated. William Wood & Company, New York.

Uric Acid as a Factor in the Causation of Disease. By Alexander Haig, M.D. Sixth Edition, 8vo, 947 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia. Price, $3.50 net.

Essai sur la Psycho-Physiologie des Monstres Humains. Par N. Vaschide et Cl. Vurpas. 12mo. 294 pages. Illustrated. Librarie Scientifique et Litteraire, Paris.

La Nature Syphilitique et la Curabilité du Tabes et de la Paralysie Générale. Par L. E. Leredde. 8vo, 141 pages. C. Naud, Paris.

Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Second Series, Volume VIII., 4to, 894 pages.

The Medical Attendance of Londoners. By Sir Henry Burdett, K.C.B., 8vo, 20 pages. The Scientific Press, Ltd., London. Price, $1.

Die Rekto-Romanoskopie auf Anatomisch-Physiologischer Grundlage. Von Prof. Dr. Julius Schreiber. 4to, 130 pages. Illustrated. August Hirschwald, Berlin.

Progressive Medicine, Volume II. Edited by Hobart Amory Hare, M.D., and H. R. M. Landis, M.D. 8vo, 437 pages. Illustrated. Lea Brothers & Co., Philadelphia.

Disease of the Pancreas; Its Cause and Nature. By Eugene L. Opie, M.D. 8vo, 359 pages. Illustrated. J. B. Lippincott Co., Philadelphia, Pa. Price, $3.00.

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending July 18, 1903:

| | Cases. | Deaths. |
|---|---|---|
| Measles | 356 | 14 |
| Diphtheria and croup | 257 | 43 |
| Scarlet fever | 117 | 11 |
| Smallpox | .. | .. |
| Varicella | 59 | .. |
| Tuberculosis | 293 | 114 |
| Typhoid fever | 78 | 16 |
| Cerebrospinal meningitis | .. | .. |

**A Reminiscence of a Country Doctor.**—A few weeks after receiving my authority to enter into the realm of pills and powders, I stepped forth, armed with the required knowledge in the Healing Art, and filled with energy and ambition, with two goals in front of me—to startle the world with my skill, and to get rich—and pitched my tent in a small town and became that well-known, burden-bearing, long-suffering, but indispensable animal known as the Country Doctor. I had many ups and downs, triumphs and defeats, and many hardships, rarely mixed with ease and comfort.

One day, in the month of January, there was a deep snow on, the wind was blowing, it seemed from every direction, and the thermometer registered 10° below zero. I mounted "Quinine" Jim, my faithful broncho, and buttoning my mantle around me, I started on a ten-mile ride in the country, to see a patient whom I had visited the day before. Just as Jim was shaking the snow of the village from his feet, I was overhauled by a man who rode in a gallop and informed that my services were urgently needed about ten miles from the village in an opposite direction. This man, whose name was "Pink," informed me that his brother's wife was extremely ill, and he also informed me that I should be amply paid in the "coin of the realm" as soon as the services were rendered. It is needless to say that the last statement he made was the most important one; in fact, he soon had my undivided attention, because there is nothing that shortens the miles in the country physician's imagination, on a cold day, as the jingle of the guinea, at the nether end of his journey. The other patient not being dangerously sick, I concluded to give *him* a *chance*, and, turning my horse's head, I started with my friend "Pink." As is usually the case, I could not elicit anything from him as to the nature of the illness—in fact, about the only two things he seemed to realize was, that he was breathing his proportional part of the Lord's atmosphere, and that his name was "Pink." Thinking, from the meagre information I obtained, that it was a condition within the usual category of disease, I did not waste any further time, and after a two hours' ride over hills, up streams, and down hollows, I at last arrived on the scene where my patient lived—and it was also the scene where I buried many of my illusions and kid-glove dreams of the pleasures of practising medicine. I found, to my surprise and consternation, that it was a case of obstetrics ("Pink" had informed me that it was not). Imagine my condition! Oh! ye gods! without chloroform, obstetrical instruments of any kind, or even my kodak to take the baby's picture! Among my first cases of obstetrics, and a case of transverse presentation, some of ye disciples of Esculapius, who are now sitting in your office with your chair tilted to a comfortable angle, how would you like to exchange places with me on this occasion? I found three midwives (croakers of the worst type) around the bed, having exhausted their skill (?), and waiting for the patient to die. She had been in actual labor about thirty-six hours and was completely exhausted I was soon convinced that nothing but version could accomplish the desired result—and version was about the newest word in my vocabulary—perform cephalic or podalic version! I could hardly spell the names at that time, but among the faculties it has always been my good fortune to possess, is cool-headedness, and having some of the technique in mind (and the time occupied in getting consultation being the time which would decide the issue) I felt perfectly justified—in fact, felt it my imperative duty—to make the attempt. Disinfect your hands, did you say? Draw a picture, if you can, of the lowest hovel you have ever entered, not merely humble from poverty (for which I have the greatest respect), but a shiftless, filthy, unkept, and unkempt cabin. Not a chair to sit upon, only one bed, the clothing of which reeks with the dirt of years, the floors covered with the mud of months, no towels, no soap, no wash basin, no hot water, if you can draw this picture—which is true to life of the situation I describe—you will wonder how I sterilized my hands and arms. What this worthless individual (the patient's husband) had failed to provide, nature had in some measure made provision for, viz., a small brook flowed by the cabin, the water of which, had but recently filtered through the rocks and stratas of mother earth, and with some carbolized soap, which I fortunately had in my pocket, together with a clean handkerchief, I completed my process of disinfecting (?), and proceeded to relieve my patient. My old friends—the midwives—stood by in open-mouthed wonder when they saw what I intended to do, and from significant glances and whispers I could readily discern that they were pretty sure what the result would be—and after what she had already endured I was not very sanguine of a successful issue myself. And I also knew that from them the mildest verdict I could expect would be murder! After two long hours, which seemed almost as many days, I succeeded in changing the condition and made a head presentation of it. I then gave some large doses of quinine for the flagging pains, and in another two hours I had the satisfaction of delivering a real, live baby. In a few minutes I had also delivered the placenta, and then came in for the greatest ovation ever accorded me in my life, viz., from the three old midwives, whose admiration knew no bounds, and they took turn about, slapping me on the back, and declaring that I was the greatest doctor that ever lived! After another hour, during which time I expected hemorrhage or convulsions, and leaving my patient in as good condition as the surrounding circumstances would permit, I had "Quinine" Jim brought around (Jim, like myself, looked lean from lack of food), and proceeded to take my departure. The husband of the patient was well pleased with the services I had rendered and realized that I had saved his wife's life. Waiting a few minutes for him to proffer me the wherewithal, I at last introduced the subject myself and informed him that his brother "Pink" had informed me that I would receive my fee as soon as the services were rendered—had this been simply a case of poverty, I would not have mentioned the matter, but being one of those shiftless, worthless individuals, I did not feel like encouraging him in this way by allowing him to impose on me. I knew that it was not charity in any sense of the word, and felt, in this instance, that in the language of the Good Book, the "Laborer was worthy of his hire." Did this Son of Ham pay me? Not a "red"! He informed me that his brother "Pink" had prevaricated and that he did not have one dollar. Was I mad? I called for "Pink" in my best modulated tones, intending to inveigle him a short distance from the house, and vent my spleen on him, and gently tell him, among other things, the punishment meted out to the liar! in accordance with the teachings of "Dante's Inferno." In fact, it would have been a rather interesting event in "Pink's" career, but he outgeneraled me. He was no doubt aware that the question of his veracity was being discussed out in the yard, and he accordingly hied himself into the sheltering presence of the sick room, where there could, of course, be

no disturbance, and when I gently and affectionately pronounced his name, he merely put his red head out of the window and nodded it negatively. It was such a comical scene that I was really more amused than angered, and, of course, seeing now no prospects of any compensation for my services, I decided to encourage this serio-comedy a little further, and to that end I asked the husband if he was aware that I was a notary public, and as such, I had the authority to administer an oath. He did not know that I was. I informed him that such was the case, and I also asked him if he knew the penalty of swearing a falsehood. He did. I accordingly, with all the solemnity I could command, administered an ironclad oath to him, the purport of which was that he would pay my fee—according to promise—in monthly instalments. And it is needless to say that I have never seen him from that day to this. After he took this oath (which was "To support the Constitution of U. S." among other clauses) I mounted my steed and proceeded homeward. I do not think that ride shall ever fade from my memory. Cold, tired, hungry, sick and discouraged, and during that homeward journey I resolved that I would never practice medicine another day. Arriving home about dusk, I turned out my jaded horse, fed him and told him that we would bid adieu to our honorable calling and thus make room for some one more worthy, and, on my way from the stable to my boarding-house I bid an affectionate farewell to my faithful saddle-bags and gently tossed them over the garden fence. I informed the folks at my boarding-house of my resolution, and after numerous solicitations from my landlady to eat some supper, which I was too sick—from hunger—to do, I retired to my lonely couch to think and dream of the hopelessness of suffering humanity now that I had retired forever from the practice of medicine. So might my career have ended as a physician, but for the restorative effects of ten hours in the arms of Morpheus, and the fact that my landlady having espied my saddle-bags in the garden, stealthily placed them so that when I awoke my eyes rested, first, upon them, as though I had placed them there as usual. These two facts, perhaps, prevented me from carrying out my resolution. For it is a part of this reminiscence to say that I arose from my couch, shook off the discouragement of the previous evening, forgot my resolution, saddled "Quinine" Jim, and started on my usual rounds.

B. Cliff Wilson, M.D.

Powellsville, Ohio.

**Quarantine Regulations of the United States for Leprosy.**—Vessels arriving at quarantine with leprosy on board shall not be granted pratique until the leper with his or her baggage has been removed from the vessel to the quarantine station. No alien leper shall be landed. If a leper is an alien passenger and the vessel is from a foreign port, action will be taken as provided by the immigration laws and regulations of the United States. And to this end the case shall be certified as a leper and reported to the nearest commissioner of immigration. If a leper is an alien and a member of the crew and the vessel is from a foreign port, said leper shall be detained at the quarantine at the vessel's expense until taken aboard by the same vessel when outward bound. Such cases of leprosy should be promptly reported to the Collector of Customs at the port of arrival of the vessel, and the Collector shall exact a bond from the vessel for the reshipment of the said alien leper upon the departure of the vessel.

**The Hay-fever Pollen.**—Professor Dunbar of Hamburg, claims to have discovered in the pollen of flowers the poison which causes hay fever, and also its antidote.

**A Physician's Will.**—In his last will Dr. Ladislaus Jasinski, a leading physician of Lemberg, Galicia, bequeathed $65,000 to a fund for assisting widows of doctors, and ordained at the same time that not more than eight shillings ($2) should be spent on his funeral. His numerous orders and medals of distinction he had given away the day before his death to a hostler and a postman.—*New York Tribune.*

**Health Report.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended July 18, 1903:

SMALLPOX—UNITED STATES.

| | | CASES. | DEATHS. |
|---|---|---|---|
| Alabama, Mobile | July 4–11 | 2 | . |
| California, San Francisco | June 28–July 5 | 3 | .. |
| Georgia, Atlanta | July 1–8 | 1 | .. |
| Illinois, Chicago | July 4–11 | 4 | .. |
| Indiana, Kokomo | July 4–11 | 2 | .. |
| Louisiana, New Orleans | July 4–11 | 2 | .. |
| Maine, Port Kent and vicinity | July 10–14 | 24 | .. |
| Massachusetts, Fall River | July 4–11 | 15 | .. |
| New Bedford | July 4–11 | 2 | .. |
| Taunton | July 4–11 | 2 | .. |
| Michigan, Detroit | July 4–11 | 11 | .. |
| Port Huron | July 4–11 | 3 | .. |
| New Jersey, Camden | July 4–11 | 1 | .. |
| New Hampshire, Manchester | July 4–11 | 3 | .. |
| New York, New York | July 4–11 | 1 | .. |
| Ohio, Cincinnati | July 3–10 | 2 | .. |
| Cleveland | July 4–11 | 1 | .. |
| East Liverpool | June 1–30 | 6 | .. |
| Hamilton | July 4–11 | 4 | 2 |
| Toledo | July 4–11 | 2 | .. |
| Pennsylvania, McKeesport | July 4–11 | .. | 1 |
| Philadelphia | July 4–11 | 54 | 11 |
| Pittsburg | July 4–11 | 47 | 2 |
| South Carolina, Charleston | July 4–11 | 4 | .. |
| Tennesee, Memphis | July 4–11 | 2 | .. |
| Nashville | July 4–11 | 3 | .. |
| Utah, Salt Lake City | June 27–July 4 | 3 | 1 case imported. |
| Salt Lake City | July 4–11 | 5 | .. |
| Wisconsin, Milwaukee | June 27–July 4 | 6 | .. |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Austria, Prague | June 13–20 | 6 | .. |
| Belgium, Brussels | June 20–27 | .. | 3 |
| Brazil, Pernambuco | May 8–31 | 11 | .. |
| Canary Islands, Las Palmas | June 13–27 | 10 | .. |
| Colombia, Bocas del Toro | June 23–30 | 8 | 1 |
| Ecuador, Guayaquil | June 20–27 | .. | 1 |
| France, Marseilles | May 1–31 | .. | 32 |
| Marseilles | June 1–30 | 19 | .. |
| Rouen | May 1–31 | .. | 3 |
| Great Britain, Birmingham | June 20–27 | 4 | .. |
| Dublin | June 20–27 | 9 | 2 |
| Dundee | June 13–20 | 2 | .. |
| Leeds | June 27–July 4 | 4 | .. |
| Liverpool | To July 4 | 28 | 4 |
| Manchester | June 20–27 | 10 | .. |
| New Castle on Tyne | June 13–27 | 9 | .. |
| Nottingham | June 20–27 | 4 | .. |
| Sheffield | June 13–20 | 1 | .. |
| Southampton | June 13–20 | 1 | case from S. S. *St. Paul*, from New York. |
| India, Bombay | June 9–16 | .. | 27 |
| Calcutta | June 6–13 | .. | 2 |
| Mexico, City of Mexico | June 14–27 | 29 | 20 |
| Russia, St. Petersburg | June 20–27 | 11 | 3 |
| Warsaw | June 6–13 | 2 | .. |
| Spain, Barcelona | June 13–20 | .. | 7 |
| Turkey, Constantinople | June 21–28 | .. | 1 |

YELLOW FEVER.

| | | | |
|---|---|---|---|
| Colombia, Panama | June 20–July 6 | 6 | 2 |
| Costa Rica, Limon | June 24–July 2 | 7 | 1 |
| Cuba, Havana | July 14 | 1 | death, patient taken from S. S. *Vigilancia* from Progreso. |
| Mexico, Progreso | June 21–July 5 | 2 | .. |
| Tampico | June 27–July 4 | 28 | .. |

PLAGUE—INSULAR.

| | | | |
|---|---|---|---|
| Hawaii, Honolulu | July 3 | .. | 1 |

PLAGUE—FOREIGN.

| | | | |
|---|---|---|---|
| Australia, Queensland, Brisbane | May 9–30 | 2 | 2 |
| Bundaberg | May 16–23 | 1 | 1 |
| Western Australia, Freemantle | June 10 | 1 | .. |
| Egypt, Alexandria | June 6–13 | 4 | 2 |
| Beni Mazar | June 6–13 | 2 | .. |
| Port Said | June 6–13 | 1 | 1 |
| Tukh | June 6–13 | 8 | 2 |
| Samalut | June 6–13 | 2 | 2 |
| India, Bombay | June 9–16 | .. | 186 |
| Calcutta | June 6–13 | .. | 15 |
| Karachi | June 7–14 | 15 | 13 |
| Mauritius | June 4–11 | .. | 2 |
| Japan, Nagasaki | May 27 | .. | 1 |
| Yokohama | June 6–13 | 3 | 2 |

CHOLERA.

| | | | |
|---|---|---|---|
| India, Calcutta | June 9–16 | .. | 45 |
| Madras | June 6–12 | 1 | 1 |
| Straits Settlements, Singapore | May 16–30 | .. | 20 |

# Medical Record

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## CHRONIC POSTDIPHTHERITIC LARYNGEAL STENOSIS AS A CAUSE OF PERSISTENT INTUBATION OF THE LARYNX.*

BY HENRY W. E. BERG, M.D.,
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WHEN intubation of the larynx was proposed and initiated by Dr. O'Dwyer for acute stenosis of the larynx in diphtheria, the object in view was to render the larynx an open tube for the short period during which a stenosis produced by the diphtheritic or other inflammatory process closed or narrowed the lumen of the laryngeal canal. This period rarely exceeded seven days. It was found by experience that after this comparatively limited period of time, the removal of the tube was followed, for a few hours, by some difficulty in breathing, which rapidly subsided and was evidently due to spasm of the glottis, or slight temporary disability of the vocal cords. Both of these conditions soon disappeared, and the fortunate little patient had been saved from the frightful death by asphyxiation.

With the introduction of the antitoxin treatment, this average period of seven days for wearing of the tube was reduced to about four days, the conditions which had caused the stenosis being favorably and more rapidly influenced by the antitoxin treatment.

Cases, however, occurred in which the removal of the tube was followed in a few minutes, or hours, or days by a return of the stenosis, so severe that reintubation was necessary. In these cases the removal of the tube after two days or thereabouts was followed by a cure of the stenosis. Exceptional cases again required reintubation, to be followed in a few days by extubation and cure. Still an occasional case required reintubation frequently, until finally the physician was forced to the conception that the stenosis was no longer due to the causes which necessitated the first insertion of the tube, and which were dependent upon and the pathological result of the diphtheritic process, but that more or less permanent pathological changes had occurred in the glottis, larynx and trachea which had narrowed the lumen of the respiratory canal, producing a chronic stenosis requiring prolonged or persistent intubation. Some cases, too, occurred which a day or two or more after the primary intubation would cough up the tube. In many of these such autoextubation followed upon the disappearance of the false membrane, and diminution of the swelling and œdema of the laryngeal mucous membrane and glottis, and left the patient able to breathe without the tube. In a few cases, however, such autoextubation, instead of leaving the patient *freed* from urgent dyspnœa, was followed almost immediately by such foudroyant symptoms of stenosis that the tube had to be rapidly reinserted. In many of these cases the autoextubation occurred so frequently, and was so rapidly followed by urgent dyspnœa that a larger tube than the age called for was inserted, or the configuration of the tube was changed, rendering the autoextubation more difficult. Such cases thus become cases requiring persistent intubation of the larynx; although in these cases, as contradistinguished from those referred to above, the condition was not a chronic laryngeal stenosis but, as I shall show, a chronic laryngeal paralysis, the condition being due to paralysis of the vocal cords. For purposes of systematic consideration I should, therefore, divide cases of persistent intubation of the larynx, or, as O'Dwyer called them, "cases of retained intubation tube" (*Archives of Pediatrics*, 1897), into the following groups:

1. Cases of prolonged stenosis in which the original conditions which necessitated the intubation persist beyond the usual length of time.

2. Cases of prolonged stenosis, due to pathological changes which have arisen during or subsequent to the primary intubation, and are not those of the diphtheritic process which necessitated the primary intubation. Such lesions are due (*a*) to the injurious effect of the intubation tube upon the structures of the glottis, larynx, or trachea; (*b*) to traumatism produced by the operator either during intubation or extubation.

3. Cases of persistent intubation due to paralysis of the vocal cords: (*a*) temporary paralysis or spasm; (*b*) persistent paralysis.

Before considering these different groups of cases, a word as to the frequency of persistent tube cases. I would exclude cases belonging to the first group, in which the reintubations are necessitated by causes temporary in character although more protracted than is usual, and which I prefer to call prolonged or protracted tube cases, in contradistinction to those of the second and third groups, which are properly described as persistent tube cases. Fourteen cases belonging to these two classes occurred in the Willard Parker Hospital, in the diphtheria service, and were treated from December 1, 1900, to April 1, 1903, which Dr. E. G. Bryant, resident physician of the Willard Parker Hospital, who is much interested in these cases, has been kind enough to tabulate, for me (see table on page 162).

I find that we have treated in the hospital, by means of intubation, during 1901, 214 cases with 66 recoveries; 1902, 258 cases with 114 recoveries; 1903, to April 1, 106 cases with 41 recoveries. Total number of intubation cases from January 1, 1901, to April 1, 1903, 578. Total number of recoveries, 221. Total number of persistent tube cases, 17 (13 in Dr. Bryant's table, 1 occurring since and 3 sent out of the hospital by request to be treated outside).

The percentage of recovery is thirty-eight. To those who know the conditions under which intubation cases are sent into the hospital, this will seem a large proportion of recoveries. Many of these cases are intubated outside of the hospital, under adverse conditions, and sent to the hospital when a fatal result, generally from bronchopneumonia, is expected. Frequently, too, cases are not sent in until after the first extubation, when, reintubation becoming necessary, the outlook of prolonged treatment discourages the relatives, and they consent to the removal from the home of a little sufferer whom they were anxious to keep under their own supervision as long as circumstances permitted. It is

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evident that from such material the chronic tube cases are more apt to develop. It has been an interesting point in my inquiry to find that out of the seventeen chronic tube cases reported some were intubated, and some extubated once outside of the hospital by physicians not connected with the Willard Parker Hospital.

The duration of time that the tube was worn in these cases was from two and one-half months in the shortest to eighteen months in the longest. From the length of time these cases wore their tubes they are entitled to be called chronic tube cases. When O'Dwyer reported his first two cases of "retained tube," the condition was looked upon as exceedingly rare. One or two cases a year was all that even so large a service as ours could show in earlier years, notwithstanding the fact that cases came to us intubated outside of the hospital in as large a proportion as at present. This increase in these chronic cases has been noted by other authorities, especially Bokai, *Deutsche medicinische Wochenschrift*, 1895, No. 46; Gesellschaft für Kinderheilkunde, Hamburg, 1901, and "Das Intubationstrauma", *Deutsche Zeitschrift für Chirurgie*, 58, Bd., 1901. He ascribes these chiefly to decubitus, from pressure of the tube, and shows that while under the serum treatment the average duration of wearing of the tube for the relief of stenosis has been diminished from

| Name. | Age. | Date of Admission. | Intubated before, B, or after, A, Admission. | Last Extubation. | Result. | Date. | Date of First Autoextubation. | General Course of Diphtheria. | Complications. |
|---|---|---|---|---|---|---|---|---|---|
| Y. K. | 2½ | Feb. 2, 1901 | B | April 6, 1901 | Discharged | April 18, 1901 | ..... | Mild .. | |
| G. R. | 1½ | April 17, 1901 | B | ..... | Discharged | May 10, 1901 | ..... | Mild .. | |
| J. D. | 4 | May 3, 1901 | B | Oct. 5, 1901 | Discharged | Oct. 12, 1901 | ..... | Mild.. | |
| F. H. | 6½ | June 29, 1901 | A | ..... | ..... | ..... | 21st day..... | Mild .. | Pneumonia. |
| R. R. | 2½ | Aug. 1, 1901 | B | ..... | ..... | ..... | 1st and 19th day | Mild .. | |
| S. F. | 4½ | Oct. 11, 1901 | B | ..... | Died ..... | Feb. 21, 1902 | ..... | Severe | Pneumonia. |
| J. K. | 3 | Nov. 1, 1901 | A | ..... | Died..... | March 31, 1903 | 14th day ..... | Mild .. | Perilaryngeal abscess—autopsy. |
| T. F. | 2½ | Dec. 4, 1901 | A | March 9, 1902 | Discharged | March 20, 1902 | ..... | Severe | Bronchopneumonia. |
| C. O. | 3 | July 2, 1902 | A | ..... | ..... | ..... | ..... | Severe | Bronchopneumonia. |
| B. R. | 5 | May 9, 1902 | B | Aug. 2, 1902 | Discharged | Aug. 8, 1902 | 20th day..... | Mild .. | |
| C. D. | 2 | June 28, 1902 | B | Sept. 10, 1902 | Discharged | Sept. 15, 1902 | 20th day ..... | Severe | |
| F. C. | 2 | Aug. 17, 1902 | B | ..... | Died ..... | Jan. 2, 903 | 11th day ..... | Mild .. | Bronchopneumonia—autopsy. |
| M. D. | 4 | May 18, 1901 | A | ..... | Died ..... | Sept. 23, 1901 | 14th day..... | Severe | Bronchopneumonia. |
| C. S. | | Aug. 10, 1902 | B | ..... | Discharged<br>Readmitted<br>Died..... | Oct. 7, 1902<br>Dec. 5, 1902 | ..... | Severe | Readmitted Dec. 5, 1902. Moribund, with injured larynx produced by intubation; autopsy. |

five days to a little less than three days, and the percentage of recoveries has almost doubled, the cases that die show in a larger proportion severe decubitus. He ascribes this to the fact that only the very severe cases die under the antitoxin treatment, and these are subject especially to severe pressure here. Dr. Gallati considers these chronic tube cases of such importance and increasing frequency that he has written an admirable monograph on the "Decubitus from Intubation Tubes" (Intubationsgeschwur, Wien, 1902). Papers on this subject are being contributed all over the world by authorities connected with large diphtheria services, and these chronic tube cases appear to be especially frequent abroad. There is no question that their frequency has increased, even in this country, yes, even in this city, since O'Dwyer's death. How much has the removal of the conservative influence of O'Dwyer upon physicians and instrument makers who would modify and improve the O'Dwyer tube had to do with the increase in chronic tube cases?

It will be recalled that our classification of persistent tube cases included in the first group cases of prolonged stenosis in which the pathogenetic factors of the stenosis are the same as those which produce the stenosis primarily in any case of membranous croup, such factors in these cases having persisted longer than usual. The chief pathological factors which produce a laryngeal stenosis which requires intubation for its relief are, inflammation and thickening of the mucous membrane of the larynx and upper trachea, the deposit of diphtheritic pseudomembrane on this site, and œdema of the subglottic tissues. Œdema of the glottis itself is seldom a factor in the causation of an intubation, for although it does occur in croup complicating pharyngeal and tonsillar diphtheria, yet its pressure to a sufficient extent to produce closure of the glottis necessitating intubation is generally an indication for tracheotomy, such dyspnœa not being sufficiently relieved by intubation. Cases, however, are frequent in which a moderate œdema of the glottis exists, but not sufficient to become a marked factor in the production of the stenosis. The swelling and thickening of the mucous membrane is the factor which yields most readily to the intubation treatment. Nevertheless, it frequently persists longer than five or six days, the duration of the primary intubation. This, as well as the length of time that the diphtheritic exudate persists, can best be studied in diphtheria of the pharynx, when the process reveals itself *ad oculos*. Since the days of serum-therapy, the swelling and the exudate diminish and disappear very much faster than in the pre-antitoxin period. Indeed, the pseudomembrane disappears so rapidly that frequently by the fourth or fifth day after the injection of antitoxin a pharynx and tonsil that showed a large amount of exudate on admission into the hospital is entirely clear. The exceptional cases are those in which the exudate is not only on the surface, but in the stroma of the mucous membrane. Here the swelling persists until practically the superficial layers of the mucous membrane have exfoliated, or, in exceptional cases, until gangrenous patches of mucous membrane have separated, leaving ulcers which gradually heal. In the larynx, however, the presence of the tube causes a sufficient pressure to aid in the reduction of the swelling, and indeed to aid in the exfoliation of pseudomembrane, and retard the production of new exudate. It is owing to influence of the serum treatment in the exfoliation of the pseudomembrane and the reduction of the swelling of the mucous membrane that the average length of time during which the tube is needed in diphtheritic stenosis has been reduced from five to six days to about three days. I have seen, however, pseudomembrane persist in the throat as long as twenty days without antitoxin, and even under serum treatment have seen membrane persist in the pharynx for twelve days, in private practice, in an exceptional case. I do not know the maximum duration of pseudomembrane in our

hospital cases, under the serum treatment, although in the pre-antitoxin days this question was studied in relation to the efficacy of various kinds of local irrigation. I have said sufficient, however, to show that when the tube is removed on the fifth or sixth day, even under serum treatment, it is often feasible for the persistence of pseudomembrane and mucous swelling to necessitate a reintubation. Such reintubation may not become necessary until an hour has elapsed. In most cases the necessity of a single reintubation is due to this cause, and in rare cases even a third reintubation after two or three days may be due to this cause. I do not think, even in the absence of symptoms of any laryngeal complication, such as I shall recount later, that a reintubation after the eleventh day should be looked upon as necessary, by swelling and pseudomembrane.

Subglottic œdema of the mucous membrane of the larynx immediately underneath the vocal cords is an important factor in the production of laryngeal stenosis, and especially in a persistent stenosis beyond the sixth day. While such subglottic œdema is not the causative factor in the production of the stenosis of such cases as I report in this paper, and to which only I would apply the term of chronic tube cases, yet it is a factor in the causation of prolonged tubage of the larynx in cases which are intubated and reintubated up to the twentieth day. Immediately underneath the vocal cords the mucous membrane is more loosely applied than it is to the rest of the larynx, and the tube itself, owing to its construction and to its position in the larynx, helps to drive the œdematous swelling into the immediate subglottic tissues. The neck of the tube is grasped by the vocal cords above, while the retentive swell of the tube rests immediately above the cricoid, so that the portion of mucous membrane upon which there is least pressure is the subglottic space, if I may so call it. While these three factors, if persisting for too long a time, may necessitate temporary reintubation, it is important to remember that all of them are comparatively short in duration, and while they may cause prolonged tube cases, they are not a factor in the causation of what I have termed "postdiphtheritic laryngeal stenosis," necessitating persistent intubation of the larynx with extubation at intervals, followed by almost immediate reintubation. This class of cases I have placed in the second and third groups. They are characterized by long duration, many months and sometimes several years, depending upon the type of lesion which caused the stenosis. Such lesion may be due to an injurious effect of the tube acting upon the structure of the glottis, larynx or trachea, or it may be produced in the course of the operation of intubation or extubation. To understand how a lesion can be the result of the injurious action of the tube, it will be proper to recall to your attention a few salient points concerning the structure of the O'Dwyer tube and its position in the larynx.

When O'Dwyer first thought of tubing the larynx for the relief of the dyspnœa of membranous laryngitis he had already tried a soft catheter passed through the larynx, and a wire arrangement shaped somewhat like a bivalve speculum. Both of these expedients were discarded as failures. He finally thought of passing a small metal cylindrical tube through the glottis, with a flange over the vocal cords to keep it from dropping into the trachea, to which a string, passed through an eyelet in the tube, was attached. This string was allowed to protrude from the mouth and tied to the ear of the patient. He soon found that such a tube was very readily and frequently coughed out, the patient succumbing to the rapidly supervening dyspnœa. To avoid this, O'Dwyer introduced what is known as the retention swell in the tube. From this swell the tube narrowed to the neck and to the tracheal end, in conformity with the general configuration of the larynx and trachea. The vocal cords grasped the tube at its narrowest part, above; thus the head of the tube, with a slope in conformity with the epiglottis, rested over the vocal cords (true and false). The retention swell rests immediately above the cricoid cartilage, and its diameter is such that if the tube be of the proper size for the age of the patient, it cannot be pushed through the cricoid into the trachea without fracturing the cricoid; so that the tube is prevented from falling into the trachea by the retention swell, and not by the head of the tube above the vocal cords. Indeed, in paralysis of the vocal cords, very slight force would send the head of the tube through the vocal cords if the cricoid permitted the passage of the retention swell. This retention swell furthermore prevents the coughing up of the tube, especially while there is swelling of the glottis and laryngeal mucous membrane, and while exudate is still present. The pressure of even a violent cough is insufficient to send the tube through the glottis, except where the vocal cords are weakened or paralyzed. In such cases in the Willard Parker Hospital we have sought to obviate this too early autoextubation by increasing the size of the retention swell in the tubes used for such cases. The retention swell is thus the most important part of the tube. It prevents the dropping down and the coughing up of the tube. The head of the tube has much less important functions. These are—first, to prevent the tube from slipping into the glottis and thus permitting the vocal cords to ride above the end and lumen of the tube; second, to enable the fingers of the operator readily to find the tube and its opening with the blades of the extractor.

Although the shape of the O'Dwyer tube, as constructed by him, conforms to the lumen of the laryngobracheal tract as far as the exigencies of the function of the tube will permit, nevertheless it must not be forgotten that the tube is a foreign body, rubber or metal, and that the laryngeal mucous membrane is soft and lies between the tube within and the hard cartilage without. Pressure, therefore, on the part of the tube will produce pressure sores, which the Germans term "decubitus." Indeed, pressure is not necessary, nor is it present in a properly fitting and properly constructed tube, to produce decubitus. Such lesions result more frequently from the rubbing of the tube against the mucous membrane over the prominent points of the tube. For the tube is not stationary in the larynx. It is always vibrating with the cough, giving rise to the characteristic "tube" cough, as it interferes with the vibration of the vocal cords. It moves up and down with the act of swallowing, with the cries of the patient, even with the movements of respiration. It is not remarkable, therefore, that the decubitus lesion is seen in so large a proportion of cases. On the contrary, it is an evidence of the wonderful genius of O'Dwyer in adapting this tube to the needs of the human larynx that the decubitus is a clinical factor so seldom. The mucous membrane in these cases, furthermore, is the seat of the malign activity of the diphtheria and pus organism, and is swollen and congested, all of which tends to increase the liability to pressure sores.

Decubitus sores vary in their severity, some of them showing only a slight abrasion of the superficial layers of epithelium, others showing a lesion involving the destruction of the cartilage with

abscesses of the surrounding soft structures and purulent infection of the mediastinum.

It is a curious fact that decubitus is rarely seen affecting those portions of the laryngeal mucous membrane which is covered with exudate. Some writers speak of decubitus involving even the cartilages underneath the exudate. Decubitus may occur in some cases very early, as early as twenty-four hours after intubation. As would be expected, the longer the tube is retained the greater the liability to decubitus. This decubitus is the most important causative factor, as I shall show in the production of persistent tube cases. It is most frequently located at the anterior wall of the trachea, below the cricoid, caused by the lower end of the tube moving up and down against the trachea, the lower end of the tube being thrown forward as the head of the tube is thrown backward by the closure of the epiglottis over it. Decubitus is next most frequently situated above the cricoid cartilage over the lateral and anterior wall of the larynx. This is due to the pressure and rubbing of the retention swell against the mucous membrane above the cricoid. The next site of election for decubitus is on the under surface of the epiglottis, and below the point of its junction with the thyroid cartilage; this is due to the pressure of the epiglottis and larynx against the head of the tube, and its straight anterior border. Other portions of the mucous membrane may be the seat of decubitus ulcers, depending upon the variations of the larynx in individual cases. By far the most important of all of these is the decubitus above the cricoid, laterally and in front. The pressure literally at the point where the thyroid overlaps the cricoid cartilage, a frequent site of decubitus, is of especial importance, because here is the entrance, on both sides, of the recurrent laryngeal nerve, the motor nerve of the larynx. Pressure and decubitus here produce paralysis of the motor function of this nerve. I believe that this paralysis of the vocal cords is the cause of cases of the third class of persistent intubation, which are characterized by repeated coughing up of the tube. Indeed, auto-extubation is a frequent symptom of retained tube cases due to cicatricial stricture of the larynx following decubitus.

While such decubitus may occur in tube cases with the use of the most orthodox O'Dwyer tube, I believe that the most fruitful source of the decubitus is the unskilful modification of the O'Dwyer tube by operators who, both in their writings and practice, seem to forget the principles upon which the O'Dwyer tube is constructed. Thus it is evident that he who increases the length of the tube beyond that of O'Dwyer favors the occurrence of decubitus on the anterior wall of the trachea, and adds to the liability of injuring the larynx in the process of intubation, and especially extubation. For the space between the roof of the mouth and the glottis is limited, and accommodates the tube and the extractor with safety only to expert technique. So the retention swell, made too large for the regulation intubation set, is apt to exert increased pressure. A like result will happen if the distance between the retention swell and the neck of the tube is kept well down upon the vocal cords by the epiglottis, here sometimes producing decubitus, and the retention swell is pressed upon the mucous membrane of the cricoid, and thus the most dangerous form of decubitus will be produced. The same result will occur if, as some surgeons do and advise, the largest possible tube, instead of the proper tube for the age, be selected. I have a so-called improved tube, the lower end of which was prolonged on the right in the shape of a beak, the object being to put aside the swollen tissues as the tube entered the croupy larynx. I do not know of a more dangerous modification, for this beak denudes the mucous membrane of exudate, which it pushes before it, at the same time producing a lesion of the laryngeal mucous membrane, which becomes a good site for new exudate, or decubitus, while the beak produces a jagged puncture and tear of the lateral wall of the trachea. This tube is made without the obturator, the lower end is open, and membrane separated by the projecting beak finds no obstruction to its entrance into the tube. Such a tube would be readily plugged in the process of intubation. This set also uses but one combination instrument for extraction and intubation. The blades of this are large; hence a large lumen to the tube, hence an ample neck to the tube, thus favoring paralysis of the vocal cords from overstretching. The retention swell is too small and not properly placed. The head is cupshaped, and forms a good place for the collection of food, membrane, etc. And yet children survive even such tubes, or the eminent authority would not have recommended it. Absolute smoothness of the external surface of the tube, which lies against the laryngeal mucous membrane, is requisite if we would not encourage decubitus, for even a most superficial abrasion increased by the attribution of a rough tube is the starting point of a decubitus sore. Nor is such a roughening of the external surface of the tube justified by the excuse that such tubes are not coughed up. This purpose is fully met by the smooth retentive swell of the O'Dwyer tube, and if decubitus and pressure paralysis of the vocal cords does not occur, too early autoextubation will not occur. The autoextubation due to the diminution of exudate and swelling means that the tube is no longer required or is therefore conservative.

Now why is decubitus so much to be dreaded in tube cases, and what is its connection with persistent intubation cases? These questions are best answered by recounting the pathological processes occurring in and around the larynx which originate in decubitus. These lesions, produced, as I have stated, by the action of the tube on the larynx, may begin to heal as soon as extubation is accomplished, without injurious effects, and without giving rise to any symptoms. That this occurs very often is shown by the comparatively small percentage of chronic tube cases as compared with the large percentage of cases which die from diphtheritic croup in which decubitus is found. In other cases the decubitus may give rise to swelling of the surrounding tissues and stenosis, necessitating a reintubation. Such reintubation results in an aggravation of the decubitus; so that when extubation is again done, reintubation again becomes necessary at shorter and shorter intervals, until the patient requires a reintubation almost immediately, or else asphyxia supervenes. At first, as I have said, this reintubation is caused by a stenosis due to the swelling of the tissue around the decubitus soon after the tube has been removed. It is claimed that as long as the tube is not removed for at least a few days such decubitus can not heal, and hence a cicatrix can not form, so that cicatricial structure of the larynx in such cases is impossible. But this view is certainly incorrect, for I have seen chronic tube cases in which the early intubations were done with ease and without resistance, while later on the resistance of a cicatrix is felt in intubating. This cicatricial stricture becomes gradually narrower, so that with repeated intubations smaller tubes must be used. Yet this occurs in patients who have gone without the tube at no time more than a few hours. In such cases the decubitus undoubtedly heals; the granulations

and the conservative contraction of the extruding extrinsic muscles of the larynx pressing the tube away from the decubitus until cicatrization has taken place; this cicatrix contracts and goes on to form a cicatricial structure of the larynx. As long as a tube is *in situ* in the larynx, passed through a stricture of this sort complete closure or atresia of the larynx can not occur. But when, either owing to the difficulty of intubation through the strictured larynx or through an ill-advised attempt to give rest to the larynx, by doing a tracheotomy the O'Dwyer tube is dispensed with, then the laryngeal stricture goes on to more or less complete atresia of the larynx, so that even a thin probe can not be passed through the lumen. Sometimes tracheotomy is done for cases of autoextubation, for the danger of leaving the patient dependent upon an intubation tube which may be coughed up at any instant is obvious. In such cases, if the cause of the extubation is paralysis of the vocal cords, atresia of the glottis occurs shortly after the intubation tube is removed. Finally, atresia of the larynx may also be due to opposing decubitus granulating ulcers coming in contact with each other, and becoming adherent. Decubitus may also increase in depth and extent, giving rise to destruction of cartilage of the larynx and trachea and perilaryngeal and peritracheal abscesses which discharge into the respiratory tract or œsophagus, or externally the pus may burrow downward and give rise to mediastinal abscess. The following is the history and autopsy of a case of persistent intubation of the larynx, with decubitus and destruction of the cricoid upper tracheal rings, extensive post-perilaryngeal abscesses, which finally caused death from pneumonia, after a secondary tracheotomy: J. K., age three years, admitted November 1, 1901; ill three days; local, no membrane. Marked croup and retraction and right cervical adenitis; antitoxin previous to admission. Intubated on admission. Tube removed five days later and almost immediately replaced; again on seventh day, with same result. From then on for three weeks more or less frequent autoextubation and almost immediate retubation. After this, child coughed up tube only at long intervals—no particular exciting cause, the child being up and about. General course of disease mild from time of intubation. When extraction was performed it only meant reintubation, although she would go without tube at times for some minutes. This continued till January 13, 1903, when she developed measles from exposure to a recently admitted case, and was transferred to North Brother Island. Returning to us February 10, patient continued to do well till March 24, when she developed a temperature and general malaise, which could not be accounted for. Physical examination negative. Four days later the front of the neck became red and indurated, the following day there was swelling of cervical glands and the expectoration was purulent and tinged with blood. The next day an incision in the front of the neck was made and a tracheotomy tube inserted. The child lived only two days following operation. Died March 31, 1903. Post-mortem examination revealed a post-laryngeal abscess with a sloughing of the cricoid and upper tracheal rings.

There are no symptoms by which decubitus can be positively recognized during life, until its effects—stricture, atresia, abscess, etc.—have appeared. One symptom, however, positively indicates the presence of decubitus, and that is late autoextubation, occurring after often repeated reintubations. Early autoextubation, which occurs as a result of diminution in swelling, membrane, etc., which I have discussed above, is not usually followed by a reintubation. It is conservative and does not signify the presence of decubitus. Late autoextubation, when not due to pressure paralysis of the vocal cords, is an almost positive symptom of decubitus, yet many cases of decubitus going on to the production of chronic stenosis of the larynx do not give rise to autoextubation.

In the list of chronic tube cases, which I present with this paper, the time of occurrence of autoextubation is especially noted. Where it was present as a symptom, autoextubation, due to decubitus, may be the result of the cicatricial stricture expelling the tube at intervals, or to a paralysis of the vocal cords owing to pressure and decubitus, by the retained tube, on the recurrent laryngeal nerve as it enters the larynx behind the facet on the cricoid cartilage for the thyroid cartilage.

The following is a history and autopsy of a case of repeated autoextubation in a chronic tube case resulting in pneumonia and death. I present the specimen, which shows marked decubitus and partial cicatrix anteriorly and over cricoid:

F. C., age three years, admitted August 13, 1902, three days ill. Local examination gave negative results. Marked croup and retraction. Condition serious. Antitoxin 3,000 units. Intubated shortly after admission. Developed pneumonia at night, posteriorly. First extubation seventh day after admission; reintubation was necessary twenty-five minutes later; autoextubation three days later; eleventh day, reintubation in forty-five minutes. General condition improving, Pulmonary condition much improved. Autoextubation and reintubation then daily for five days. After this there was a lapse of a week, when the tube was extracted, but had to be replaced very soon. This time child developed an enteritis with a temperature which was thought might be due to a tuberculous condition. Tube removed twenty-four days later, but had to be immediately replaced. Occasional rises of temperature during the next two months led to the suspicion of the presence of tubercle bacilli, but they could not be found in sputum. Tube coughed up at irregular intervals, several days apart, when child would go without it, sometimes only a moment, and again for from six to eight minutes.

December 24. New and more extensive area of dulness made out with increased elevation of temperature. Patient losing strength very rapidly, and continued to do so until death occurred January 2d, 142 days after admission.

Examination of larynx showed subglotteal thickening, with a small ulcer partially cicatrized anteriorly.

Now we come to consider chronic tube cases due to traumatisms produced by the operator during the process of intubation or extubation. Such traumatism produced during the operation may heal promptly, giving rise to no symptoms, or may heal under reintubation for a short period, or they may give rise to chronic stenosis of the larynx, for the relief of which prolonged intubation becomes necessary. This prolonged intubation gives rise to decubitus with all of its sequellæ, and thus a persistent tube case is developed. Even slight traumatisms of the laryngeal mucous membrane are followed by serious results, for abrasions are the ready site of a decubitus ulcer that will not heal. Such lesions may be produced by a perfectly orthodox set of instruments by an inexpert operator. Thus a false passage may be made, the epiglottis may be fractured, or other accidents recounted in every work on intubation may occur. There is one fault in the O'Dwyer apparatus which is very difficult to remedy, the knowledge of which, however, will save

the operator from many traumatisms which I must discuss here, the more so because writers on intubation have devoted no attention to it.

In extubation, when the blades of the extractor engage in the head of the tube, and the operator raises the tube from the larynx, the shoulder of the extractor strikes the roof of the mouth (hard palate) when the tube is still half its length inside of the larynx, so that, in order to bring the tube completely out of the larynx the operator depresses the handle of the extractor, throwing the lower end of the tube against the posterior wall of the larynx in the median line. If the extubation is done hurriedly, as the inexpert operator is apt to do, he will tear a groove in the mucous membrane of the posterior wall of the larynx. Or, if he turns the shoulder of the extractor to either side, he may produce a similar lesion of the opposite lateral wall of the larynx. This is especially apt to occur in children under two years of age, owing to the small space between the roof of the mouth and the glottis. That O'Dwyer was conscious of this difficulty is shown by the hinge which he placed on the obturator, which is withdrawn from the tube after intubation, the purpose of this hinge being to facilitate the removal of the obturator.

Could the tube be constructed with such a hinge joint, its removal would be equally facilitated, and although I hesitate to suggest a change in the O'Dwyer apparatus, I have devoted some thought to the construction of such a tube. It is practicable to use, for different ages, different extractors, the shoulder of the instrument being made little more than two-thirds the height of the present instrument for children under four years and the present instrument for older children. I should also warn against rapid extubation. The operator should be deliberate and slow. The extractor with tube having been raised as far as it will go, the handle should be slowly depressed in the median line and the tube carefully delivered without injury to the larynx. All of this naturally presupposes sufficient and proper technique for the handling of the patient.

The "tubes courts" of Bayeux are short, and could therefore be extracted readily with the extractor, but the inventor uses no extractor, but expresses or enucleates them by normal expression of the larynx just above the cricoid. I should fear that the general acceptance of such a practice would result in far more traumatisms of the larynx in inexpert hands than now occur with the long O'Dwyer tube by the inexpert use of the extractor.

Cases of chronic intubation produced by temporary or persistent paralysis of the vocal cords I have unavoidably discussed in the course of my remarks on cases of chronic intubation of the larynx belonging to my second group. The symptomatology of prolonged stenosis or chronic stenosis of the larynx is of importance chiefly for differentiating the various causes that produce the stenosis.

The first group of cases, in which the stenosis is caused by a persistence of the pathological conditions which cause the initial stenosis of membranous croup, are characterized by a gradual lengthening of the periods between the extubations and intubations until a period arrives when a reintubation is no longer necessary. In some of these cases the reintubations are rendered necessary by spasm of the glottis, which supervenes shortly after extubation. In most cases this can be avoided or alleviated by a small dose of morphine, gr. $\frac{1}{16}$ to a child of two years or over, hypodermatically. Rest and avoidance of excitement are adjuvants to this. In these cases, if autoextubation occurs, it is of the conservative type and signifies subsidence of membrane and swelling. The dyspnœa does not recur after these autoextubations, as it does immediately after the late autoextubations frequent in the second and third group of cases.

In the second class of cases the symptoms pointing to the presence of an increasing cicatricial stenosis are (1) the increasing difficulty of passing the propre tube into the larynx and through the stricture; (2) autoextubation late in the course of the case, due either to paralysis of the vocal cords, or to the forcing out of the tube from the larynx, owing to the contraction of the stricture around the lower end of the tube below the retention swell.

When paralysis of the vocal cords exists the condition can be recognized by the intubator, who feels the absence of all resistance to the entrance of the tube at the glottis. This resistance is normally very slight, but still one of which the intubator is conscious; while in paralysis of the vocal cords the sensation is that of putting the tube into a large cavity. Peritracheal and perilaryngeal abscess are readily recognized externally. Generally they come to the surface, are incised and drained. Sometimes they rupture into the larynx, trachea, or pharynx; sometimes they give rise to general suppurative processes in the mediastinum, or even a general pyæmia. Atresia of the larynx is recognized by absolute inability to pass even the smallest tube. In these cases tracheotomy has, of course, been done long before such atresia has occurred. Indeed, the condition can not occur as long as the larynx is pervious to a tube, and a tube is *in situ*. A sound passed through the tracheal wound upward will enable us to know whether the atresia is limited to the glottis and vocal cords, or the upper part of the larynx, or the whole of the larynx.

*Prognosis.*—In the first class of cases without decubitus, prognosis is good. These cases suffer from a prolonged period of repeated intubation, and then recover. But it must not be forgotten that the longer a tube is worn the greater the liability to decubitus with resulting organic stricture of the larynx. So that many cases which begin as cases of prolonged intubation become later on cases of chronic intubation with persistent stenosis.

In the second class of cases much depends upon long and persistent treatment in the manner I shall indicate. While the condition is curable in about 60 per cent. of the cases in our experience at the Willard Parker, the prognosis is very much more serious when such cases are treated by those not experienced in expert intubation. Thus a case not included in the series which I report in this paper was removed from the hospital to a general hospital by the parents. While the child was waiting there for the day of operation, she coughed up her tube one day, and before a tracheotomy or reintubation could be done she was dead.

Such accidents in the wards of the Willard Parker are always expected, and the facilities for prompt reintubation or tracheotomy are always at hand. I must not forget to insist that any surgical operation which may be contemplated upon such a strictured larynx should be preceded by a tracheotomy immediately after removing from a hospital, with facilities for rapid and expert intubation.

*Treatment.*—The prevention of decubitus and injuries to the larynx from an important part of the treatment of chronic tube cases. How such lesions can be prevented I have shown in discussing the manner in which they are produced. Thus, proper tubes and none but the properly constructed O'Dwyer tubes and accessories are "proper" in my estimation; care in the technique of, and deliberation

in the performance of the operations of intubation and extubation in order that no injury may be done to the larynx—all of these are preventive measures.

If, however, the case has developed into a chronic tube case, the symptoms that I have given will generally enable us to recognize to what group of cases it belongs. Whether the stenosis be due to decubitus with swelling, decubitus followed by cicatricial contracture, decubitus with paralysis of the vocal cords, or to a complication of these conditions. Having thus determined the pathogenesis of the stenosis in a given case, a matter not always possible with absolute certainty, but frequently possible to an extent that is of practical utility, then the case should be treated from a rational standpoint. Thus, when cicatricial stenosis is present, persistent intubation with a tube large enough to pass through the strictured larynx without difficulty, and yet not small enough to be expelled by the patient (autoextubation), is most apt to be successful. Such reintubation should be done at not too frequent intervals. In the Willard Parker service the resident physician has been accustomed to change the tubes every three or four weeks, giving a preliminary dose of morphine as described above. At the suggestion of Dr. O'Dwyer, to me in a case seen by him, some years ago, the tubes used for such cases were coated with astringent ointments, or a gelatin coating containing an astringent, we did not find that such cases made more rapid progress than those treated with the simple tube. The use of the tube must be continued until the patient can get along without it, which may be after a few months or a few years. But persistent intubation made at such intervals will cure most of the cases belonging to this group. Cases of paralysis of the vocal cords due to pressure on the recurrent laryngeal nerve, without cicatricial stricture are best treated by intubating with either a larger tube than the age of the patient requires, or by a tube proper for the patient but with an increased width of retention swell.

In the latter case the autoextubation is sought to be prevented by increasing the width of the retention swell. This, however, is frequently inefficacious. When, however, a larger tube than proper for the age is used the lower end of the tube is grasped by the cricoid ring and autoextubation is prevented, especially is this true in cases in which there is present, in addition to the vocal-cord paralysis a cicatricial stenosis. If the method of increasing the retention swell be used, this tube should be made with retention swell nearer to the neck of the tube than is the case in the normal tube. The object of this is to diminish the pressure of the larger retention swell upon the larynx at the cricoid cartilage. Under any circumstances in these cases of paralysis of the vocal cords in chronic tube cases, with or without stricture, the prognosis is bad. Cases that recover are cases in which the paralysis is temporary and the stricture was the element that required treatment. Sooner or later, many cases of this kind require tracheotomy to prevent death from asphyxia following an attack of autoextubation, and, as I have already stated, after such tracheotomy, atresia of the larynx, more or less general, occurs. Indeed, were it not for the occurrence of atresia of the larynx, after tracheotomy in these chronic tube cases, we would be disposed to advise tracheotomy in many of them to avoid the long-continued treatment by persistent intubation. The certainty of atresia of the larynx following the tracheotomy leads me to advise avoiding the latter in all cases save those in which the frequent autoextubations warn against reliance upon the tube for the prevention of asphyxia.

For atresia of the larynx, the treatment is purely surgical. It is in such work that Glueck, König, Gersuny, and Föderl have distinguished themselves.

It consists, in brief, in, first, a tracheotomy with dilatation of the stricture and divulsion of a limited atresia, followed by systematic dilatation. Second, laryngofissure with splitting of the stricture mucous membrane and dilatation or resection of mucous membrane, replacing this by Thiersch grafts. The laryngofissure should be left open and the larynx packed. When the grafts have been successful a secondary closure of the larynx can be done. Third, resection of the strictured larynx and low upper tracheal rings, uniting the trachea with the upper part of the larynx, so well followed by Glueck in laryngeal diphtheria, etc.

In all of these cases, however brilliant the surgical procedure, it should not be done if persistent intubation will cure the case.

In this view I am glad to have the support of V. Ritter of Prague, although he uses tubes diminishing in size during his persistent tubage. (Zur Kentniss der Atresia Laryngis post intubationem. *Archiv für Kinderheilkunde*, 32, Bd. I and II, H. 1901.)

Our cases in the hospital have been treated by persistent intubation, as I have already stated. Of the fourteen cases of which I write, five have died, seven have been discharged cured, six up to the time Dr. Bryant had tabulated the cases and one since. Of those that have died, one, C. S., was discharged as cured of prolonged intubation. Outside of the hospital she developed sudden stenosis. An attempt was made by a physician in her home to intubate—unsuccessful. She was sent into the hospital moribund. Died December 5, 1902. Autopsy showed traumatism of the larynx and stenosis, due to cicatricial contracture after decubitus, with ulceration. This cicatricial stricture almost completely obliterated the larynx.

Thus two cases of this series here reported are still under treatment.

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**The Treatment of Fibromata and the Prevention of Neoplasms by Means of Physicotherapy.**—J. Rivière says that electrotherapy marks out a vast improvement in the cure of fibromata. But Apostoli and his followers have, perhaps, been too one-sided in their advocacy of electrolysis alone, and at times somewhat unwise in their use of too high intensities. The author prefers what he calls physicotherapy—hydroelectric baths with frictions with the horsehair skin glove and soap, thus securing a scraping of the skin and the removal of the dead epidermis and also of the toxins and microbes it contains, the elimination of waste matter, and of organic poisons, and restoration of general nutrition. Carbonic-acid-gas baths create a healthy elimination through the skin, check the swelling processes of the fibromata of the uterus, and stimulate and regulate organic functions. Faradic currents, monopolar or bipolar high-frequency currents, and vibratory massage are a powerful help in the treatment of these growths by continuous currents. Treatment by physical agencies, by electricity in particular, restores general and local nutrition, has a decongestive local action, depurative in general, and anti-neoplastic in particular. It is, therefore, a rational and scientific medication, free from danger, and enabling us to avoid more or less dangerous operations. Take prompt action so as to prevent epithelial hyperplasia and sclerosis, ureteral enlargement, nephritis and other complications, do not attempt to replace surgery by destructive electrotherapy.—*Annals of Physicotherapy.*

# TWO CASES OF CONGENITAL ELEVATION OF THE SHOULDER, WITH A REVIEW OF THE REPORTED CASES.

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Case 1.—Harvey B., thirty-two years old, of German parentage, came to the New York Orthopædic Dispensary and Hospital in January, 1902, on account of a painful flat-foot. Incidentally, an elevation of the left shoulder was noticed and afterward carefully studied.

Father and mother have always been well and did not suffer from any deformity, nor does the patient know of any anomalies in the families of his parents. However, all of his brothers and sisters seem to be more or less defective. One sister who died of typhus at the age of fourteen years, had never been able to walk without the aid of crutches, and, to quote the patient, "she did not have the use of one leg." Another sister who is living, is always troubled with dyspepsia and nervousness. The only brother, a butcher by trade, had to have a kidney removed. He is a tall and well-built man, who now appears to be in good health.

The patient has been since birth the subject of a valvular heart disease, which forbade any very active occupation. He studied music and acquired considerable skill as a pianist, showing that all finer movements of the hand and arm, as well as their coördination, were good. At the age of eighteen years he had a stroke of apoplexy which, while it seriously impaired his memory, did not affect his muscular power. When he was about eight or nine years old his parents noticed that he had "a lump" on his back, and that his left shoulder was higher than the right. A surgeon devised a brace for him, which he wore for several years without deriving any benefit from it. Most of this history was confirmed by older brother.

The left shoulder line is considerably changed. It appears shorter, resembling very much a torticollis. On examination we find that the left scapula is dislocated upward, so that its inferior angle is four inches higher than that of the right one (see the illustration). Moreover, it is found that the left scapula is held in this elevated position by a triangular tumor, which on closer examination with *x*-rays proved to be an osseous bridge. This bridge is continuous with the middle portion of the median border of the scapula, while the apex articulates with the base of the spinous process of the seventh cervical vertebra. The bony bridge is 3½ inches wide at its connection with the scapula, and 5½ inches long from its inferior angle to the vertebral articulation. The spinous processes of the seventh cervical, and two first dorsal vertebræ, are pushed to the right and seem to be fused, forming a sharply projecting mass. The skiagraph clearly shows the bony bridge and its articulation, but does not bring out the fusion of the spinous processes, although this condition is very evident to the examining hand. There is a marked scoliosis, the first curve to the right, starting at the sixth cervical and including the fourth dorsal vertebra, and a compensatory curve to the left, in the lumbar region. Both scapulæ, that is to say their inferior angles, are equidistant from the spine. The left arm is two inches shorter than the right. No other deformities are noticed.

The development of all muscles of the left shoulder—girdle and arm is slightly less than that of the right side. The thickness at the posterior part of the neck being solely due to the triangular piece of bone and not to an hypertrophy of muscle.

The electrical reaction of all the muscles under consideration is normal, both to faradism and galvanism.

The scapula is articulating with the last cervical vertebra by means of a pivot joint, hence, it can move only around a fixed point, like a pendulum to and from the spine, and in doing so is describing part of an arc of a circle. But the scapula cannot be raised, depressed or rotated independently. All active movements of the arm can be executed, except elevation of the arm beyond the horizontal, which latter movement is impossible. Passive motion is free in every direction.

Case II.—Eli L. came to the New York Orthopædic Dispensary and Hospital to receive treatment for his shoulder and right arm, which he was unable to raise beyond a horizontal line. This condition was noticed immediately after birth, which had been difficult, and in which instruments were used. For the first few days of his life, so his mother says, the child seemed more or less unconscious and blood oozed from his ears. The appearance of the boy is that of one suffering from torticollis (Fig. 3). On closer examination the right scapula is found considerably higher than the left (1¾ inches) and its axis changed, the inferior angle pointing outward instead of downward. The right clavicle is one inch shorter than the left and its curves are more pronounced. The right arm is two inches shorter than the left. The supraspinatus, infraspinatus, biceps and pectoralis major are hypertrophied, and the head of the humerus is pressed tightly in the glenoid cavity, giving the appearance of a complete ankylosis. The deltoid is poorly developed, likewise the triceps and muscles of the forearm and hand. The hand habitually falls in a position of hyperextension. The upper portion of the trapezius is normal in size, the lower appears poorly developed, lacking in substance. The rhomboidei are below normal in volume.

In all the muscles, including those which appear atrophied, the reaction to electricity is exaggerated.

Active motions of the arm, though voluntary control is impaired, can be carried out fairly well except elevation beyond 75°. Passively the right arm can be elevated as well as the left. But with any motion, active or passive, the humerus carries the scapula along in every direction, due to the apparent ankylosis previously described. On manipulation, this ankylosis can be overcome, being solely caused by the spastic condition of the muscles.

On reading the description of these two cases, while the similarity in appearance is striking, the underlying conditions and etiology easily divide them into two different types of cases.

After a very careful study of the reported cases—sixty-three in all, including ours—a classification forces itself on us, as follows:

We include within this number five cases which have previously been reported by different surgeons under the title of "Defect of the Pectoral Muscle," because in all these cases, one of the most striking features was the elevation of the shoulder.

*Classification.*—Class I.—Cases with a bony bridge between the scapula and vertebral column.

Case 1—Willett and Walsham (1880, London), woman, thirty-one years old, with very marked deformities of skeleton (specimen preserved in St. Bartholomew's Hospital Museum, London). Case 2—Willett and Walsham, child, eight years old. Operation, triangular piece of bone. Case 3—Sainton, man twenty-six years old, who had in addition several other deformities (called "supernumerary

bone"). Case 4—Hutchinson, child a few months old, with spina bifida in cervical region in addition. Specimen shown before Pathological Society, London. Case 5—Kirmisson (possibly), boy six months old, scapula seems tied to vertebral column by osseous outgrowth. Cases 6 and 7—Rager, boy about five years old. Hernia, etc., in addition. Cases 8 and 9—Wilson and Torrance, bony bridges removed. Case 10—Goldthwaite and Painter, bony bridges removed. Case 11—Kausch (his third case, probably). (In same margin). Case 12—Hoedlmoser (boy twelve years old), probably. Case 13—Hibbs and Loewenstein skiagraph.

CLASS II.—Cases with an absolute absence of one or more muscles forming the shoulder girdle.

Case 1—Kaiser, pectoralis muscle missing. Case 2—Kalischer, pectoralis major missing. Case 3—Pren, pectoralis major missing. Case 4—Pulawski, several ribs and muscles missing. Case 5—Schlesinger, costal portion of pectoralis missing.

CLASS III.—Cases with a long and turned over supraspinous portion of scapula.

Case 1—Sand. Case reported in 1888, operated,

mproved. Cases 2, 3, and 4—Koelliker. Case 5—Honsell, double-sided. Case 6—Milo, double-sided. Case 7—Kirmisson and Jouon double-sided. Case 8—Hoffa. Cases 9 and 10—Tilanus. Case 11—Froehlich (was painful when working), operated, cured. Case 12—Mohr, double-sided (large amount of amniotic fluid and hands held habitually on back). Case 13—Goldthwait and Painter.

CLASS IV.—Cases without bony overgrowth, the scapula normal or smaller, with shorter or otherwise defective muscles. To this class belongs:

Case 1—McBurney's 1888, short muscles. Case 2—Kreke. Cases 3 and 4—Schlanze. Cases 5 and 6—Kirmisson. Cases 7, 8, 9, and 10—Sprengel (1891). Case 11—Monier, muscles contracted. Cases 12 and 13—Beely. Cases 14 and 15—Pischinger. Case 16—P. Gitsch. Case 17—Wolffheim, whole shoulder-girdle smaller. Case 18—Tilanus (his second case). Cases 19 and 20—Perman. Case 21—Tilmann. Case 22—Wiesinger. Case 23—Rager's first case. Case 24—Pankow, double-sided. Cases 25, 26, 27, and 28—Kausch, lower portion of trapezius atrophied. Case 29—Eulenburg. Case 30—Virden, states no exostosis present. Case 31—Nové-Josserand, shoulder-blade smaller. Case 32—Hibbs and Loewenstein.

In 1880 Willet and Walsham of London published a paper entitled "An account of the Dissection of the Parts Removed after Death from the Body of a Woman, the Subject of Congenital Malformation of the Spinal Column, Bony Thorax, and Left Scapular Arch, with Remarks on the Probable Nature of the Defects in Development Producing the Deformities."

In the specimen described, the most striking feature was a triangular piece of bone attached to the middle of the vertebral border of the scapula, extending upward and inward and articulating by means of a pivot-joint with the spinous process of the seventh cervical vertebra.

After a careful and most scientific study, the authors advance three different hypotheses as to the etiology of this anomaly: (1) That the process of bone was formed in connection with the vertebræ and afterward became ankylosed to the scapula. (2) That it was originally a scapular element and secondarily became fused to the spine. (3) That it was formed independently of the spine and scapula.

Shortly after the first case, Willet and Walsham published a second case, which was identically the same, as far as the triangular bony bridge was concerned. The "supernumerary bone" was removed by operation with perfect results. The evidence in the cases described seems to be in favor of the scapular element, and the bony bridge is probably connected with an overgrowth of the epiphyses which normally exist along the posterior border of the scapula. Willet and Walsham go on to say that "the bone may perhaps be homologous to the suprascapular of some of the lower vertebra. It certainly bears a superficial resemblance to that of the frog and toad, in which creatures, however, it is not united to the spine. As far as we know, the only vertebrate in which the suprascapular is so united, are the skate tribe." If this be so, it would surely show a retroversion to a lower type of development.

Kirmisson, in reporting a similar case, regards it as a primary malformation of the scapula.

Our first case seems to be identical with those reported by Willet and Walsham: the triangular piece of bone is continuous with the scapula and it articulates with the seventh cervical vertebra, by a pivot-joint.

J. Hutchinson, Jr., in 1894, presented a specimen before the pathological Society in London, showing a bony connection between the scapula and the cervical spine. He refers to the cases described by Willet and Walsham, and says his is the third case reported. "The deformity of the left upper limb was found in an infant but a few months old, the top of the scapula being almost immediately under the occiput, nor could it be materially depressed. The reason of this malposition of the left scapula was made out to be a band or flattened process of bone, extending from the cervical spinous processes to the upper end of the vertebral border of the scapula, with which it articulated, allowing a slight amount of movement at a hinge-joint."

No other deformities were noticed, and there was

no lateral curvature of the spine. Hutchinson goes on to describe the specimen which he was fortunate enough to secure shortly afterward. "There is nothing noteworthy to be recorded of the muscles of the neck, several of which were connected with the outgrowth of bone, the rhomboid muscles were present, and had their usual attachments. The arches of the third, fourth, fifth, and sixth cervical vertebræ were not united by bone in the median line; on the other hand, the left posterior laminæ of the fourth, fifth, and sixth cervical vertebræ had, to a great extent, fused together. From the fourth left posterior lamina (connected to it by a firm cartilaginous junction) grew downward and backward a rounded piece of bone, which was reinforced by similar processes from the three lower vertebræ, the whole uniting into a bony mass, which curved to the left, and was joined by cartilage only to the upper end of the vertebral border of the scapula. It should be noted that the latter presented a broad cartilaginous portion, in which the epiphyses for the spinal border would have been no doubt later developed." From the careful study of this specimen he comes to the conclusion, "That the abnormal bone is due to an irregular and redundant ossification of some of the cervical vertebræ, which has united by cartilage, or articulated with the scapula."

Hutchinson quotes Professor Cleland of Glasgow to be of the same opinion, that the added element, in the case under consideration is vertebral.

With Hutchinson, Wilson and Torrance regard it as a vertebral overgrowth, etc. In their two cases the pivot-joint was developed at the scapular extremity of the bony bridge, instead of at the spinal. They removed the bony bridges with perfect results, restoring, in both cases, normal position and mobility to the scapula. In their conclusion Wilson and Torrance say: "The characteristics of both specimens render justifiable the theory that there has been an extra center of ossification for a spinous process, and this has been pushed or placed beyond the normal center for the process of the seventh cervical vertebra, though this does not account for the fact that in both cases there was firm articulation with the scapula."

These cases answer to the first hypothesis of Willet and Walsham.

Sainton believes it to be a supernumerary bone, likewise Drs. Goldthwaite and Painter, who operated upon their case. The interesting feature of the latter case was a joint developed at either extremity of the bony bridge.

The above cases seem to demonstrate the third theory advanced by Willet and Walsham.

In our case the existence of the bony bridge and its continuity with the scapula is proven beyond doubt by the skiagraph. An operation was not advised on account of the patient's age.

As far as the etiology goes, we think the deformity in our case is due to an epiphysial overgrowth (suprascapular), consequently a return to a lower type, and we think we are justified in this belief, since the patient shows other stigmata of degeneration, heart lesion, flat-feet, etc.

The deformity is of developmental origin and certainly of an early date, probably not later than the sixth or seventh week.

The description Dr. Kausch gives of his third case induces us to place it among our first class. A revision of the case under this light would be of great value.

The second class of cases is due to a congenital lack of one or more muscles. That the defect in the quoted cases is congenital, seems reasonable, since in all of them we find one or more ribs wanting, or other grave signs of degeneration. It is not quite plausible that a mere lack of amniotic fluid should be the cause of such grave defects, but rather a faulty differentiation of the mesoblast, leaving out the necessary centers for the tissues wanting.

The third class of cases, due to the curved and possibly enlarged condition of the supraspinous portion of the scapula, again represents a very clearly-cut group of cases, which show a mechanical interference as the factor of disturbance. In the cases in which this supraspinous process was excised (Sand's, Hoffa's, Froehlich's, etc.) the dislocation of the scapula was reduced and all normal functions restored. Sprengel's theory, that the deformity is an outcome of intra-uterine pressure due to a lack of amniotic fluid, is more than likely.

It is interesting to hear from Professor Chievitz of Copenhagen that a high position of the scapula is a fetal condition. The pressure on the elevated scapula exerting itself on the supraspinous portion, which possibly reaches beyond any support from below, bent it forward, and the resulting hook-like condition of the supraspinous portion prevented the descent of the scapula at the proper time.

Mohr states definitely that in his double-sided case, a very large amount of amniotic fluid was present. The patient had the habit of carrying his hands on his back. Here, the large amount of fluid may have induced, in its turn, an increased intra-uterine pressure and brought about the same result.

The fourth class of cases is less definite in appearance, and of more obscure origin.

A number of different causes seem to underlie.

In some cases muscles are contracted and hypertrophied. In others, atrophied, or partly lacking (Kausch).

In one case the whole shoulder girdle is small (Wolffheim). In some a grating noise is produced on movement of the shoulder (Myer).

That this difference in the cases has been appreciated is clearly shown by the number of etiological theories advanced in their connection.

Professor Meyer of Copenhagen thinks that in some cases the elevation is the result of a loosening of the epiphysis of the upper arm.

Professor Bloch of Copenhagen thinks that in some cases it is due to a poliomyelitis anterior acute or eventually to a cerebral affection intra-uterine.

Schlange believes that membranous adhesions caused it.

McBurney believes it to be the result of an accident at birth, and Hutchinson an intra-uterine rachitis.

Kaush, quoting Damsch, believes it to be a dystrophy which soon became stationary. In this connection it is interesting to learn that Goldthwaite and Painter, on operating upon their first case, found the trapezius and rhomboid, which they divided, contained little muscular fiber, and were represented largely by fibrous tissue.

It is evident that the fourth group of cases represented different conditions which have not been studied extensively enough, and that, most likely, a number of them are not true cases of congenital elevation, some of them similar to our second case. The three first groups, however, are so distinct in their anatomical features that there is no doubt about their congenital origin.

We disregarded Rager's classification, since we did not see what influence the "change of axis" had upon the cases. The axis change, to our mind, is dependent wholly on the traction of muscles, and may depend on the existence of some mechanical interference, but is not in itself the cause of the deformity.

*Treatment.*—In the first and third classes the only

rational course is to resect the bony bridge or bent-forward piece of bone. In the second class we have to content ourselves with orthopedic appliances, to press the shoulder down, and so substitute the missing depressors of the shoulder. The fourth class most likely will have to be treated orthopedically, by apparatus, massage, exercise, electricity and, in selected cases, by the knife.

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**Prognosis in Chronic Suppurative Otitis.**—Asking the questions (1) what is the future as regards the cure of the patient suffering from chronic otorrhœa? and (2) what chance has he for the relief of his symptoms along conservative lines of treatment, and what risk is he running of sooner or later suffering from fatal complications? T. J. Harris replies as follows: (1) Chronic otorrhœa in a large percentage of cases is amenable to suitable medicinal treatment. (2) In addition to proper attention to disease of a general character and to the nasopharynx, peroxide of hydrogen, with or without formalin solution, gives the test results, all minor operative procedures, of course, first being attended to when necessary. (3) The results of such treatment are in a good number of cases permanent. (4) The risk of an uncured otorrhœa with good drainage is relatively very small ($\frac{1}{2}$ of $\frac{1}{3}$ per cent. fatalities). (5) Medicinal treatment failing, after a suitable interval of time, the danger of fatal complications in absence of all symptoms should be laid before the patient and the promise of relief by operation stated. (6) Where there is no good reason to the contrary, such as intracranial or mastoid complications, the intratympanic method by ossiculectomy should be preferred, because: its results as regards cure are equally good; the risk of loss of hearing is vastly less; the danger of unpleasant sequelæ, such as facial palsy, is avoided; the possibility of prolonged after-treatment is obviated. (7) The radical operation is not without risk of life. (8) Where ossiculectomy fails or mastoid or other symptoms exist pointing to extension of the disease into the bone, it then becomes the suitable and valuable method of relief. (9) The protecting and assisting power of nature is never to be lost sight of.—*Archives of Otology.*

# LIFE AND ITS PHYSICAL BASIS.

By AXEL E. GIBSON, M.D.,

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Through the tube of my microscope I am watching the development of a speck of protoplasm. Strange possibilities lie dormant in that semi-fluid globule. Let a moderate supply of warmth reach its watery cradle, and the plastic matter undergoes changes so rapid and yet so steady and purpose-like in their succession, that one can compare them to those operated by a skilled modeller upon a formless lump of clay. As with an invisible trowel the mass is divided into smaller and smaller portions, until it is reduced to an aggregation of granules—not too large to build withal the finest fabrics of the nascent organism. And then it is as if a delicate finger traced out the line to be occupied by the coming spinal column and moulded the contour of the body: pinching up the head at one end, the tail at the other, and fashioning flank and limb into due proportion in so artistic a way that after watching the process one is almost involuntarily possessed by the notion that some more subtle aid to vision than the chromatic would show the hidden artist, with his plan before him, striving with skilful manipulation to perfect his work. THOMAS HUXLEY, "Lay Sermons."

IT is to Professor Huxley we are indebted for the equally rhetorical and scientific term "Physical Basis of Life" applied to the primitive life-substance which, as early as 1846, by Hugo von Mahl, had been defined as *protoplasm*, from *protos* "first" and *plasma* "formed substance."

By protoplasm we understand that unorganized indeterminable, unit-essence from which the numberless forms of manifested existence draw their vitalizing fluid. In its gelatinous quivering mass, the powerful modern magnifying lens discloses a blurred, unsteady figure, the *recticulum*, in which lie imbedded a number of deeply staining granules—the *gemmules of* Darwin; *plastidules of Haeckel*; *physiological units* of Spencer, and *Microsomes* of our histological textbooks. Furthermore we find the centresome with its *centrosphere*—an impermanent body, which first appears at the moment of cell-division and is formed *de novo* in each process.

In the center of a limited mass of protoplasm floats the *nucleus*, a sharply defined zone, composed of a number of more or less hypothetical substances, among which phosphoric or nucleic acid exhibits a dominant action, Like the protoplasm *per se*, the nucleus presents a reticulum with its corresponding granules, the chromatins, and a sustaining net work—the *linin*. From the interaction between the protoplasmic elements and the nucleus springs the whole mass of numberless terrestrial existences.

Hence, as an active element, proptoplasm is inseparable from the conception of cell and cell-division. The single cell has been defined as "a nucleated clump of protoplasm, with or without a limiting cell-wall." Yet, under cover of this insignificant-looking "clump of protoplasm" undreamed of forces and possibilities are held in abeyance. In *mitosis*, or the process of cell-division, some hints are given as to the marvelous energies that lie concealed behind this screen of almost structureless substance. The nucleus constitutes the gateway through which the unmanifested rises into the manifested. The first attribute of the nucleus is manifested in its power of engendering the act of cell-division. Through a series of scene-shifting or *phases*, respectively *prophases*, *metaphases*, *anaphases* and *telephases*, the cell with its nucleus undergoes a cycle of structural changes, subsequently appearing in the nucleus, centrosome, and cytoplasm. It is, however, in the centrosome—the minute granule situated in close proximity to the nucleus, that the first sign of proliferation is made visible. Its behavior reveals the presence of liberated electro-vital energies. *Mitosis* commences by a spontaneous division of the centrosome into two equal parts, each forming a temporary pole. Between these two polar bodies the intercellular substances are grouped into the figure of a spindle, which, during the entire process, is maintained in a state of rapid revolution.

During the entire mitosis an unceasing exchange of electro-vital energy seems to take place between the two poles, giving to them the appearance of radiating light; stimulated by the influence of this polar radiation, the nucleus swells, looses its consistency and gradually breaks up, while the fragments of its framework—the chromosomes—are taken up by the whirling centrosomes or polar bodies, and subsequently polarized into two crown-like figures, which arrange themselves on opposite sides of the cell. The process of the mitosis then proceeds through a series of startling metamorphoses, which must be seen and studied in order to be appreciated; the two figures gradually condensing and fashioning themselves into perfect duplications of the original cell body.

The division and multiplication of the single cell leads to the formation of structural tissues. Gradually the ever-increasing number of cells, under the ensuing pressure of environment, are forced to evolve types and properties of specialization. The contents of the proliferating cell differentiates into three determinable layers, thereby inaugurating a stage of existence which, to-day, has its living representative in the *hydra* or fresh-water polyp. In this polyp we discover a type in which the single cell of *Amœba proteus* has unfolded into a figure of a hollow tube. In this vegetative tube the outer covering, the *ectoderm*, forms the basis for sensation; the inner or under covering, the *endodern* foreshadows the tissues and viscera of assimilation, while the intra-membranal layer, the *mesoderm*—formed between the inner and outer layers through the invagination of the tube, presents the substratum for the grand vascular and structural system of the future vertebrates. Thus from the inner layer springs the digestive tract with its surface of epithelial glands; from the middle grows the bones, blood, muscle, and connective tissue; while from the outer emerges the skin, membranes, epidermal appendages, and the entire ramification of the nervous system.

The life-history of any organism is in its essential features the life-history of the single cell. The origin of species and the ascent of man, can be plainly traced in the protoplasmic changes wrought in the unfoldment, of the single cell. For the cell is the first organism in the series of organic evolution, the first figure impressed upon the plastic material of the elemental world. Its form and constitution vaguely, though unmistakably, forshadows the "portraiture of things to be." For evolution does not mean generation, nor much less creation, but rather the unfoldment, through formative processes, of powers and energies uncreated and indestructible, and already present in the single cell. The *Amœba proteus* and *vorticella nebulifera*, the simplest forms of animal life yet described by the armed eye of science, possess in potentiality every function exhibited in their most accomplished descendents. The Amœba, while consisting of a single naked cell, is nevertheless a complete organism, possessing in its nucleus water-vacuoles, contractile vacuoles, food-vacuoles and limiting membranes, the complete apparatus for the highest order of vegetative existence. Through this apparatus, the little creature is enabled to perform, rudimentarily, the whole range of physiological activities subsequently developed in the higher types of evolution. Exposed to the lynx-eye of the microscope, this little creature is seen to exhibit not only responses to external

stimuli, but likewise feats of spontaneous, independent movement. Minute, tongue-like projections—*pseudopodia*—are extended from its surface to serve as means of locomotion. And as function is ever seen to precede structure, so the function of independent spontaneous movement must be regarded as an inherent power of protoplasm. Subjected to suitable environment, this function from latency, is brought into structural operation, followed by the subsequent evolution of organs of locomotion.

Again, if amœba while moving across the slide of the microscope should encounter some food-yielding substance, the little organism at once surrounds the object and engulfs it in its fluidic mass. In a similar way the useless substances which once served as stimuli to the ingestive functions of the little entity are properly eliminated as excreta. In scientific parlance this attribute of the cell, of ingesting and assimilating nourishment, is known as metabolism, an attribute which must thus be conceded to have its genesis and potentiality in the undifferentiated protoplasm.

Now these three phases of the protoplasmic substance, the power to stir, or *mobility;* the power to transmit, or *conductivity;* and the power to assimilate or *metabolism*, constitute the triple-basis for the whole nervous mechanism, as it is by virtue of the sustained and harmonious co-operation of these three cell attributes that organized existence is made possible.

If for a moment we observe the career of the cell in that special phase of its development—the nervous system—we cannot escape from noticing how closely the process of its proliferation is subjected to an ever-present purposive modification. The first modification of the multiplying cell-mass aims toward the formation of a cerebrospinal axis (the stages of growth being easily verifiable in the development of the embryo) manifested in the appearance of a longitudinal groove, whose lateral edges grow up toward a midline, in which they meet and fuse together. This process transforms the groove into a tube, which a subsequent enlargement of the upper end fashions into the future human cranium; while the remainder of the tube is modified into the magnificent spinal cord with its equilateral nerve-arborizations. Hence in the single cell the whole nervous system is held in abeyance, and like a photographer's negative is developed under the influence of external adjustments through environments.

Thus it is in the cell (being a representative of the protoplasmic essence) that we have to search for the source of the vital currents which move the mechanism of the organized world. The single cell is the *sphinx* which holds in its grasp the secrets of life and death. There is not a manifestation throughout the long sliding scale of organized existence, however complex and dazzling, which has not its genesis in and through the obscure life-processes of the single cell. From its mystic, imponderable depth, the forces of evolution well up their torrents of all-embracing, all-stirring energy. The cell brings us closer than any other physical manifestation, to the mighty, all-penetrating, life-force, which Proteus-like, forever disappearing and eternally reappearing, proceeds through the guise of marvelous metamorphosis to engender ever new wonders of growth and progress. With unceasing rhythm its invisible currents sweep through the cycles of change, registering the attributes of wisdom, beauty, and power in the forms and characters of the various kingdoms of nature—liberating, dissolving, and breaking down, again to remodel, reconstruct, and reorganize. Thus while the staging or framework of the protoplasmic or cellular structures are continually breaking down and eliminated from the field of action, the result remains and is visible in the crowning edifice of evolution, the temple of man "built without the sound of nail or hammer" sending its spires of attainments to ever higher evolutionary altitudes.

This intermittent activity of protoplasm in breaking down and building up structures, constitutes the two poles or aspects of organized life. In the language of physiologic technique, the evolutionary process consists of the breaking down of a structure or its *katabolism*, its reconstruction, or *anabolism*, and the totality of the two processes, or *metabolism*.

A series of changes are wrung out from these dual forms of evolution. The resulting action may be diagrammed in the figure of two opposing stairs converging in a summit, of which the one side represents the *ascending*, the other the *descending* currents of protoplasmic energy, while the summit indicates the vital chemical field of action where the amorphous and unorganized life-stuff becomes changed into form and structure.

On these emblematical stairs the carriers of life climb up and down. Along the ascending—the anabolic—grade, rolls up the cargo of ingested and assimilated vegetative material, which after having become deposited in the formative and constructing vortex of the cell, again departs downward—the opposite—the descending of katabolic grade, freighted with the *débris* of the metabolic exchange; while finally the resulting sum-total of the process is manifested in the marvelous fabric of organized structures.

The ascending grade on this ladder of metabolic action is marked by a series of forms and substances constantly increasing in complexity as they rise toward the figurative summit, while the descending grade presents a corresponding simplification of the ensuing katabolic bodies sinking in the scale of physiologic and nutritive value from *nuclein*, *nucleic acid*, *phosphoric acid*, down the chain of the more and more devitalized *alloxuric* bodies until finally at the end of the ladder, the katabolic changes terminate in the waste products *uric acid* and *urea*—the latter being the nearest approach to physiological ashes to be found in the output of the animal-human furnace.

As the food stream passes up the physiological ascent, forcing its way through the specific vesicular membranes under the guiding influence of the selective affinity of the cells, the trophically changed molecules explode into a series of protoplasmic deposits, through which the nutritive elements become dialyzed into tissue-building energy.

The factor which regulates the dialyzing membranes in their selective affinity is contained in the principle of molecular vibration, *i. e.* in the property of *numbers*. All electro-vital action proceeds through a series of ganglionic shocks or discharges, and their number expresses the vital intensity and functional power of the cells. The ascent of life means an increased capacity of the unit—whether considered as single cell or as individual—to respond with its molecular constituency to an over-increased ratio of vibration. This relation between number and functional power has been demonstrated as actively present in every phase of organic unfoldment, functional or structural.

The whole range of world-dynamics may be said to be contained in the single cell, or its protoplasmic substratum. For the latter is not limited to organic existence—being likewise found to form a basis to the inorganic world. On the strength of recent researches, Professor von Schron of Leipsic maintains that the barriers between the organic and

inorganic kingdoms will have to be removed if an intelligible study of nature is to be made possible. His experiments have proven beyond doubt that crystals possess vital powers. He has found them capable of exhibiting the vital phenomena of "(1) individual motion; (2) structural evolution of the substance in which the crystals are constituted; (3) characteristic movements in the shape of generating and promoting vibratory waves." To this may be added that Professor Crookes as early as 1868 exhibited glycerin crystals to the members of the chemical society in London. Though the learned lecturer failed to explain the principle at work in the singular process—it being a mystery to himself—the phenomenon yet makes evident the reality of a basic identity of all substances. Or, to quote from Mr. Crookes himself: "All the endless diversities of being are bound together by a physical as well as an ideal unity. . . a unity of power or structure, as well as a unity of elemental composition."

Truly Huxley enunciated a great truth in his famous definition of protoplasm. Being the "physical basis of life," protoplasm constitutes a unit at once of structure and function. The cellular form imposed upon its homogeneous mass adds in reality nothing to its generative powers. The cell constitutes the first ascent from the protoplasmic level toward organized existence. In the cell the protoplasmic dynamo receives its first rudimentary vehicle by which to start its series of world-fashioning changes. All the cellular elements (mechanical or chemical) are more or less of hypothetical character; and it has been experimentally demonstrated that the centrosome, centrosphere, chromosome, polar bodies and the various temporary figures, appearing and disappearing in the course of cell-life, are apparently accessories and form no essential element in the process of cell-division. They serve as mere conductors or pathways in the course of externalization of the one indivisible power welling up from the protoplasmic deeps into the world of manifestation. In his recent remarkable experiments on sea-urchins, in which is shown the power of the egg to undergo the primary stages of parthenogetic development as the result of artificial chemical stimulus, Professor Loeb has rendered this character of the cell evident. He considers that fertilization itself is an "ionic" act and "the nucleus of the male cell inessential to the process as merely serving as an adjunct-stimulus in the adjustment of the proportions of the surrounding ions." By saline preparations, this daring explorer in the "dark continent" of biology, displaces with triumphant success the various structures of the cell in the process of artificial fertilization.

Never before, in all recorded history, did physical science so boldly and so successfully advance toward the solution of the great world-problem of *life*. But the great problem lies perhaps deeper than the purely *physical* science can reach. For protoplasm with all its mystery, with all its exhaustless resources of energy, is still the mere *physical basis* of life—while life itself lies infinitely deeper. To chemically dissect protoplasm and search for its veiled source of power, is certainly of great physiological value; but does it, after all, bring us really nearer an understanding of life itself? Would an examination of Beethoven's violin or piano, even if submitted to the analysis of dissection, initiate us into the mystery of musical composition, or lay bare to us the anatomy of his Ninth Symphony? And what is the "physical basis of life" but an instrument—infinitely intricate and subtle, it is true—but yet an instrument, through which vibrates, both chemically and mechanically, the unanalyzable and indefinable power of the immortal breath of life?

Hence we cannot believe that the definition of life as a mere output of nucleic and saline solution is to be considered final. While we readily grant that these elements, in furnishing suitable arrangement for the physical manifestations of life, must be regarded as indispensable factors, yet they are *conditions* merely, not *causes*. They constitute *life's* first immediate environment. For what is natural evolution but the demonstration of the progress wrought by an individualized vital principle in the substance of physical invironment. So far from the environments being the *cause* of evolution, on the contrary, they constitute its limiting *vis restantia*. In protoplasm Life encounters its first environment, followed by the infinite variety of others, ranging from the single cell through subsequent cell divisions up to ever higher and more complex forms of organized existence. Evolution may thus be called the fountain of life, inasmuch as it reveals through its organic output the scope and character of the forces at work in its vital current. And as the force, active in a fountain, by overcoming the resistance and friction of opposing environments, flings its liquid masses into cascades of towering height, is not caused by nor inherent in, the water itself, but in the influence of the surrounding atmospheric pressure, so likewise back of the protoplasmic stream—a veritable fountain of life—moves the silent, invisible substanceless essence of life itself, lifting the whole sliding-scale of elemental and organic structures up to ever higher altitudes of evolutionary fitness.

Now the immediate purpose of evolution is to demonstrate the qualities and powers latent in life. Every leaf or flower is a living, irrefutable demonstration in the vegetable kingdom, of the *beauty* of life; every rock or boulder demonstrates in the mineral kingdom the *power* of life, while every creature of the animal and human kingdom demonstrates on that plane the *intelligence* and *wisdom* of life. Existence is a school, and every form or object—animate or inanimate—constitutes an infinite equation, and an equation which sooner or later must be solved. And the solution, within the reach of all, lies in an earnest, unselfish application of one's entire nature to the phenomena and vicissitudes of life, gauged by love, and prompted by will and reason. For each problem solved in outer nature, the student will at once find a corresponding problem solved in his own personal nature, as man in himself is an epitome, not only of the past, but also of the future.

The result of such application manifests in the formation of *character* and *individuality*. And this seems to be the purpose—conscious or unconscious—which, like a guiding Ariadne-thread, leads the individual through the labyrinths of natural evolution.

"Yet I doubt not through the ages one's increasing purpose runs,
And the thoughts of men are widened by the process of the suns."

Perhaps, after all, the old statement of the mystic Carpenter of Galilee, that "he who lives the life shall know the doctrine" is not without its scientific value.

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**A Lugubrious Missive.**—An ex-patient of the Bristol Royal Infirmary, dis atisfied with the treatment he had received, cut off one of his ears and sent it to the medical officer, with a letter couched in abusive terms. He was subsequently taken before a magistrate with a view of ascertaining his mental condition, but the result was a verdict of sanity. Under ordinary circumstances self-mutilation would be accepted as *primâ facie* evidence of insanity, but the Forest-of-Dean magistrates are apparently extra-particular.—*Medical Press.*

# A SIGNAL TEST FOR COLOR-BLINDNESS.*

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It is about a generation ago that Holmgren devoted himself to applying widely and popularizing the wool-test for the detection of color-blindness, which is now generally known by his name, but which was originated and first employed by Seebeck. The popularity of this method is well shown by its numerous modifications. Thus we have wool-tests of Thomson, Williams, Oliver, Jennings, pseudo-isochromatic wools of Donders, Reuss' color-tables, the embroidery patterns of Cohn, colored cylinders of Badal, Mauthner's colored powders in flasks, and others. Holmgren's test, as well as its varieties, use as test-colors red, green, and pink of low intensity and saturation, and as confusion-skeins various combinations of these and of other colors, notably blue, yellow, orange, and purple, with different amounts of gray, so as to produce a series of tints or shades. The subject is required to match similar shades, placing them with the test-skeins which they are judged to resemble, without naming the colors or being required to indicate them on their being named.

The test aims at picking out two classes of men, the red-blind and green-blind, so called on account of their inability to distinguish the red element in such color combinations as purple (red + blue), brown (red + black), orange (red + yellow), particularly when obscured by the addition of much white, as in tints of coffee color, lavender, etc., and the confusion of such combinations with those in which green takes the place of red, namely blue-green, dark green, yellow-green, sage. The advantages of this method have long been recognized. Allowing the subject to select the skeins or colored objects at his ease, and to match the test-colors, and then passing final judgment on his selection, allows a number to be examined at a time, does away with the sources of error and misleading factors incidental to a questioning examination, eliminates the factor of defective color vocabulary, and the possibility of naming a color without differentiating it, or *vice versa*, so making the test to a certain degree objective. Besides this, we are enabled to detect slighter disturbances of color-sense, which, under ordinary circumstances, using very brilliant and pure colors, might not be made evident, and would escape detection. Red and green, the colors of greatest practical importance, as they are used on railroads and shipping for urgent signals, whose disregard or confusion may cause, as they undoubtedly have caused, loss of life and fearful accidents, may, under favorable circumstances, be distinguished by a color-defective whose perception for differences of shading, of tint, is abnormally, we may say vicariously, acute, by appearing to him of different shades, that is, one darker than the other. With variously shaded test-colors this means of identification is removed, and the perception of color value alone is made the guide to recognition, and so the crux of the test. In spite of the delicacy of the Holmgren test, perhaps on that account, its practical value has been impugned, and objections have, from time to time, been raised on various scores, many of them inadequate, to confusion-tests as a class.

Thus it has been claimed that it is unfair to subject engineers and pilots to the test of matching colors; that their occupation and the demands of safety in transportation require only the recognition of the identity and the naming of a few colored lights, all of them brilliant and pure, and not the comparison and judgment of similarity between a thousand and one skeins of wool or spools of silk, colored faded pink, dirty green, rusty browns, café-au-lait, yellow-gray, and other æsthetic but badly defined hues.

Although this contention is not based on any scientifically valid reasoning—for it could be shown by an analysis of the function of color-vision, which would carry us too far from our immediate topic, that just such delicate and apparently irrelevant means are required to insure the detection of any case of color-blindness and not only that of the most flagrant—it is nevertheless a fact that conditions so different from those of actual service do militate against unquestioning adoption of the test by causing a certain attitude of suspicion toward results obtained by its use alone and of sentimental opposition to it as taking an unfair advantage of the subject of examination.

On the other hand, there is reason to believe that a certain, although in all probability a very small, percentage of the color-defective are able, by their unusual sensitiveness to slight differences of light and shade, an increased acuity which is at once the product of, and, to some extent at least, a compensation for lacking color-perception, and by the detection of irregularities of surface and texture, which escape the normal eye, to avoid confusing certain colors when they have been used to dye the Holmgren-Seebeck wools or similar fabrics.* At a recent meeting of the British Ophthalmological Society, Edridge-Green called attention to the facts, pointed out by him some years before as a member of the Committee on International Signal-Codes, that the Government tests for color-blindness are still insufficient, and the enforcement of regulations too lax. His prediction had been fulfilled that if color-names were ignored in the Board of Trade tests, and reliance placed solely on the Holmgren system of matching colors, normal-sighted persons would be rejected. He emphasized the fact that an engine-driver or sailor had to name a light when he saw it, and not to match it. Scripture sums up the objections to the Holmgren test, as follows: The requirement of reliability is not met. In the first place there are many cases of rejection for color-blindness which later examination proves to have been unjustified. There are also many cases of color-blindness discovered after the person has passed the test; these are regularly treated as cases of "acquired" color-blindness without the certainty that they are not sometimes cases of overlooked color-blindness.

On the other hand, railway and marine surgeons who use a test with colored glasses in addition to the wool-test, constantly report the discovery of cases by the one which have successfully passed the other. Furthermore, the test-objects and the conditions under which they are judged do not conform to actual service. In practice the railway man or pilot is never required to put into a pile all the objects that resemble a certain sample, but to decide for himself which of the lights he sees are red, green, and white. An ideal test would consist of an immense number of such lights under all the variations of brightness, distance, fog, etc. The person tested should be required to name the objects. This is just what he does in thinking about the lights he sees when at work; he decides that this one is "red," that one is "green," etc. The judgment of the likeness or unlikeness of colored objects is an utterly

*Presented at the New York Academy of Medicine, Section on Ophthalmology, January 19, 1903.

*V. C. Devereux Marshall, Mauthner, Scripture.

different matter and involves a different form of mental activity. Great trouble and uncertainty arise in the wool-test because it demands a different form of judgment from that to which the men have been accustomed.

Finally, several colors should be presented simultaneously for comparison.† In practice the person sees several lights together; he compares them and decides on their colors. The secret of the past success of the Holmgren test over the tests of the Donders form with colored glasses lies in its use of the principles of comparison. An ideal test would combine this principle with those in which the Holmgren test fails.

However opinions may vary as to the entire reliability of the Holmgren test, there is undoubtedly a consensus that it should be supplemented by a test with signal lanterns capable of demonstration to the subject, and, what is equally important, to disinterested persons. A perfect test would require not only signals similar in color, size, and position, but also the variations in all these factors corresponding to the vicissitudes of illumination, distance, and atmospheric conditions. If locomotive engineers were required only to recognize a single brilliant red light near by, on a clear night, or a clean red flag on a bright day, the matter would be greatly simplified. On the contrary, they must recognize, and that without an instant's hesitation, red, green, blue, white, and occasionally purple or yellow lights, whether obscured by mist and passing steam, blurred by rain, or darkened and changed by smoke and fog, at daybreak or dusk when they pale in the twilight.

The lantern which I have devised is intended to reproduce service conditions on a diminished scale. The colored glass used for the signals is made of standard red, green, blue, yellow, and purple as supplied for switch-lights on one of the largest railroad systems of the country. The lantern is in the form of an asbestos chimney like those used for retinoscopy. It may be lit up by a candle, or, preferably, slipped over the glass chimney of an argand-burner or the bulb of the incandescent electric-light, and used in the darkroom. In view of the absence of an independent light-source the term "lantern" may seem a misnomer. I have accepted this lesser evil in preference to that of making the instrument unnecessarily complicated and hence costly. The argand-burner is always available, and may be greatly varied in intensity, so giving the changes similar to those of actual service. A disc containing apertures ranging from one to twenty-five millimeters in diameter allows quantitative variation corresponding to distance, and a series of ground and London smoke glasses produces changes like those due to smoke, fog, and snow. The testing-distance is five meters with the smallest aperture, the flame having been lowered until no radiation of white light is seen about the edge of the opening, so that the illuminated area appears clear and distinctly outlined. For quantitative tests the maximum distance for the observers—supposedly normal—eye should be determined. A spring shutter large enough to cover the twenty-five millimeter opening allows the signals to be exposed momentarily, if desired, and thus to test macular color perception.

The lantern is manufactured by E. B. Meyrowitz, to whom I am indebted for a practical embodiment of my suggestions.

114 West 126th Street.

†The last principle enunciated does not appear tenable to the writer, for while the person "sees several lights together," or rather a great many, he does not compare them, or judge them simultaneously, but "picks them up," in succession, recognizing each in time and acting on that recognition.

**The Movement and Migration of the Lymphocytes.**—G. B. Vlasson and E. K. Sepp, in summarizing the results of their observations, conclude: That the lymphocytes in consequence of the disproportion in the amount of the protoplasm and nucleus are incapable of movement, and the movement they exhibit in the form of the destruction of the cell with the preceded destruction of the nucleus can only be compared to the necrobiotic movement of portions of protoplasm without nuclei. The movements of lymphocytes observed in a drop of blood are as follows: the lymphocytes of the blood in man have a capability of amœboid movement, but only a potential one, which passes into a kinetic only under conditions unfavorable to cell life—under conditions of increased motility of the cell in a state of necrobiosis. In view of the exceptional conditions required for the occurrence of this process, the certain quick destruction during this process of the leucocytes, and the peculiarities in the motion of the lymphocytes contrary to the laws of fatigue and exhaustion, we may consider the amœboid movements of the lymphocytes, though physiological in their character, but occurring beyond the normal limits of physiological activity. The exhibition by the cell under such conditions of such an activity can not be considered as the expression of one of the normal life functions of the cell, so that, until the movements of the lymphocytes shall be proved by direct observation to occur under normal conditions, we must decide the question negatively. The same is to be said about the migration of these cells from the blood vessels during inflammatory processes, since there are no direct proofs of this in literature, and the material brought forth by some observers is so contradictory and indefinite that it can be used just as well to disprove as to prove the theory.—*Meditsinskoye Obozrenye.*

**Remarks on the Treatment of Paralysis Agitans (Parkinson's Disease.**—J. Madison Taylor states that the indications in Parkinson's disease are to overcome the growing apathy; to induce systematized return to normal activities; to use all gentle and yet forceful means to secure elasticity to the tissues, and finally to stimulate the circulation in the spinal cord by graduated pressure upon the spinal areas through which reflexly many of the fibers in the cord can be restored to function and others improved. Above all, care and patience and persistence must be forthcoming on the part of the physician, and intelligent coöperation demanded in the patient. Whether a cure can ever be attained is only to be learned by increasing experience, but the profound improvement obtained in some exceedingly severe cases, warrants the hope, and expectation, if moderate, can be at times exceeded. In so hopeless a condition these rational measures are certainly well worth a fair trial, and in the earlier stages of the disease they promise to secure abundant rewards.—*Proceedings of the Philadelphia County Medical Society.*

**Some Directions and Avenues through Which Cancer May Possibly Be Successfully Treated and Perhaps Cured.**—C. H. F. Routh calls attention to the fact that in a number of cases cancerous growths have disappeared spontaneously by exposure to the atmospheric air. The cause of the cure was undoubtedly the oxygen in the air. He reports two cases in which the application of peroxide of hydrogen induced a complete disappearance of the cancerous growth. He also speaks of the effects of vibration which have the power of hindering the growth of microorganisms, and suggests that cancerous masses be singled out, and shocks passed through them. Possibly a cure might follow. As McFayden has found that by crushing the bacterial cell it is possible to remove the contained poisonous juice, the real source of the disease, the author thinks that the method might be applied to the curing of cancer.—*Medical Press and Circular.*

# MEDICAL RECORD:

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## THE MEETING OF THE BRITISH MEDICAL ASSOCIATION.

THE seventy-first annual meeting of the British Medical Association held this week at Swansea in Wales, a cable report of which, prepared by our special correspondents, will be found in another column of the present issue, seems to have been fully up to the average in interest and in the importance of the subjects discussed in the several sections. A sign of the times, and one indicating the increasing dignity of the profession of medicine in Great Britain, was the election of the Prince of Wales to honorary membership in the association. A century ago, or even fifty years ago, the physician was a nonentity, ranking below the parson and but little above the butler in the social scale, and even yet, in military life especially, his worth is far from being recognized at its full value. A great lift was given to the profession socially when the present King, then Prince of Wales, accepted membership in the British Medical Association as well as in the Royal College of Surgeons, and this upward progress is now assured by the fact that the son is following in his father's footsteps as a friend of the doctors. In a country such as England, where the lines of class distinction are still quite sharply drawn, the raising of the medical practitioner in the social scale means much more than a mere recognition of him by what is called "society"; it means that his influence as an adviser on matters of hygiene and public health will thereby be widened, and that his views on such subjects will receive increasingly more respectful attention in the future than they have in the past.

In these times when everything is tending to increase the friendly relations existing between the two great nations using a common English speech, the doings of our confrères in Great Britain have an added interest for American physicians. It was this that prompted the MEDICAL RECORD to present its readers with the cabled abstract of the meeting here furnished, which will, of course, be supplemented with the usual full report by mail of the principal sections. It would have been an added satisfaction could we have published in this issue an account of the entire meeting, but as the association is still in session at the time of this writing, a complete report is manifestly impossible. We give our readers, however, the latest news up to the moment of going to press, and in so doing maintain the established policy of the MEDICAL RECORD always to present a prompt and accurate account of medical happenings in all parts of the world.

## KORSAKOFF'S DISEASE—POLYNEURITIC PSYCHOSIS.

AMONG the many forms of mental disorder a few are recognizable by the non-specialist, among them the form described first by Korsakoff some fifteen years ago as accompanying multiple neuritis of alcoholic origin. Osler refers to this disorder when he says that many patients with alcoholic polyneuritis lose their grasp upon time and place, narrate events long past as of recent occurrence, and tell of imaginary happenings. The last number of the *Journal of Mental Pathology* contains a critical study of Korsakoff's disease by Drs. Soukhanoff and Boutenko, on the basis of a critical review of the whole literature, and of cases personally observed. The following is a fairly typical case: A wigmaker, of strongly alcoholic-neurotic family history, aged 43 years, married, had drunk steadily a medium quantity of alcohol from 16; from 24 he suffered from constipation; about 32 he had marked pains in the feet, relieved by salicylates; and from the age of 38 he suffered from dyspnœa, faintness, and morning vomiting. In February, 1902, he was attacked by some acute infection, with two weeks' fever (reaching 40°C.), cough, sneezing, and pains all over the body; and, the first three nights, restlessness, insomnia, and hallucinations of alcoholic coloring; the attack ending in recovery. On September 6 the patient stopped drinking. A week later he grieved over non-success in setting up a business of his own, and took little interest in his surroundings. On the 27th, going to dress a lady's hair, he forgot to take his hairdressing appliances with him. The lady's anger had a marked effect on him; he had sudden vertigo, vomiting, three hours' unconsciousness, and involuntary urination, followed by pains in the temples for two weeks, inability to walk without support, ending in progressive improvement to October 11, when he had an attack of unconsciousness with foaming at the mouth, and, twenty minutes later, another attack lasting three hours with superficial breathing, biting of the tongue, and involuntary defecation. Admitted to hospital November 2, he was drowsy, though he answered questions. He did not know he was in a hospital, and was delirious to a high degree, at times mistaking persons (physicians for his chums; at other times, however, recognizing them), though recognizing his near relations. The reflexes were impaired; temperature 38.2°C.; pulse 130. On the 25th the temperature was normal, and the patient less depressed; he complained of pains and a sense of fatigue in body and head, and was quite weak. The right pupil was somewhat the larger, and the right soft palate somewhat lower. The biceps tendon reflex was absent. Tremor of the hands was present on extension. The lower extremities were markedly wasted, and there was pain on pressure over the right crural and ischial nerves. The knee-jerks were absent, the gait uncertain, and the patient swayed on standing feet together and eyes closed. He complained of marked pain in the feet. On psychical examination the most marked trait was the memory defect; he could not remember what he had just been told, or where he had come from. He said he had been in the hospital three days, which was incorrect. He could not tell the part of

the city, the day of the week or month, or his own height. He could remember remote events well, *e.g.* approximately the date of his birth, and the town and department where he lived. He made mistakes as to the age of his children, and mistook those about him for old friends. He thought his memory good. When he realizes that he cannot give a correct answer, he tries to evade the question. He tells with an air of perfect sincerity imaginary stories about his doings of the previous day; of a hunting trip, and of shooting some rabbits, where he had been, of drinking feats in company with his chums, etc. The simplest addition was done with the greatest difficulty. His disposition was good. In the course of the disease the memory defect remained unchanged. He, however, continued to tell fantastic stories; of having gone fishing, that an immense fish sprang at his friend, began to beat him, and tore his wedding ring off his finger, etc. At first he could not remember the doctor's name —later with great difficulty he managed to retain the names of only two of those around him, and he applied the names to the wrong persons. Gradually he learned to remember the day, date, and year. Gradually he stopped telling imaginary stories, and his amnesia came to apply especially to events of his own life beginning with his first attack. Nutrition and strength increased, the knee-jerks reappeared and electric examination showed the absence of the reaction of degeneration. What now are the distinctive features? The combination with the signs of polyneuritis (impaired tendon reflexes, weakness of the extensors of the leg, tenderness on pressure over nerve trunks, changed electrical behavior of the nerves), of memory defect and a marked tendency to the fabricating of "pseudo-reminiscences;" also usually a serene contentment, often a little realization of the memory defect, frequently defective grasp as to surroundings (place, date, persons, etc.). In addition also, of course, tremor of hands and tongue. Altogether 192 cases are on record, 112 in women and 80 in men. The predominating cause is chronic alcoholism (in almost three-fourths). More especially is this true in regard to women. In them also local septic foci enter more into the etiology than in men. In men most cases occur between 40 and 50 years; in women between 36 and 40 years. There has been much discussion as to the necessity of a connection with the psychosis, of the polyneuritis. The author's collection shows that polyneuritis was present in all the recorded cases in women, and in all but ten of those in men. They find that in men psychic defects remain in half the cases. Death is frequent, tuberculosis being often the immediate cause. Of the women, 14 recovered, 6 were possibly hopeful, in 20 psychic defects remained, and 21 died. Eleven of the 14 recoveries were of alcoholic origin.

## THE EARLY HISTORY OF QUARANTINE.

Past Assistant-Surgeon J. M. Eager of the Marine Hospital Service contributes the Yellow Fever Institute, Bulletin No. 12, dealing with the above subject. Public sanitary measures, known as "quarantine," have been more extensively applied in America against yellow fever than against any other disease. "The history of quarantine," says the writer, "is closely interwoven with that of medicine in general and of shipping. We read of these practices being applied against leprosy in Biblical times, and Captain Cook, the English navigator, tells us that the savages of the South Sea Islands, who had not advanced beyond the stone age at the time of his visit to those islands, resorted to crude sanitary precautions in the case of arrivals from neighboring places."

The story of the beginnings of quarantine is associated particularly with the epidemiology of leprosy, pest, and syphilis. Cholera and yellow fever were later considerations. The first reported prevalence of yellow fever was at Bridgetown, Barbados, in 1647, the year before the great pest of Havana. At this time quarantine measures had been practised against other malignant contagious diseases, a maritime quarantine station having been in operation at Venice in 1403, nearly a century before the discovery of America. The first appearance of yellow fever in Europe occurred at Lisbon in 1723, but it was not until 1821, following an extensive epidemic in Spain, that quarantine was applied in Europe against yellow fever."

Land quarantines against leprosy were the first mentioned in literature. Precautions to be taken against this disease are formulated in the Old Testament, isolation being ordered for persons who were found to be afflicted with leprosy. The Crusaders brought back with them to Europe from the East numerous diseases, including leprosy, and the Eastern system of isolation was adopted. Leprosy, however, had been introduced into Europe many centuries earlier, although, during the crusades' epoch it became much more widespread than ever before. It was in connection with pest, and later with syphilis, that maritime and land quarantines were established in medieval times. The term pest in those days was far more comprehensive than at the present time, not only did it include bubonic plague, but different epidemic diseases, which were then placed in the same category. Hippocrates believed epidemics to be air-borne, while Galen held somewhat similar views. The first man to preach the doctrine of contagion by contact, was Jacopo della Torre, an Italian, who was born in the second half of the fourteenth century, and his theory was ably upheld by the writings of Allexandro Benedetti, Marsilio Ficino, and Gerolamo Fracastoro. Ficino was of the opinion that pest could be communicated from man to swine, and that cats and dogs might convey the disease. He advised that all drinking water should be boiled, or that it should be impregnated with iron rust, and that persons should dwell on hills or in mountainous regions. He gave many injunctions as to treatment and diet during times of pest, some of which are followed to this day.

Fracastoro, influenced by the prevalence of syphilis in Europe, wrote in 1546, the work, "De Contagionibus," in which he divides contagious diseases into three classes, namely, disease-catching by contact; disease carried by fomites; and disease conveyed by air.

Maritime quarantine originated in connection with the Levantine trade. The Venetians were, it is generally admitted, the first to make provision for maritime sanitation, and the first thoroughly

constituted maritime quarantine station of which there is historical record, was established in 1408 on the island of Santa Maria di Nazareth, at Venice, and in 1459 a public bureau of sanitation existed in Venice. In 1576, owing to the frequency of strange febrile diseases, the supreme magistrate of health of the Republic of Venice, suspecting pest, called a conference of great physicians, among others Girolamo Mercuriàle, Capodivacca, and Nicola Massa.

The maritime quarantine stations of the sixteenth century consisted of an anchorage, barracks for suspects and convalescents, and a place where purification could be applied. A vessel, suspected of being infected with pest, was, upon arrival, thoroughly disinfected, some of the clothing of its crew and passengers being burned, some washed, aired, and perfumed, for fifty days. The sick were sent to a lazaretto. It was not until the middle of the last century, following the investigations of Pasteur, Pollender, and Bavaine, that quarantine practice became established on its modern scientific basis. English quarantine procedure prior to 1800 did not differ much from that of the Mediterranean ports. From the beginning of the nineteenth century quarantine restrictions were, by changes in the law and their application, materially relaxed in Great Britain, and as a substitute for former practice it has not been the custom in modern times to detain any vessel unless there has been communicable disease aboard during the voyage, or such exists on arrival.

The international sanitary conferences at Paris in 1851 and 1852, in which participated the different European powers having interests in the Mediterranean, marked the close of the old régime of quarantine. Delegates were present from France, Austria, the two Sicilies, Spain, the Roman States, Greece, Portugal, and Turkey. England was not signatory. Regulations were adopted much less restrictive than former ones, it being admitted that the efficacy of many measures formerly practised was doubtful or negative, science having proclaimed that, for the most part, pestilential maladies are not contagious. A revolution in quarantine methods, on the European continent, followed this declaration, and resulted in the general adoption of practices based on the limited communicability of epidemic diseases.

The foregoing is a condensed account of Dr. Eager's extremely interesting description of the history of quarantine, chiefly of its early history. It will be noted that quarantine in America is not touched upon. It is to be hoped that at a future date Dr. Eager may turn his attention to this phase of the matter, and its bearing on yellow fever, and give his views as to the efficacy of quarantine.

### The Cause of Hay-fever.

Professor Dunbar of Hamburg claims that he has been able to isolate the toxic substance, which in predisposed individuals is capable of producing hay-fever. The results of his experiments are given in the July *Edinburgh Medical Journal*. By injecting the isolated toxin into animals, he has been enabled to obtain from them a serum which antagonizes the poison: (1) With rye pollen he touched the nostrils of six persons, three liable to hay-fever, and three immune. In the former marked nasal symptoms followed, while the latter were perfectly unaffected. (2) The pollen was applied to the eyes of the same persons, and in those who suffered from hay-fever, lacrymation, œdema of the lips and even chemosis followed. The three persons who were not subject to the hay-fever escaped all symptoms. (3) He placed two persons—one hay-fever patient and one immune—in a glass room, and made each blow into a small vessel containing rye pollen. The hay-fever subject was attacked by all the characteristic symptoms of the complaint in a somewhat aggravated form. The other person suffered no discomfort. (4) He applied pollen to the arms of a hay-fever patient and itching lasting for hours was produced. He did the same to an immune person and no effect resulted.

Professor Dunbar made several investigations into the composition of pollen, under what conditions it is active and when inert, and concluded that hay-fever poison is a soluble toxin. He also decided that the starch bodies of the pollen contain the toxin, and he further found that only the starch bodies of the graminaceæ are active in this way. He injected pollen toxin hypodermically into a medical man who suffered from hay-fever. The patient suffered in fifteen minutes from all the symptoms of hay-fever, which for the space of four hours became worse. The injection was made in the forearm, and in twenty minutes it began to swell, and in the evening the intumescence extended from elbow to hand. This took some days to pass off. Another doctor—immune from hay-fever—suffered no inconvenience save a slight swelling at seat of injection. Finally he injected rabbits with toxin, and after several weeks obtained a serum which he found could neutralize the toxin. He also thought it probable that rye antitoxin would neutralize the toxin of other grasses.

The outcome of the experiments made by Professor Dunbar have, to a great extent, been confirmed by Sir Felix Semon and Dr. M'Bride in Great Britain. With regard to the clinical uses of the antitoxin, however, the matter is still *sub judice*. Nevertheless it is a great advance to have isolated the toxin of this extremely troublesome affection, and there would seem reason for the belief of Professor Dunbar that he has discovered an antitoxin for one form at least of hay-fever. It is not improbable, however, even if the pollen theory is correct, that there are pollens and pollens and hay-fevers and hay-fevers, and that the special pollen which causes an attack of the disease in one person will not affect another who may yet be susceptible to the pollen of some other plant. If that is the case, it will e necessary to manufacture as many antitoxins as there are varieties of hay-fever inciting pollens, and then to decide upon the special form of hay-fever from which the patient is suffering before selecting the appropriate antitoxin.

### Etiology of Dengue.

In the Medical Record of February 8, 1902, Dr. Harris Graham, Professor of Pathology at the American College, Beyrout, Syria, published an article in which he set forth his views as to the etiology of dengue. The opinions there recorded had been brought about as the result of careful observations during severe epidemics of the affection and of practical experiments undertaken by Dr. Graham. Beyrout is at certain times of the year a hot-bed of dengue, and consequently the opportunities for studying the disease are peculiarly favorable. The series of experiments carried out by Dr. Graham included direct inoculation by means of infected mosquitos of healthy individuals, the results of these

investigations convinced him that certain forms of culex may convey—as do anopheles the malaria germ—the disease from one person to another. Dr. Graham, in the article referred to, said: "It may not be absolutely proven that this hæmatozoon is the cause of dengue, but its constant presence in the red blood-corpuscle during the fever, its resemblance to the parasite of the Texas cattle fever, its likeness in manner of growth and mode of propagation (by the mosquito) to the malaria parasite, all point in the same direction, and lead us to believe by analogy, if by no other way, that in this parasite we have the cause of dengue." Again dengue with malaria and yellow fever—both of which are spread by mosquitos—disappears with the cold weather, the insects being inactive at that time. The Egyptian correspondent of the *Lancet* of July 4 propounds the theory initiated by Dr. Graham that dengue is conveyed by mosquitos, which is the *raison d'être* of our dissertation. The medical men of the United States Army who are stationed in the Philippine Islands might give efficient aid in solving the problem of the etiology of dengue, as the disease is very prevalent there.

### Antivivisection in England.

The crusade against vivisection is being prosecuted with more than ordinary rancor by the small but noisy band of its opponents in Great Britain. This narrow-minded and prejudiced body of men refuse to acknowledge that any good has or can come from experiments on living animals, despite the facts proving its undoubted benefit to the cause of science, which are being continually brought to their notice. Sir Michael Foster, recently in the English House of Commons, delivered himself of some weighty words in defence of vivisection. The noted physiologist said in part: "Vivisection experiments were not carried on with the clear certainty that the result obtained would immediately suggest a cure for any particular evil belonging to mankind. The result was a contribution to the general knowledge of mankind and an enlargement of the power of mankind. The increase of medical power that occurred year by year was due to the increase of medical science. Medical science from the time of Galen to the present time had been based in part on vivisection. It was based on many things—on observation on men, on observation on dead men, on observation on dead animals, and on experiments on living animals. Those elements were all interwoven, so that we could not pick out any part of the advance of knowledge as belonging to this head or that; and if we withdraw experiments on living matter the whole would fall together as a confused heap. . . . The descriptions heard of experiments were not true descriptions. The great object of the physiologist for the sake of the results was that pain should be abolished altogether, and a very large amount of the progress in recent years was due to the fact that the operations could be carried on without pain. It was only in a few rare cases when pain was a part of the study that anæsthetics were not used." Paget, in his recent work, "Experiments on Living Animals," has given a clear description of the reason for such investigations, and of the manner in which they are conducted, showing that vivisection is carried on in the most humane way possible, and that the results gained thereby for the behoof of humanity at large, are far in excess of any pain which may have been caused to animals.

Antivivisectionists, like antivaccinationists, are cranks, some of whom mean well, but many of whom are inspired in their propaganda by the desire of self-advertisement. The pity is that they lead astray the ignorant, who, not properly understanding the question, borrow their views from those who speak and write the most, and thus distorted ideas as to vivisection are propagated, and a wide prejudice created against the practice.

## News of the Week.

**"Journal of the Royal Army Medical Corps"** is the name of a new periodical which has been established in London. It is to be published monthly by John Bale, Sons & Danielsson, under the editorship of Major R. H. Firth of the Royal Army Medical Corps. There are to be several departments as follows: (1) Original articles written by officers of the Royal Army Medical Corps and others; (2) bibliographical notes on articles of importance and interest to the military services; (3) reprints and translations from military, medical, and other journals; (4) official gazettes and official information generally bearing upon the Army Medical services. The first number is dated July, 1903, and contains the following original communications: "A Report upon Hospital Arrangements on Board Transports," by Capt. G. B. Stanistreet, R.A.M.C. "A Case of Neurectomy of the Sciatic Nerve," by Lieut. Walter C. Stevenson, R.A.M.C. "Some Rare Ocular Manifestations of Venereal Disease," by Major M. T. Yarr, R.A.M.C., and "Report on the Medical Relief Expeditions to Martinique and St. Vincent in Aid of the Sufferers from the Volcanic Eruptions of May, 1902," by Major J. Will, R.A.M.C.

**"Important, if True."**—The sea-serpent has not been heard from this summer, but we don't miss him. The newspapers of Sunday last contain a circumstantial account, telegraphed from Anderson, Ind., of the creation of living matter out of salt, by Dr. Charles W. Littlefield of Alexandria in the same State, a graduate of the Kansas City Homœopathic Medical College in 1896. The biogenic substances employed were: one ounce of common salt, six ounces of pure water, six ounces of 90 per cent. alcohol, all mixed in an ordinary glass dish, and two ounces of aqua ammoniæ distributed in five small plates and all covered with an airtight glass jar. "In ninety minutes salt crystals were impregnated with the hydrogen and volatile magnetism of the chemical solution and transformed into living forces that immediately sought nourishment through mediums that Dr. Littlefield called feeders, lacking a technical name." Indiana is so full of poets and best-selling novelists that creation, or the making of something out of nothing, comes easy there.

**Suit against a Hospital.**—Mr. John H. Calder has begun an action in the Supreme Court against the General Memorial Hospital in this city, to recover $100,000 damages for the death of his wife. Mrs. Calder died in February last in the hospital, where she had gone to be operated on, and the complainant alleges that her death was due to the carelessness and inexperience of the nurse who attended her. From the complaint it appears that the nurse was directed to rub Mrs. Calder with a mixture of alcohol and ether. Instead of using the electric light, it is alleged the nurse lighted a candle, and the stuff caught fire after it had been spread over the patient's body. The candle stood in a glass on the bed, and upset, setting fire to the bed clothes. Before the flames could be extinguished the patient had received mortal burns and died four days later.

**The Missouri Valley Medical Society.**—The annual meeting of this society will be held at Omaha on

September 17. A symposium on Skin Diseases will be a feature of the program. Those desiring to read papers should announce their intention, sending the title of the communication to the secretary, Dr. Charles Wood Fassett of St. Joseph, Mo., not later than August 10. The president of the society is Dr. J. M. Barstow of Council Bluffs, Ia.

**An Exposition of Child Life.**—Announcement is made of a unique international exposition which will be held in the imperial palace of Tauride, at St. Petersburg. The undertaking is called The Child's World, and will be under the patronage of Her Majesty, Dowager Empress Mary Fedorovna. Their will be assembled at "The Child's World" everything relating to the moral, physical, and intellectual education of childhood and youth. The exhibits have been divided into five sections, as follows: Section 1 on scientific teaching will show the aids in teaching children by means of manuals, books, maps, and pictures. Section 2, which is the one of special interest to medical men, will be devoted to that which pertains to the physical development of children. In this section will be considered the care of the new-born, hygiene before school age and of school children, nourishment, children's playgrounds, and the like. Section 3 is the industrial one, where there will be exhibits in nursery surroundings, furniture, lighting, heating, ventilation, beds and bedding, and children's clothing. In this section will be shown also the toys and games of children all over the world. Section 4 will be the art section, in which child life in pictures, by artists of all schools, will be shown in oil, water colors, pencil drawings, and all methods of reproductive art. Section 5 is the historic-ethnographical section, where there will be illustrations of historical events from the lives of child heroes, discoveries and inventions made by children, works and compositions by young artists and composers, and ethnological peculiarities in the lives of children of different nations.

**Report of the Autopsy on the Pope.**—The following were the findings of the autopsy made on the body of Leo XIII by Dr. Giuseppe Lapponi on the afternoon of July 21: After the injection of five liters of a special preserving fluid the abdomen was opened and the bladder and intestines were extracted. They were found to be perfectly healthy. The spleen and kidneys were also absolutely normal. In the latter the cortical substance was well preserved and of a pale pink color. After the thorax was opened it was found that the heart, the aorta, and the carotid arteries were healthy, except that in the arch of the aorta was found an atheromatous patch. Nothing unusual was found in the pericardium. The pleura on the left side was quite normal, but on the right side the pleural cavity was full of liquid of an orange yellow color above and bloody at the bottom, with a large clot of fibrin. More fibrin was on the free surface of the costal pleura, but this was easily detached, allowing a view of the serous surface. The upper part of the right lung was quite normal, but the lower part was somewhat hard and crepitated when compressed, and from the cut surface a whitish, frothy liquid oozed out. The inferior lobe had partly adhered to the wall of the thorax, and when this was cut a dirty, white, abundant liquid, without gas, oozed out, showing complete hepatization. The anatomical diagnosis made by all the doctors present at the autopsy was that of gray hepatization of the right inferior pulmonary lobe, with much pleuritic liquid of a serous fibrinous character, partly hemorrhagic, thus confirming the clinical diagnosis.

**Pensions for Health Officers.**—It is stated in the *Medical Press* that a recent number of the *Official Gazette* of Spain published the Royal decree announcing, over the signature of the Director-General of Health, the conferring of a pension on all medical health officers who may be incapacitated from work by any epidemic. And in case of death resulting from disease contracted in discharge of their duty their widows and orphans are to receive a pension.

**Bequest to the Newark Eye Infirmary.**—By the will of the late Eugene Vanderpool, a bequest for $10,000 is left to the Newark Charitable Eye and Ear Infirmary in memory of his wife, Eleanor B. Vanderpool, which the testator directs to be paid within twelve months after his death.

**Medical Examinations on a Jewish Holy Day.**—The New York State Board of Medical Examiners, in arranging for the examinations this year, set them for the date which is the Jewish Day of Atonement. The Union of Orthodox Jewish Congregations sent in a protest to the examiners and requested that the examination day be changed. In reply Secretary M. J. Lewi wrote that no alteration could be made this year because changing the long-advertised dates of the examination would be extremely unfair to many whose plans have been arranged in keeping with the schedule. He requested the society, however, to furnish the Regent's Office with the days and dates of coming Jewish holidays, so that future examination dates, not already scheduled, could be arranged so as not to conflict with the observance of those days.

**Mosquitos and Dengue.**—The Board of Health of Honolulu, acting upon the belief that dengue, which is now prevalent in the Hawaiian Islands, is spread through the agency of mosquitos, has instituted a crusade against these enemies of the human race. The results of their warfare will be watched with interest by some discouraged folk near New York.

**Obituary Notes.**—Dr. DONALD MCLEAN of Detroit, Mich., died at his home in that city on July 24, of gastroenteritis. He was born in Ontario in 1839 and was graduated from Edinburgh University in 1862. He practised medicine in Kingston, Ont., until 1870, excepting the years 1863-64, when he was a surgeon in the United States Army. In 1870 he became professor of surgery in the University of Michigan and held the chair until 1889. He was for several years chief surgeon of the Michigan Central and Grand Trunk railroads, and in 1894 was president of the American Medical Association.

Dr. JOHN EVANS WALKER of Columbus, Ga., died suddenly in that city on July 23, of cerebral apoplexy. He was a graduate of the New York University Medical School in 1886, and was for a time immigration medical inspector for the United States Government at Ellis Island, New York Harbor. Later he removed to Columbus, where he soon acquired an extensive practice.

Dr. LAWRENCE STEWART EDWARDS of Patchogue, L. I., died there on July 25 of cerebral apoplexy. He was born in Patchogue on July 4, 1855, and was graduated from the Bellevue Hospital Medical College in 1876.

Dr. MILO HOTCHKISS JONES, son of Dr. Leander Jones and assistant to his father as Health Officer of Greenwich, died there on July 27 of a fever contracted two weeks ago while attending to his duties. He was born in Kensington, Conn., twenty-eight years ago, and was graduated from the Yale University Medical Department in the class of 1896. He served for a term on the house staff of Bellevue Hospital in this city.

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

CAVENDISH LECTURE—DISEASE OF ASCENDING AORTA—HOWARD KELLY IN SCOTLAND—GYNECOLOGICAL SURGERY—SANITARY INSTITUTE—HOSPITAL BALL—ELECTION AT THE ROYAL COLLEGE OF SURGEONS—MR. BLOXAM—DUBLIN LOCK HOSPITAL—ALLINSON AGAIN.

LONDON, July 10, 1903.

THE Cavendish Lecture was delivered on the 24th ult. by Prof. Clifford Allbutt, and was, of course, in his usual picturesque style, which some affect to consider too ornate or popular for dry scientific discourses. He took as his subject Disease of the Ascending Aorta, and spoke at the outset of the strain to which it is subjected. "The endurance of the arch of the aorta under the incessant lashing of the blood for three-quarters of a century" he found remarkable; although in persons above fifty years of age there are usually signs of wear or injury, greater in those who have spent lives of muscular labor. The constant strain must enter more or less into the sum of its lesions and the seat of their greatest severity. Disease of the aorta has a certain independence of affections of the heart or even of the aortic valve.

Inflammation may attack the aorta in the course of infective diseases, but is not always dangerous; it is sometimes slight and transient, but should always be watched, for as it is more frequent in the exanthemata than was at one time supposed. It may determine a fatal issue or may disappear in a few weeks, even in smallpox cases. In rheumatism it is generally an extension from the heart, but not always.

Perforating aortitis is not so rare as some suppose; perhaps some aneurysms arise in this way. Suppuration is sometimes overlooked post mortem, as it does not break into the channel of the vessel. The pus lies in foci in the adventitia, and in the middle coat "it is a periarterial affair, and usually but a small and secondary item in some much more extensive pyæmia." But inner aortitis is not uncommon in septic diseases. In typhoid fever the transient form is common in the later weeks or during convalescence, but is likely to escape notice. The relation to influenza, diphtheria, pneumonia, malaria, and other diseases was considered, and a remark was made on the experimental side of the subject.

Passing from acute to chronic aortitis, Dr. Allbutt likened to passing from obscurity to certitude, but he had some interesting statements to make. He thinks disease of the ascending aorta as distinguished from diffuse atheroma gets too little attention; it may occur alone, or nearly alone, and though the symptoms may be equivocal it may compass the patient's death. It is more common in middle and even early life than is generally realized, and is for the most part insidious.

He would restrict the name atheroma to the decaying, the necrotic processes, and when repair predominates speak of aortitis. He urged that in this as in all chronic maladies tides of acute activity take place—exacerbations, vacillations, and notable changes. Thus angina may quickly appear when at worst a more gradual and less dreadful mode of decline had been expected.

It may be taken as agreed that the higher the blood pressure the greater the strain on the aorta. Perhaps in every case of cardiac hypertrophy some atheroma of the aorta occurs. If with advance in age resilience diminishes, normal, or even subnormal, pressures may become relatively excessive, one or another part of the vessel yield, and stress become unequal.

Though the lecturer did not propose to include aneurysm, he mentioned those which are too small for direct observation, which are apt to form about the root of the vessel, and are usually due to aortitis. In this area recesses are often found post mortem. Some too small to contain a clot, others narrow-mouthed and aneurysmal in the saccular sense, tending to rupture into the pericardium, or to compress the base of the heart. They are not to be diagnosed during life, unless, perhaps, by the Röntgen rays, though they sometimes give rise to angina, or to signs of aortic disease. Like other lesions of this part, they are apt to retard the pulse rate, a phenomenon not altogether dependent upon interference with the coronary circulation. Of gout as a causative influence, Dr. Allbutt remarked that urate of soda has never been detected in the aorta, and experimental injections of uric acid have no effect upon it; hence the hypothesis of a sitting up of the vasa vasis by crystals must share the fate of many another ingenious suggestion.

Our Scotch friends have had the pleasure of entertaining Dr. Howard Kelly, and at a combined meeting of the Glasgow and Edinburgh Obstetrical and Gynæcological Societies he opened a discussion on the indications for particular methods of extirpating diseased pelvic viscera. He put in a plea for more conservatism than sometimes appears in this field of surgery. In a woman under forty years he would make every effort consistent with a reasonable expectation of restored health to avoid the loss of such important structures; for, while the removal of diseased tissues which could not be regenerated is a boon, the sacrifice of a sound organ should be called by its proper name—a mutilation. Exsective surgery had in these cases, he might almost say, run riot. As regards the ovaries, he believed half the cases of their removal which he had seen were unjustifiable. If he found them adherent but otherwise healthy, he released the adhesions and did no more. He would rather run the risk of having to operate a second time than remove ovaries when in doubt of the necessity of doing so.

Dr. Kelly described his methods of operating in different cases, and in the discussion which followed it was generally acknowledged that his address marked a great advance in the several procedures.

The meeting of the Sanitary Institute is in full swing at Bradford. The most interesting section is, perhaps, that presided over by Dr. Spottiswoods Cameron of Leeds and devoted to the medical officers of health. According to him the 'Margarine Act is a complete failure, as the article is not usually exposed for sale. but stands behind a show-case or on a back shelf and so does not require the distinctive label. This is an illustration of the difficulties of contending with dishonest tradesmen by such kind of legislation. The use of deleterious preservatives in foods, especially in milk, was discussed. Dr. Moore of Huddensfield advocated the appointment of qualified assessors to assist the magistrates in dealing with scientific evidence. A resolution was adopted that whenever preservatives are used, their presence, nature, and maximum amount should be declared on the label.

Professor Oliver presided in the section of hygiene, the text of his address being the tension of modern life and its evil effects on the workers. He found it impossible to estimate the good accomplished by our factory legislation, which has saved thousands of lives, and averted thousands of accidents. Still there is on the other side, he said, the silent procession of men and women worsted in life's struggle, and for those whose health had been undermined by occupation diseases, or who had been rendered unfit by accident, he held that the plea of sanitarians should still be—"prevention is better than cure."

A great ball in aid of Charing Cross Hospital was held at the Albert Hall last night. It has been organizing for weeks among a very smart set, and the vast building is said to have been converted into a sort of fairy palace for the occasion. The arena set apart for dancing was festooned with roses upheld by standards of electric stars at intervals. Many of the guests were in fancy dress, and some of the dances were arranged to represent particular periods. The entertainment is pronounced to be one of the best of the season. I hope the benefit to the charity will be proportionate to the lavish, and perhaps extravagant, expenditure.

Mr. John Tweedy was elected President of the Royal College of Surgeons yesterday. Mr. Henry Morris and Sir A. Cooper were chosen vice-presidents.

Mr. J. Astley Bloxam is about retiring from the Senior Surgeoncy of the Charing Cross Hospital, with which he has been connected for thirty-three years. He has seen the hospital progress in size and influence through this important period of surgical progress, and will, naturally, retain a deep interest in the school where he has been a favorite teacher.

T. R. Allinson, who was struck off the Register, continues his practice as boldly as ever. He was before a coroner lately, in reference to a death, when he stated that his certificates are usually accepted by the registrars, and boasted that he did not care about medical authorities, as he was an authority himself and had as large a practice as any in the Kingdom—thereby calling on himself the coroner's rebuke, as that was not a place in which to advertise himself. The Registrar-General should see about the acceptance of his certificates.

The Dublin Lock Hospital seems likely to furnish the next example of mismanagement. I hear that three out of four staff nurses of many years' standing have resigned rather than put up with the ways of the matron. The board, instead of inquiring into the matter, asked the remaining nurses to resign also.

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**Compulsory Vaccination in France.**—A law has recently been enacted in France requiring all parents to have their children vaccinated before they have completed their first year of life, and also compelling every one to be revaccinated between the ages of twenty-one and twenty-two years.

## OUR BERLIN LETTER.

(From our Special Correspondent.)

PLAGUE IN BERLIN—CONGRESS OF SURGERY—FINSEN'S METHOD IN LUPUS—CACHEXIA WITHOUT PATHOLOGICAL LESIONS—INSTITUTE FOR POST-GRADUATE COURSES—RESEARCHES ON CARCINOMA—DEATH OF DR. JUERGENS—MEDICAL MEMBERS OF THE REICHSTAG.

BERLIN, July 10, 1903.

THE Berlin medical world has been startled by a fatality which happened at Koch's Bacteriological Institute. A young doctor named Milan Sachs from Vienna, who was designated as professor of pathology at Agram, was working at the institute on plague and there infected himself. A guinea-pig was vaccinated with plague bacilli and showed the usual symptoms of that disease a few days later. Dr. Sachs took, through a Pravaz syringe, some pus from a bubo with which he inoculated an agar plate in order to study the mode of growth. By accident some air had penetrated into the syringe and the liquid instead of dropping on the agar plate spurted suddenly, and it is thought Dr. Sachs inhaled some of the material. Two days later he showed symptoms of plague and was taken to the hospital and isolated, but died the next day.

Very stringent measures were at once taken by the government to prevent the disease from spreading. All persons with whom the late Dr. Sachs had come into contact during the last few days were isolated and vaccinated with plague-serum from the Pasteur Institute and the whole furniture was burned. Thanks to these precautions there were no further cases of plague.

This case recalls a similar case which happened two years ago at Vienna to Dr. Müller, one of the members of the plague expedition to India. One of the servants of the Vienna laboratory infected himself and was treated by Dr. Müller. Eventually Dr. Müller was infected too and died of plague. Both these cases at Vienna and Berlin show the facility of infection and both remained local, owing to the strict precautions taken.

It will be remembered that the Vienna Government has forbidden experimental work with plague bacilli, but the Berlin Government still maintains a laboratory at Koch's Institute for Infectious Diseases for the purpose of having always some serum at its disposal should plague be brought accidentally to Germany.

In the beginning of June the annual congress of the German Surgical Society took place in Berlin. The meetings were at the Langenbeck House, Professor Kuster from Marburg being president. Dr. Perthes of Leipzic read a paper on the influence of *x*-rays on carcinoma. Several patients with rodent ulcer of the skin and carcinoma of the mamma had been cured by prolonged application of *x*-rays. Dr. Lassar of Berlin, as well as Dr. Petersen of Heidelberg, had seen similar good results with *x*-ray treatment of carcinomata of the skin. Drs. Sonnenburg and Federmann of the Berlin Moabit Hospital read a paper on the great importance of counting the leucocytes in cases of appendicitis. The method has been employed for some time at the Moabit Hospital and good results have been seen. An increase beyond 15,000 indicates an abscess for which surgical treatment is indicated. A discussion arose on the indications for operation in the early stages of appendicitis. Riedel insisted that it ought to be operated as soon as possible—as soon as the diagnosis of appendicitis is made. Dr. Petersen remarked that the carcinomata of the stomach differ from rectal carcinoma, the latter grows more into the deeper tissues, whereas the first is more inclined to increase superficially. He thought that a greater number of cells disappear in the glands than is usually believed. Of thirty patients who were operated upon twelve died during the operation; of the remaining eighteen seven were still alive. As the glands were not all extirpated, and surely some cells remained in the glands, Petersen believed that his view was correct that many carcinoma cells disappear in the glands.

At the Berliner Medicinische Gesellschaft Grawitz read a paper on cachexia without pathological lesions. Grawitz was consulted by a gentleman who suffered only from anæmia and want of appetite. No hydrochloric acid could be obtained from his stomach. Though the patient was well treated, he subsequently died. The post-mortem examination showed all the organs intact, even the glands of the stomach were not affected. Pernicious anæmia was also excluded, as the bone marrow was normal. Grawitz believed that some chronic intoxication resulting from the absence of hydrochloric acid was probably the cause of death. He had noticed that with patients suffering from tuberculosis there was often found a lack of hydrochloric acid, and good results had followed the administration of this acid. Senator thought that Grawitz's theory was disproved by the fact that persons could live without a stomach, and that in cases of chronic nephritis, tuberculosis, and neurasthenia patients might live for years, no hydrochloric acid being obtainable, and yet no symptoms of stomach trouble being shown.

At the [Gesellschaft] der Charité-Aerzte Dr. Lesser reported on the results with Finsen's treatment of lupus. The bacilli are killed by the constant light in the tissues. The best results were obtained in cases that had not yet been treated, but in cases in which scars remained with infiltration of the lower parts of the tissues very bad results were obtained. The mucous membranes of the nose and palate were also not accessible to treatment. The treatment took a long time and was expensive, therefore the speaker thought it advisable to build special sanatoria for Finsen's treatment.

The donation of the late Empress Frederick for medical researches and post-graduate work amounts now, with othergifts, to 1,200,000 marks, and steps have been taken to erect a large institute for these purposes.

Dr. Juergens, professor at the Berlin Pathological Institute, died recently, aged sixty years. He was for thirty years assistant of the late Professor Virchow. Juergens is known through a new reaction on the amyloid degeneration of the cells. He also published a work on protozoa and malignant tumors.

Dr. Plehn has been appointed head physician to the Urban Hospital instead of Dr. Stadelmann, who has become head physician at the Friedrichshain Hospital. Dr. Plehn was a government medical officer in Africa and has worked on malaria. Dr. Wilhelm Braun, first assistant surgeon at the Augusta Hospital, has been appointed to the Friedrichshain Hospital.

At the recent elections six doctors were returned as members of the Reichstag. These are Dr. Mugdan of Berlin (Radical), Dr. Krzyminski of Inowrazlaw (Pole), Medical Privy Councillor Dr. Hoeffel of Buchsweiler (Imperialist), Dr. Leonhart of Kiel (Radical), Sanitary Councillor Dr. Ruegenberg of Bonn (Center), and Dr. Becker of Hessen (National Liberal). Dr. Mugdan's election is heartily welcomed, as he has many times proved to be of great help in social medical matters; and owing to the fact that the whole medical profession is suffering in Germany from the club-system (Kassenvereine), much is hoped from Dr. Mugdan's services as a member of the German Reichstag.

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## OUR LETTER FROM THE PHILIPPINES.

(From our Special Correspondent.)

RECRUDESCENCE OF THE PLAGUE IN THE ORIENT—SPREAD OF THE DISEASE BY OTHER ANIMALS THAN RATS—VALUE OF PREVENTIVE INOCULATION—INEFFICACY OF MEDICAL TREATMENT—SLIGHT DANGER OF SPREAD IN THE UNITED STATES—THE RESULTS OF PRACTICAL SANITATION.

MANILA, June 20, 1903.

PLAGUE is again existing in Hongkong in seriously epidemic form. During the first five and one half months of the present year 1184 cases have occurred, with a total mortality of over 90 per cent., and during the latter part of May and early June, the deaths from this disease were occurring at the rate of over twenty a day. At the beginning of the epidemic the disease was confined entirely to the Chinese. Later the better quarters of the city were invaded, and Japanese, Eurasians, and East Indians were attacked. Now the white population is suffering, and last week twelve cases occurred among whites, while four cases appeared among the white crew of a ship in the harbor. Beginning with the bubonic type, which seems to be only slightly transmissible to whites, the character of the disease has changed to the septicæmic, and later to the pneumonic type, which latter seems to be the form in which plague nearly always occurs in whites. Of course in this last type the disease is extremely communicable, and is also more certainly fatal to the Chinese, and more difficult to diagnose. Whites have a proportionately high resisting power against plague, and of the twenty-five cases which have occurred among Europeans in this outbreak, but four have been fatal. Since 1898 there have not been two consecutive months in which plague has not occurred in Hongkong, although there have been periods when the number of cases was not large. June and July are the worst months, and this year June is sustaining its reputation in this respect. Conditions have been so bad that the Catholic church has held a number of services to pray for the abatement of the epidemic.

Plague has lately been made the subject of extended investigation by Dr. W. J. Simpson, an English expert, who was sent to Hongkong for the purpose. His conclusions with reference to the disease in that city are not very encouraging, as he believes that so long as plague exists in southern China it is almost impossible to keep it out of Hongkong, because of its wide trade relations, proximity to the infected Chinese cities, and readiness of communication with them. Dr. Simpson believes,

however, that by increasing the medical and sanitary staffs in Hongkong, and inaugurating a closer system of inspection that the disease can be held within reasonable limits.

Dr. Simpson states that his investigations show that in addition to the spread of plague infection by infected rats, houses and clothing, it is possible for pigs, calves, carabao, sheep, geese, turkeys, cats, pigeons, dogs, and mice to become carriers of the infection. His researches and conclusions incline the medical men of Hongkong to modify the belief heretofore held by them that the disease is mainly acquired by infective inoculation.

While the authorities in Hongkong are making every effort to place the city in good sanitary condition, and exterminate the rats, they have not resorted to the wholesale preventive inoculation against plague which seems, far more than anything else, to have cut down the disease in Manila. The Chinese in Hongkong are opposed to all sanitary measures, but particularly object to inoculation, and the authorities seem to have hesitated to excite still further their opposition. Any person who desired to be inoculated could have the operation performed, but this was not compulsory, and it seems to be largely due to this fact that the disease has made such headway. Experience in Manila goes to show that inoculation with antiseptic prophylactic virus, repeated in ten days, is as certain a preventive of plague as vaccination is of smallpox. It has been made compulsory with respect to all the 60,000 Chinese in Manila, and during the last two months a large proportion of these have been inoculated. The epidemics in Hongkong and Manila started at the same time, and the number of cases in both cities progressively increased at the same rate up to the time systematic inoculation was instituted here. The Chinese in the worst infected districts were inoculated first, and the decrease in the number of cases was not only great, but was noticeable within a few days. Thus in Manila there were two cases in January, seventeen in February, and forty-two in March. Inoculation was begun about April 20, and during April there were but fifty-two cases, while in Hongkong the cases more than doubled. In Manila the cases for May fell to twenty-five, while in Hongkong the number of cases doubled each week, and the total for the month was nearly 500 cases. In June the number of cases in Manila up to the 19th of the month was but nine, while the latest Hongkong report shows 136 cases in one week. In Hongkong a large number of contacts acquire the disease; here the contacts are immediately inoculated with Shiga's curative serum, and only six contacts have developed plague—and of these three cases developed so soon after the original case as to render it almost certain that they became infected at about the same time as the original case. Further, plague has repeatedly occurred here in large Chinese lodging-houses, in the person of the only uninoculated inmate, while the others entirely escaped, and it has never occurred in an individual who has received the proper double inoculation. From experience, there would seem to be no question but that while general sanitation and rat-catching is of importance, by far the most efficient agent in combating the disease is found in systematic and thorough inoculation of the class of persons who are most liable to contract the infection. It is not to much to say that there is every reason for belief that if systematic inoculation of the Chinese population in Manila had not been enforced, several hundred cases would have occurred during the past month, and the disease would not be confined, as it is, to certain districts in the poorer quarters of the city, and have been prevented from spreading to other cities and to the country districts, as it has done in India, China, and other points on the Asian mainland. The conditions here are unquestionably favorable to its existence and spread, and that the latter has not occurred, and the disease appears to be rapidly tending toward disappearance is equally certain to be the result of the energetic measures taken. Even the Chinese themselves appreciate the value of the preventive inoculation, and the general opposition to this measure which existed last year has nearly all died away. Fortunately, the reaction which follows inoculation is but slight, and is productive of little bodily discomfort, and so far not a single untoward result has accompanied the operations carried out in such wholesale style. At first the fact that only Chinese were inoculated raised the idea of race discrimination, but this quickly disappeared when it became understood that the Chinese were alone inoculated simply because they were many times more liable to the disease than Filipinos or than whites, as shown by the statistics of previous outbreaks here, in Hongkong, and elsewhere. It is fortunate that it has not been necessary to inoculate others than the Chinese, who are very tractable and submissive to proper authority, for the Filipinos would unquestionably have opposed the measure if carried out on themselves, and might have seriously impeded the work, or caused the withdrawal of the regulations requiring such inoculation. It is doubtful if any important part of the Filipino physicians would have favored such inoculations, as few have any knowledge of, or belief in, modern measures of serum therapy or the creation of artificial immunity. As long as only the Chinese have been affected by the order requiring inoculation, the Filipinos have not interfered, as there is no love lost between the two races.

In addition to the work of inoculation, the destruction of plague houses and the destruction of rats, on ship and shore, is being vigorously carried out. About seventy-five official rat-catchers are employed, and these turn in at the sanitary stations between eleven and twelve thousand rats every month. The general keeping of cats is encouraged, for the Philippine feline, though by no means as large and powerful as the American cat, can do much toward the work of rodent destruction. It has also been found that the free use of chloride of lime, in drains and basements, is of much value in keeping rats away from houses, as they greatly dislike the odor of chlorine. This fact is of importance in preventing the migration of rats from plague houses to other habitations in the vicinity. Unfortunately, however, the odor of chlorine appears to be equally as distasteful to the Chinese and Filipinos as to the rats, and for this reason chloride of lime is not as freely used as is desirable.

All in all, the work against plague there appears to have brought about more than satisfactory results, considering the widespread infection of plague through the city, and the virulent type of the disease. The outbreak appears to be practically at an end, and measures will be taken to prevent and forestall any outbreak after the rainy season is over. So far there have been 150 cases in the present outbreak, of which but thirteen have recovered. No medical treatment appears to have been of any particular value. The patients die quickly, often in a few hours, and many are dead when found. It might be that intravenous inoculation of plague curative serum would be of value if given in the early stages of the disease, but there is little opportunity to do this, and the value of such treatment cannot be properly tested upon those who are already moribund. Of the value of the preventive inoculation there can be, however, no question. These facts seem to be confirmed by the present outbreak in India, where already more than 130,000 people have been destroyed by plague in the present year. There, however, the disease has ceased to be a city disease, and has widely spread over the country districts, the impoverished and poorly nourished natives seeming to have little powers of resistance against the infection. Caste, prejudice, and religious superstition have also largely interfered with the sanitary measures of the English authorities. To show how badly the Indian cities are affected it may be mentioned that the health report for Calcutta, of 1902, gives a total mortality of 38.4 per thousand, largely due to plague, and the number of plague cases during the year amounted to 7,883 in a total population of 808,969.

As plague is such a serious and ever-present problem in the Orient, the question naturally presents itself to the American sanitarian as to what hold the disease could obtain in the United States. Plague, perhaps more than any other infection, is essentially a filth disease, and appears to be able to flourish only under such conditions of insanitation as can exist only in the Chinese slums of San Francisco and the poorer quarters of a few of the larger cities. A well-fed white population living under the usual American sanitary conditions would seem to have little to fear from it, and should the infection be introduced among such a population, there should be little difficulty in stamping it out, provided the disease was recognized, the issue squarely met, and proper sanitary measures taken. All through the East the foreign quarters and concessions remain almost unscathed, while the natives of the surrounding native quarters may be dying by thousands. The white man who gets plague is the very rare exception, which simply illustrates the sweeping nature of the general rule. The disease has twice been stamped out in Australia after epidemics of no great severity, and throughout the Orient generally, has come to be regarded as one of the ills that white flesh is not heir to. With increasing trade relations and better communication with plague-infected ports, it can hardly be expected that plague will not, from time to time, gain entrance to the United States, but all experience here would go to show that the disease could become epidemic under such conditions only through the incompetence of the health officials. An intelligent and cleanly white population living among modern sanitary surroundings will scarcely fall victims to this Asiatic scourge, bred in ignorance, squalor and famine, and manifesting such selective performance for the dark-skinned races. It

may cost much in the way of money and labor to stamp it out, but that this can be done by intelligently directed sanitary [illegible] has been repeatedly demonstrated in Australia, Honolulu, Japan, [illegible] elsewhere, and would seem to be on the point of being accomplished under the highly disadvantageous conditions existing in the Philippines.

As with smallpox and typhus fever, and more recently with respect to malarial and yellow fevers, both plague and cholera may be prevented or controlled by ordinary cleanliness, sanitary surroundings, and a little attention to a few simple sanitary precautions. Pestilence loses much of its dreadful aspect in the light of modern scientific investigation, and ceases its slaughter when it is boldly attacked in a comprehensive way along its points of least resistance. One cannot but be confident of the ability of American medical men to rise equal to any sanitary situation, after seeing what they have accompilshed in Cuba, Porto Rico, and the Philippines, in less than half a decade, in the face of what had previously been regarded as insurmountable sanitary obstacles. Plague spots have disappeared, pestilence centers have vanished, and it has suddenly been discovered that places heretofore regarded as practically uninhabitable by white Americans have been rendered as healthful and salubrious as many parts of the home country. Not the least of the far-reaching results of the Spanish-American war has been the awakening of the public mind to matters of sanitation and a far better appreciation of their importance. It having been demonstrated what could be accomplished by proper sanitary measures, there will be much less opposition in the future to such measures, both at home and abroad. Even here the people are beginning to awaken to this truth and to appreciate what is being done in their behalf. They are much more willing to submit to sanitary regulations than they were a year ago. Nearly all of them have seen relatives or friends die of plague or cholera for refusing to follow the instructions of the sanitary authorities, and they have not failed to mark the small mortality among the white foreigners from these diseases at a time when the ignorant, heedless, and obstinate of their own race were perishing on all sides. In spite of racial and political dislike, the wiser heads among them are beginning to appreciate that the sanitary regulations of the Americanos, unduly severe though they may seem, are, nevertheless, accomplishing such results as were never obtained or approached during Spanish sovereignty.

## THE ADVERTISING OF OPERATIONS IN THE DAILY PRESS.

To the Editor of the Medical Record:

Sir: In your issue of July 11, I read with interest the letter of Dr. X. B. Haynie, and thereby am prompted to make a few remarks.

As long as the sun rises, so long will there be ample fruit for such a communication. First: Given a patient of prominence suffering from some grave affection, and attended by a physician or surgeon of equal prominence: Result, a daily or hourly bulletin giving with the report of the progress of the disease, the physician's name and perhaps, if he be "big" enough, his address.

Second: Given the same patient, same disease, attended by a physician of equal skill, but who may not have a newspaper reputation: Result, "Attending physician says so and so."

No physician need be exploited in the daily press, if he does not seek it. In the first case, the medical attendant receives no harm, for no one would dare think that he would voluntarily suffer his opinion to appear in the public press, and he is not averse to the pecuniary gain accruing therefrom, especially when without blemish to his ethical reputation. In the second instance, if the physician happened to be a young man, he knows very well that should he be "written up," he might receive a communication from his medical society.

The question seems to be narrowed down to this: The "higher up" one gets the more he may with impunity (so far as medical ethics are concerned) advertise. That fact is taken advantage of by some.

The medical profession is to-day crowded and is getting to be conducted upon a commercial basis, particularly as to the matter of fees. Many (not all by any means) of our friends who are shouting loudest about the strict observance of medical ethics are the very ones who will cut fees to the bottom notch, simply to get the work away from somebody else. This may seem a strong statement, but it was instanced only the other day, in a case upon which a friend of mine was about to operate for an ordinary fee. The operation was subsequently done by a man of large reputation, who would blush at the thought of transgressing the code of medical ethics, for a fee that would scarcely repay him for time and assistance, simply to "get the case." Could a stop be put to this practice, medicine would assume more of the air of a true profession, instead of a "bargain-counter affair." The lamentable part of the thing is the fact that this fee-cutting process is not limited to the man who really needs the financial remuneration, for in the instance just mentioned the gentleman was financially independent of medicine.

All hail with joy the day when we can eliminate the above class of practitioner together with his sidepartner, the "general specialist," the man to whom you refer your case, only to later learn that he has prescribed for the whole family.

H. W. Lincoln, M.D.
113 Hancock Street, Brooklyn.

## Progress of Medical Science.

*Boston Medical and Surgical Journal, July 23, 1903.*

**Studies on the Action of Alcohol in Disease, Especially upon the Circulation.**—Richard C. Cabot summarizes his paper as follows: (1) In 41 patients, mostly cases of typhoid fever, 1,105 measurements of the blood-pressure were made before, during, and after the administration of alcohol in therapeutic doses. Neither the maximum nor the minimum blood-pressure showed any variations that could reasonably be referred to the action of the alcohol. So far as was determined by the methods and in the cases used in this research, the action of alcohol upon the circulation was *nil*. (2) The same neutrality and apparent inertness of therapeutic doses of alcohol in relation to the temperature, pulse-rate, respiration rate, appetite, sleep, delirium, and secretions (renal and cutaneous) of 309 patients suffering from a great variety of diseases was the total impression derived from 2,160 observations in these cases. (3) These observations are not interpreted as proving that alcohol is useless or useful in disease. As a narcotic and vasodilator it may have an important place in therapeutics. (4) More important probably than any of the questions investigated so far is the problem of the effect of alcohol upon the power of the sick man's blood to protect him against infection and other harmful influences. The studies of Abbott and of Mircoli have begun to clear a path in this direction, and we have a certain amount of evidence relative to a similar problem in the lower animals. But as the results of studies regarding the action of alcohol upon animals or upon healthy men cannot be used as evidence of its action in sick men, there is a good field for experimental work in this direction along the lines of Ehrlich's newer methods.

*Journal of the American Medical Association, July 25, 1903.*

**Limitations of Non-surgical Treatment in Acute Intestinal Obstruction.**—The paper by J. R. Eastman is a forceful yet temperate and logical plea for the abandonment of the old so-called expectant and "conservative" methods of treatment, provided their employment does not afford immediate relief. In general, urgency is not so great in obstruction of the large as of the small bowel, and in the former, sedatives, stupes, taxis, and injections may be properly employed for a longer time than in the latter. But if a fair trial fails to afford relief, temporizing is suicidal. There is only one indication, viz., immediate abdominal incision.

**Traumatic Pneumonia.**—By this title W. T. English refers to pneumonia set up by chest contusions in which there are no external signs of violence. An element of fright often enters in as a factor because it is associated with 90 per cent. of chest injuries. In more than half of these fright prompts a gulp of air, closure of the glottis, rigidity of the diaphragm and other muscles of respiration, and a fixidity of the thorax. There is also an attempt to free the arms, as in the attitude of self-defence. The chest is never guarded in this pose, instinctively responsive to the primal law of nature—self-preservation. The frightened human "holds his breath," and a stroke or fall on the chest is often received in the position of pulmonary disadvantage. To this condition of the chest is often added an advantageous angle for the force, because of the unfortunate position assumed by the individual. As a result of injury we may have, first, punctate hemorrhages from a capillary rupture, the parenchyma remaining intact; second, small tissue ruptures in alveoli, bronchioles and peribronchial vessels, and, third, actual tears of the lungs, bronchi, or vessels. Several illustrative clinical histories are given. A diagnosis is generally possible by the end of forty-eight hours after the injury. The sputum contains the diplococcus. Treatment must meet the indications of each special case.

*Medical News, July 25, 1903.*

**Pathology and Treatment of Alcoholic Toxæmia.**—Thomas D. Crothers states that it may now be taken as demonstrated that the various affections of the body and mind which are produced directly or indirectly by alcoholism are due to toxæmia. Alcohol acts first on the blood vessels. The vasomotor nerves surrounding them become paralyzed. They alternately dilate and contract, breaking up the uniform flow of the blood and diminishing the nutrition of the artery. Mechanical obstruction follows, with increased labor of the heart, also increased tension and feebleness. The heart hypertrophies and the liver becomes cirrhotic. Secondly, alcohol acts on the blood, reducing the number of red corpuscles which carry the oxygen. The number of white corpuscles is increased. Thirdly, alcohol acts on the nervous tissue, producing neuritis. The alcohol should be stopped entirely and at once. The bowels should be opened by salines and baths, and other means used to stimulate the pores of the skin. Narcotics are not given till the toxins have been expelled, nor is food given until the acute stage has been passed. The after-treatment should continue, with bitter tonics, of which cinchona is the best. Arsenic is valuable. Strong infusions of quassia will be found effective for the alcoholic craze.

*New York Medical Journal, July 25, 1903.*

**The Fever of Dentition.**—E. R. Corson refers to his two previously reported cases in which lancing of the gums in teething children was immediately followed by convulsions. He regards the fever of dentition as due principally to abnormal conditions in the upper bowel. Hence, in the febrile conditions attending dentition, it follows that interference with the gums is of secondary importance and, indeed, may be positively harmful. The proper remedies are calomel and castor oil. Corson places much value in the use of chlorate of potash in the mouth, the way for its local action being prepared by the preliminary employment of hydrogen peroxide.

**Removal of the Internal Jugular Vein and Carotid Arteries in Order to Remove a Tumor in the Left Side of the Neck.**—The patient of N. McPhatter was a woman of thirty-one years with a tumor (nature not stated) on the left side of the neck which, as the operation revealed, surrounded the carotid arteries, internal jugular vein, and pneumogastric nerve, apparently penetrating their walls. The author describes the general anatomy of the vessels and nerves of this region and then details the various steps of the operation. In spite of the dangerous region to which the operation was confined and the radical nature of the latter, the patient made an uneventful recovery, and in two weeks was well. A colored plate accompanies the paper and well illustrates the anatomical features of the case.

**The Irritability of the Facial Muscles: A Study of Its Physiological Causes and Clinical Significance.**—C. L. Dana states that his observations have been made by tapping the motor and sensory nerves, the muscles and tendons with a rubber hammer, by irritating the skin with a pinpoint and with applications of intense cold or heat. The tests have been made upon seventy-five persons, who were either healthy or had no nervous disease, 30 cases of paresis, 10 of tabes, 6 of nervous syphilis, 6 of paralysis agitans, 3 of Basedow's disease, 3 of paralysis of the seventh nerve, 2 of total paralysis of the fifth nerve, and many cases of alcoholism, hemiplegia, melancholia, and other forms of insanity. The various points brought out in the paper are summarized as follows: (1) A list of normal facial responses. (2) A list of responses found in pathological conditions. (3) A demonstration that most of these responses are direct or indirect muscular reactions, not myotatic, and not reflex. (4) That the only normal reflexes of the face are the supraorbital and frontoorbital. (5) The description of a new reflex rarely found in normal faces, the nasomental. (6) The occasional presence of a frontal skin reflex. (7) Some clinical observations as to the significance of the abnormal responses. Concerning the nasomental reflex, Dana states that it is uniformly seen in paresis, and is rarely, if ever, found in healthy adults, though it is found in cases of cerebral syphilis in which no paresis can be determined. The test is made by striking the side of the nose near the exit of the nasal nerve, the response being a contraction of the levator menti-muscle.

**Œdema of the Glottis.**—The literature of this subject is somewhat extensively reviewed by J. C. Gittings and J. H. Jopson, who report one case following scarlatina in a child of five years. Intubation and moist inhalations gradually gave relief and recovery followed. The general conclusions presented by the authors are as follows: (1) Simple œdema of the larynx usually occurs in cachectic diseases, especially of the heart and kidneys. In these there may be no apparent exciting cause, and the inflammatory symptoms are conspicuous by their absence. (2) Inflammatory œdema of the larynx results from contiguity to other inflamed structures; as a local complication of the acute infections of erysipelas, variola, measles, scarlatina, influenza, etc.; or as a result of severe grades of inflammation in simple acute laryngitis. Bacteriological investigation will probably find that a streptococcus is the most frequent exciting cause. (3) Traumatism to the laryngeal structures may result in œdema, depending on the degree of "insult" to the tissues or to a possible predisposition. (4) Among rare causes of œdema of the larynx are angioneurotic disorders and the blood dyscrasiæ, such as scurvy, purpura, etc. (5) The diagnosis rests on the evidence of palpation and, if possible, visual examination, as well as on the signs of laryngeal obstruction. Membranous laryngitis cannot always be at once excluded. (6) Prognosis is unfavorable in all cases occurring in the course of chronic cachectic diseases and in severe types of the acute infectious diseases. In no case can it be other than guardedly favorable. (7) Treatment by intubation rarely affords relief unless the obstruction is infraglottic. Tracheotomy is absolutely demanded in extreme cases. The continuous inhalation of medicated steam is always to be employed; scarification and external depletion by leeches may be tried; cold and heat should be used externally and internally—cold as a prophylactic and heat as a stimulant and absorbent.

*American Medicine, July 25, 1903.*

**Atropine in Cholera Infantum.**—Wm. F. Waugh declares that as a stimulant in collapse atropine has no equal. The dose for a child in the worst stage of cholera infantum, is a hypodermic of about $\frac{1}{100}$ gr., and upward, for children bear larger doses of this agent proportionally to their age than adults. First the blood comes back to the brain, the face flushes, the pin-point pupils relax, the vomiting and purging subside, and the pulse can once more be felt. Morphine should not be given. The patient may be kept slightly under the influence of atropine continuously, while the alimentary canal is being flushed and disinfected, and the cycle of the attack is completed. The application of ice or of any rubefacient to the neck over the pneumogastric aids materially in sedating this irritable region.

**Some Practical Considerations on the Tumefactions of the Climacteric Breast.**—Theodore A. McGraw believes that no breast ought to be adjudged cancerous without the most thorough examination by all possible methods, but when the surgeon, using his best judgment after full investigation, has come to the conclusion that he has to deal with a tumor of dangerous tendencies he should then operate on it so thoroughly as to destroy, if possible, every secondary growth, whether in fascia or muscle, skin or gland. He should assume that the skin above it, the fascia and muscle below, and all of the neighboring lymphatic vessels and glands are already infected, and should make the operation wide enough and deep enough to take in all of the suspected territory. In this manner success has been attained in at least a very large minority, which earlier surgeons have fallen short of. The writer has now many patients who are living without recurrences after three, five, and ten years. Above all, the patient should be kept out of the hands of the charlatans.

**The Pathology of Latent Malarial Infection as Observed at Autopsy.**—Charles F. Craig speaks, first, of the pathology of latent tertian infections. The lesions found were confined entirely to the spleen and liver, the most marked being in the spleen. This organ was considerably enlarged and dark bluish-gray in color externally. On section, the color was a dark brownish-red. There was intense congestion of the splenic sinuses with pigmentation. The pulp cells were greatly increased in number, many were pigmented and distorted. The sinuses and capillaries showed many parasite-infected red cells and pigmented leucocytes. The liver was but slightly involved. In the estivoautumnal infections, the pathology differed but slightly from that of the tertian infections, and chiefly in the character of the parasites present. The younger forms were similar to those found in the peripheral blood; the older ones were round or ring-like, and contained more or less pigment, in the form of very fine reddish-brown granules, this pigment being very slightly motile. Each segment appeared to present the ring form which is usually found in the red cell at the earliest stage of infection. No crescents could be found in the splenic sections. The writer concludes by saying that the malarial parasites may be present in the human body, may undergo their normal life cycle, and are practically localized in the spleen.

*The Lancet, July* 18, 1903.

**The Incidence and Mortality of Croupous Pneumonia in Infancy.**—C. Riviere concludes: (1) that croupous pneumonia occurs in infants below the age of two years as frequently as, and probably more frequently than, in older children; (2) that in infants a diagnosis between croupous pneumonia and bronchopneumonia is often impossible, many cases of bronchopneumonia with lobar consolidation appearing in the post-mortem room with a diagnosis of croupous pneumonia; (3) that on account of this difficulty statistics based on diagnosis alone are quite untrustworthy; and (4) that the mortality in croupous pneumonia is largest in the first year of life (25 per cent.), is considerable below the age of two years (15.4 per cent.), but for children above this age is comparatively small (2.3 per cent.).

**Note on a Case of Spurious Hydrophobia.**—W. S. Harrison records the case of a Russian student, aged twenty years, who was bitten on the left thumb, and who, one week later, commenced to manifest the usual symptoms of hydrophobia. The short period of incubation, however, made this diagnosis impossible, the absence of any previous rabic infection being assumed. Further investigation showed that there had been no premonitory symptoms, such as headache or pain in the limbs or thumb. The attack had developed with unheard of rapidity, so that, in two hours from the commencement, the patient was in the condition of a true case on the second or third day of his illness. It was noticed that the pharyngeal spasm did not spread into one of the respiratory muscles, and there was no true general tetanoid convulsion such as one sees in the height of hydrophobia. The examination of the throat with the aid of a tongue depressor, an almost impossible and certainly cruel proceeding in the case of a true hydrophobic, was made with ease, and it failed to excite any pharyngeal spasm. When the patient did succeed in getting some water into his mouth it was not rejected. In view of these facts it was considered that the case was almost certainly one of lyssophobia, or spurious hydrophobia, probably excited by the patient's brooding over the bite which he had suffered and its possible consequences. He recovered under simple sedatives.

**A Case of Chloroma with Clinical History and Account of Post-mortem Appearances.**—The patient of E. Trevithick was a girl aged thirteen years. The most prominent clinical features of the case were pallor, proptosis, broadening of the face due to hard swelling in the temporal regions, hard, freely movable tumors in both breasts, periosteal nodes on the sternum and ribs, and subcutaneous hemorrhages. The blood was first examined three weeks before death. There was then great increase of white cells. No actual count was made, but on comparing the films made at this time with those prepared shortly before death it was evident that the number of white cells in the blood increased very rapidly. The change, in fact, resolved itself into an enormously great and rapid increase of mononuclear cells. The author acknowledges that no definite diagnosis was made *intra vitam*, but the autopsy revealed multiple deposits of bright green material: (1) connected with various bones; (2) in lymphatic glands; (3) in the kidneys; (4) in the liver; (5) in both ovaries; (6) in the pancreas; (7) in the thyroid; (8) in the dura mater; and (9) in the choroid plexus of the lateral ventricles of the brain. The alimentary tract was free both from green pigmentation and from any obvious new formation In the right cavities of the heart was a curious looking greenish, semi-translucent blood clot. Under the microscope, sections from the various areas showing the greenish deposit showed an extensive cell-invasion. The explanation of the origin of the color of the cells is difficult. The author finds analogies in the blueness at times found in the sweat and urine. Two points from the history of the case are suggestive: First, an exceedingly obstinate inertia of the bowel; and second, a previous severe attack of pharyngitis from which the patient made a slow recovery. There must have been, the author surmises, some poison in the circulation which stimulated a great overgrowth of certain tissue-units which eventually led, by a misplaced activity, to the death of the host.

*British Medical Journal, July* 18, 1903.

**Treatment of Pleural Effusion.**—Henry Waldo, since using with success a dressing soaked in a saturated solution of common salt as an application to joints affected with osteoarthritis, has tried the same plan of treatment in pleurisy with effusion of clear serum. The results have been most happy.

**A Note on the Treatment of Chorea by Ergot of Rye.**—Eustace Smith declares that ergot of rye can be given to children in large doses without risk of harm. As a sedative to the nervous system its value is great. In all cases the ergot should be pushed till it produces a beneficial effect. The remedy ought not to be left off directly normal control over the muscles has been restored, but should be continued as long as any abruptness of voluntary movement remains.

**Impressions of the Efficiency of Professor Dunbar's Antitoxin in Hay-fever.**—Felix Semon declares that different people react surprisingly differently, and also in one and the same person the effects of the remedy in some instances vary from day to day without a satisfactory explanation. As might have been anticipated from the nature of the affection itself, in which, during the critical time, almost constant reinfection takes place, the remedy in its present form of application is not curative. Whether this end will be attained or not, remains to be seen. The remedy has given relief in some cases and has acted beneficially in postponing the occurrence of the attack in others.

**The Problems of Cancer.**—E. F. Bashford declares that biological investigations will probably ultimately form a very important aspect of the study of cancer. There can be no doubt that some, if not all, forms of malignant new growths occurring in man and animals are identical in nature. The possible importance of the study of age-incidence as a feature in a general biological inquiry has not hitherto had attention drawn to it. A comparative study of the age-incidence of cancer among domestic and wild animals will give comprehensive information on the relation of the incidence of cancer to the rapidity with which maturity is attained. Light may also be thrown on the reasons underlying the higher cancer-rate of later life. A study of age-incidence in males and females of differing races is desirable. Another specific problem—deciduoma malignum—requires consideration from the comparative biological standpoint. The prevailing pessimistic views as to the hopelessness of investigating cancer are unjustified in the face of what still remains to be done in this problem.

**Erythemata as Indicators of Disease.**—James Galloway considers this group of eruptions under two groups: the simple erythemata, the result of hyperæmia, transient as a rule, and productive of no permanent change in the skin; and the exudative erythemata, resulting from hyperæmia, transudation and exudation, as well as from actual inflammation, which cause skin changes which are apt to last long or even be permanent. In the first class, the most characteristic example is ordinary flushing. Various vascular disturbances are nearly related to this condition. If there is a considerable amount of diminution in the peripheral vascular tension, a certain degree of tachycardia may naturally be expected. Again, there may be grave disturbances of nutrition. Simple erythemata may develop nodular and necrosing lesions, and these may arise quite apart from tuberculous causation. In the second class the writer first discusses protozoal infections. In the cases of trypanosomiasis seen by the writer the eruption was general, but affected the back of the trunk and the face in a marked degree. The most common cause of the forms of blood poisoning which gives rise to exudative lesions of the type of erythemata multiforms are the toxins produced as the result of improper food, or of its imperfect digestion or elaboration in the tissues. A few cases are noted of severe erythemata multiforme occurring in connection with Bright's disease. The writer thinks that the histological evidence from examination of lupus erythematosus lends no support to the tuberculous theory of its origin. The cause he regards as a toxæmia arising from various sources.

*Münchener medicinische Wochenschrift, June* 30, 1903.

**Hæmolysis in Experimental Infections.**—Oskar v. Wunschheim has undertaken experimental work, and thus far has limited his studies principally to anthrax infection. Rabbits inoculated with anthrax bacilli nearly always show a hæmoglobinæmia which is very intense, and first appears, suddenly, a few hours before death. The blood serum becomes very dark and may be designated as "serum pupureum." The appearance of this hæmolysis does not correspond with the time of the appearance of the microorganisms in the blood, since the latter precedes the former by several hours. The bacillus of hen cholera produces the same effect in the rabbit but not in the hen. Negative results were obtained with Fraenkel's diplococcus. Hæmoglobinuria was never observed. The location of the production of the lysis is problematical. The reason for the non-appearance of hæmoglobinuria is probably to be sought in the capacity of the liver to transform the hæmoglobins set free by the hæmolysis into bile pigments, which are excreted in the urine and appear in abundance there. Only in the presence of a marked excess of hæmoglobin would it appear in the urine, and it is probable that the death of the animals occurred before this took place.

**Antistreptococcus Serum and Its Employment in Man.**—Menzer, by experimentation, concludes that antistreptococcus serum acts in man as in animals by producing a phagocytosis, so that the chief rôle in the fight with the streptococcus falls to the body cells. Therefore, if for any reason the body is unable to answer to this call the employment of an antistreptococcus serum is useless. In addition to the destruction of the infecting agent, the body must subsequently reabsorb the destroyed bacteria and body cells. For this reason, when circumscribed collections of pus are present, antistreptococcus serum is contraindicated unless such collections are surgically evacuated, for without this the injection of the serum would favor the absorption of the poisonous constituents of the circumscribed pus. The best results are obtained in acute septicæmia (streptococcus infection) by using the serum early and in large doses. For medicinal use only those sera should be used which have been obtained from streptococci recently isolated from human beings. Since the unity of species in streptococci has practically been established, the actual province of the streptococci used need not be considered. The testing of a streptococcus serum on animals does not show its efficiency for man, and at present the only measure of its power is to be obtained from its effect upon human beings.

**Tabes and Traumatism.**—Windscheid thinks that the recent tendency in some quarters to regard traumatism pure and simple as a cause of tabes is to be viewed with much suspicion. There is no doubt but that the primary lesions of tabes are to be found in the spinal cord, and that all other lesions present are to be regarded as secondary. Furthermore, such primary lesions are undoubtedly caused by the action of toxins. Whether or not such toxins must be syphilitic has not been as yet definitely decided, nor does such a question enter into the discussion of the present question. Traumatism may be divided into three varieties, according to the location to which it is applied: (1) Traumatism directly applied to the spinal column. (2) Traumatism of the head. (3) Traumatism of the body. Traumatisms of the first variety are frequent, but the subsequent development of tabes following them is very rare. If such traumatisms could in any way act directly as a cause of tabes it is certain that tabes would follow them with much greater frequency than statistics show. It is inconceivable to suppose that traumatism of the head could be the sole causative agent in such microscopical lesions of the spinal cord as primarily occur in tabes. It might be supposed that traumatism of the extremities might give rise to an ascending neuritis, which would subsequently involve the posterior spinal roots and produce the clinical picture of tabes. This would be plausible except for the fact that much research has shown that in all cases of tabes examined the spinal lesions are primary and not secondary. From these considerations it is hence seen that it is irrational to suppose that traumatism pure and simple can ever give rise to tabes. It is, however, not only possible but probable that, as a secondary and contributing factor traumatism may play an important part in the development of this disease. Many cases are on record in which traumatism in syphilitics was followed by tabes, and it is well within the range of possibilities that the causative toxins, being present in the system, may first exert their harmful influences upon the spinal cord, when the resistancy of the same is reduced as the result of traumatic influences.

*Deutsche medicinische Wochenschrift, July 2, 1903.*

**Surgical Treatment of Ascites in Cirrhosis of the Liver.**—D. G. Zesas gives the indications for Talma's operation, together with a critical review of the same. There can, of course, be no question but that the most favorable and permanent results are to be obtained by operating as early as possible after the development of the ascites. All cases which are thus operated upon, however, do not show a permanent disappearance of the ascitic fluid. A case is here reported in which the ascites first appeared in March. Operation was done according to Talma in the following July. The ascitic fluid rapidly re-accumulated and resisted further treatment although the general condition was somewhat improved.

**An Acute Trophoneurotic Affection of the Entire Lower Extremity.**—E. Grawitz's patient was a female seventeen years of age. The personal and hereditary history was good, with the exception that she had suffered in childhood from slight anæmic and hysterical appearances. The present illness began suddenly with pains in the left lower extremity, there having been no previous history of injury. These pains began in the sole of the foot and quite rapidly ascended upward. Stomach disturbances with more or less vomiting soon developed. Upon examination the left lower limb was perceptibly reduced in circumference over the right and was of a dark red color. The following facts show that the affection is not to be ascribed to a venous stasis: (1) The reduction in the size of the involved limb. (2) No molecular concentration of the blood taken from the left lower limb over that taken from the right. (3) A general atrophy of the skin of the left lower limb. The only portions of the involved limb which did not show the appearances described were the toes and the sole of the foot. The bodily temperature has been normal throughout, and that of the skin of the involved limb has been the same as that of the remaining portions of the body. It is evident that this case must be included among the trophoneuroses, but that it does not correspond in its entirety with any of those which have previously been described. It most nearly approaches a form described by F. J. Pick under the name "Erythromelia," but there the cutaneous atrophy was insignificant as compared with the case here reported.

*Münchener medicinische Wochenschrift, July 7, 1903.*

**The Massage Treatment of Recent Fractures.**—Jordan, from an experience of seventy-three cases, says that massage and mobilization may be employed in all fractures of the upper extremity. Here, massage followed by fixation, may be employed in joint and shaft fractures which are not accompanied by marked dislocation. In shaft fractures with marked dislocation, with great tendency to recur, massage and permanent fixation until union are to be employed. In fractures of the lower extremity the use of massage is to be limited to joint fractures and employed in combination with walking bandages. In shaft fractures it is only to be recommended as a preparatory measure.

*French and Italian Journals.*

**The Treatment of Tuberculous Adenitis.**—An editorial sums up the treatment of this affection as follows: If a patient merely present a few ganglia that are simply hypertrophied, medical treatment will nearly always overcome the trouble. If the disease continue to develop they must be removed. If there be benign lymphadenoma, extirpation is the best procedure. If there are caseous ganglia, one may experiment with injections, but one is nearly always obliged to have final recourse to surgery. If the sacs have turned into abscesses, the best results are obtained by evacuating puncture, followed by healing injections. Ganglional masses complicated by fistulæ should be extirpated.—*La Tribune Médicale*, June 27, 1903.

**Treatment of Nephritis by Reduction of Chlorides.**—Fernand Widal and Adolphe Javal conclude from their researches into the pathological physiology of œdema, hydration and albuminuria in epithelial nephritis, that a temporary treatment by the reduction of chlorides is the best at certain stages of the disease. Milk is of especial benefit by reason of its poverty in chlorides. Other substances, even foodstuffs rich in albuminoids, as meat, or in carbohydrates, as bread, sugar and potato, or in fat, as butter, together with rice and pastries, may be taken with even more confidence than milk, provided that no salt be added. These substances contain the least possible amount of chlorides, even less than milk.—*La Presse Médicale*, June 27, 1903.

**Adrenal Extract in Hemorrhoids.**—A. Breton has used this remedy in the treatment of hemorrhoids. The patients were affected with prolapsed or non-prolapsed hemorrhoids, reducible, but bleeding profusely. Fifteen to twenty minutes before going to stool the patient introduced just within the anus (not into the rectum) a tampon of absorbent cotton impregnated with a 1 to 1,000 solution of adrenal extract. From the very first application the hemorrhages ceased. After five or six treatments the hemorrhages were entirely stopped, and in some cases the prolapse was cured. In the case of hemorrhoids situated high up in the rectum suppositories containing the drug have given good results.—*Gazette des Hôpitaux*, June 30, 1903.

**Otitis Media and Externa.**—Mario Molinari, from his studies on the subject, holds that otitis is always, or nearly always, due to the action of microorganisms, usually an association of them, so that it is not possible to state which special one, if any, is capable of causing the morbid process. As to treatment, his practice is to remove the purulent discharge daily by abundant and hot irrigations of a three-per-cent. solution of sodium bicarbonate, followed by one of hot sterilized water. The auditory canal is then dried with tampons of absorbent cotton and finely pulverized boric acid introduced without pressure. Gauze, soaked in a boric solution, is applied to the external ear. His results have been of the best.—*Giornale Medico del Regio Esercito*, June 30, 1903.

**Massage and the Treatment of Hemorrhoids.**—A. Cuche thinks it very doubtful if constipation should be given the prominent place in the etiology of hemorrhoids which

has been accorded to it. The author recommends a daily massage of the anus and the sphincter by introducing the finger about an inch above the sphincter immediately after a movement and working the muscle for about half a minute. This procedure is sure to bring relief, and in time a cure. The earlier in the disease this treatment is applied the more certainty is there of its success. If the hemorrhoids are due to digestive troubles of the large intestine, daily massage of the abdomen, lasting twenty minutes, will be useful.—*Tablettes Médicales Mobiles*, July 1, 1903.

**The Danger of Administering Sodium Chloride to Patients with Bright's Disease or Cardiac Affection with Threatened Anasarca.**—M. J. Courmont recalls the fact that the equilibrium of molecular "isotonia" in the system is maintained by the elimination of ingested salts by the emunctories, these salts having become hypertonic attract the watery part of the serum and cause œdema. When, therefore, the kidneys become impermeable to sodium chloride, this substance passes into the tissues and causes œdema. Hence, if a patient have reached the stage of dropsy it is dangerous to let them take salt unless the kidney largely eliminates it. Injections of artificial serum may thus become elements of great danger.—*Lyon Médical*, July 5, 1903.

**A Case of Late Contagion of Scarlet Fever.**—M. R. Millon reports the case of a boy who was affected with scarlet fever, contracted probably at school. His younger brother was at once sent away from home. The patient went through the various stages of the disease, after which disinfection and destruction of every possible source of contagion was carried on to a degree that seemed almost extreme. The younger child returned after forty-five days of absence, and the very next day was seized with a typical attack of scarlatina. These facts prove that the contagious period of the disease is much longer than is usually supposed. It is also worthy of note that in spite of the most minute and rigorous disinfection, the agent of the disease was not totally destroyed.—*Journal de Médecine de Paris*, July 12, 1903.

**Menstrual Epilepsy Treated by Ovarian Transplantation.**—M. Brennan reports the case of a girl of nineteen years, who for three years had attacks of epilepsy at or near her menstrual periods. No lesion of any kind was discovered. No form of medical treatment succeeded in overcoming the difficulty. It was finally decided to operate; the uterus was found to be normal, the ovaries also, with the exception that they were somewhat cystic. The ovaries were removed, and a portion of one of them, as large as a bean, deposited in a cavity prepared to receive it on the fundus uteri, and uterine tissue brought together around it. The patient made a good recovery, has menstruated but once, eight weeks after the operation, and has had only a few very slight nervous attacks, and these only following special overexertion. The improvement is so great that there is every reason to hope for a complete cure.—*La Revue Médicale*, June 17, 1903.

**A New Symptom Observed in a Case of Adams-Stokes Disease.**—Agenore Zeni describes a curious symptom, which consisted in a perfect synchronism between the respiration and the pulse beat. The ventricular contraction occurred only in coincidence with the respiratory act, and in fixed relation to it, that is to say, inspiration very slightly preceded the cardiac systole. This occurred, not as temporary phenomenon, but with regularity. The author holds that this is a new symptom of the disease, and that it is due to the fact that the moderating center of the heart is dependent upon the regulating center of respiration, and that the tonicity of certain inhibitory fibers of the vagus are lowered. In other words, during inspiration the activity of those fibers of the vagus which prevent the progress of the contractile wave through the various portions of the heart, is diminished or abolished.—*La Riforma Medica*, July 1, 1903.

**The Treatment of Burns by Topical Vegetable Applications.**—M. Liégeois gives a number of remedies which may be used in the country where one is unable to obtain carron oil, picric acid, and the various other chemical substances in use for the treatment of burns. In burns of the first degree, without blister, a crushed raw onion, over which has been scattered a little salt, will often take out the pain. Ambroise Paré, in burns of the second and third degree, after having opened the blisters, used to apply slightly salted nut oil in which elder leaves had been cooked. The bark and the inner bark of the elder have both been recommended in the case of burns. Crushed sage leaves are healing. Ivy has always enjoyed a reputation for its healing qualities in wounds, and our ancestors used to make a marvellous pomade by cooking the juice recently expressed from its leaves with goose oil. Nut oil and red wine in equal parts, say 250 grams each, with four grams of the fresh root of aristolochia, cooked until the wine has completely evaporated, calms the pain instantly and assists cicatrization.—*Journal des Praticiens*, July 11, 1903.

*Annals of Surgery, July*, 1903.

**The Surgical Features of Perforation of the Intestine in Typhoid Fever in Children.**—C. A. Elsberg reports a successful operative case, the patient being a girl of six and one-half years. On the thirty-third day of the disease there were symptoms of perforation and operation was promptly performed by Dr. Lilienthal. Elsberg reviews the literature of this complication of typhoid fever in children, and finds that it occurs with about the same frequency as in adults. A careful analysis is made of the histories of twenty-five operative cases in children chosen from a list of 289 operative cases at all ages. Of the twenty-five there were sixteen recoveries. Figures show that the chance of recovery after operation is about twice as great in children as in adults. The author closes his paper by stating that he has attempted to show: (1) That perforation of the intestine in the course of typhoid fever is very nearly as frequent in children between the ages of six and fifteen years as in adults. (2) The symptoms do not differ essentially from those of adults. (3) Although recovery may, in exceptional cases, take place without operation, the treatment should be a surgical one as soon as the diagnosis has been made. (4) The prognosis after operation is more than twice as good in children as in adults, and very early operative interference offers the best chances for recovery.

**Three Successful Laparotomies for Intestinal Perforation in Typhoid Fever.**—The cases are reported by R. H. Harte. In the first case, male, twenty-nine years, the perforation occurred during the middle of the disease with the patient in good general condition, was immediately recognized and operated on with some delay, however, owing to refusal of consent of relatives to surgical intervention. The second case, male, thirty-nine years, was of the ambulatory character, coming on suddenly in a patient who was not much exhausted from the effects of the disease, and presenting many of the characteristic symptoms of an acute appendicitis with perforation. This class, says Harte, is decidedly the most favorable for operation, and from it the greatest number of recoveries will be gathered. In the third case, male, thirteen years, the vital energies were almost entirely exhausted, as the result of a prolonged and exhausting disease. It is in these cases that the greatest difficulty is experienced in arriving at an accurate diagnosis whether perforation really does exist or not. The author enumerates the general rules of diagnosis, and says that the two important factors to be insisted on are first, the early recognition of the lesion and dealing with it as rapidly as possible, in order that as little time as possible will elapse from the time of perforation until operation has been performed; and, second, that the operation should be so planned, since time is so important an element, that not a moment should be wasted during it, the technique being of the simplest character, as every moment of delay will cause a much higher percentage of mortality.

**Dislocation of the Carpal Scaphoid.**—The patient of L. W. Ely was a man of twenty-five years, whose wrist was caught under an overturned automobile. The injury was at first considered as a crushing of the tendons and hot applications were prescribed. When seen twenty-four hours later by the writer the wrist was swollen and infiltrated, and presented on its flexor aspect a number of abrasions, showing the nature of the violence—that is, direct. Motion or pressure caused pain. The case appeared to be a Colle's fracture, and the patient was told that he must take an anæsthetic and have it reduced. The operation was done that afternoon. Under ether, crepitus could be distinctly perceived in the wrist, though its origin could not be easily ascertained. By manipulation, the scaphoid could easily be dislocated on the dorsum of the wrist, and by pressure could be replaced. On this symptom the diagnosis was made. A skiagram taken at a later date showed a slight tipping forward of the scaphoid and a chipping off of the styloid process of the ulna; but there is doubt whether the lesion was a simple dislocation of the scaphoid, or whether it was accompanied by a fracture of this or of one of the neighboring bones. The skiagram showed no such fracture, but the crepitus seemed to come from a point very near the scaphoid. The dislocation, however, was unmistakable. The treatment was by anterior and posterior molded plaster-of-Paris splints, the posterior splint reaching to the end phalanges, the anterior to the metacarpophalangeal joints. At the end of one week the anterior splint was removed, and at the end of about three weeks the posterior splint was taken off, and adhesive tape was applied to the forearm and hand. This was left on for about two weeks, permitting some motion, but affording a certain amount of support. The patient recovered with a good degree of motion in all directions.

# Society Reports.

## BRITISH MEDICAL ASSOCIATION.

*Seventy-first Annual Meeting, Held at Swansea, July 28, 29, 30, and 31, 1903.*

**Special Cable Report to the Medical Record.**

GENERAL SESSIONS.

TUESDAY, JULY 28—FIRST DAY.

THE seventy-first annual meeting of the British Medical Association was held this year at Swansea, in Wales. As usually happens when this great association meets in any but the largest of the provincial towns, every available hall was utilized for places of meeting of the general body, the various committees, and the eleven sections. Even the public library was captured and converted into a huge office for registration and common assembly, and here also was installed the annual exhibition of drugs, instruments, and other medical appliances, together with the pathological museum. The attendance was fairly large and representative.

**Induction of the New President.**—The first general meeting was called to order on Tuesday afternoon by the retiring president, Mr. Walter Whitehead, F.R.C.S. Ed., F.R.S.E., of Manchester. He introduced, with a few complimentary words, the president-elect, Dr. Thomas Dryslwyn Griffiths, M.R.C.S., of Swansea, who took the chair amid loud applause.

**Election to Honorary Membership of the Prince of Wales.**—After expressing his thanks and the deep sense of honor which he felt in having been selected for this exalted position, he said that he had a most pleasing duty to perform in announcing that His Royal Highness, the Prince of Wales, had intimated that honorary membership in the British Medical Association, which had been tendered to him, would be most acceptable. The Prince, like his illustrious father, had always shown great solicitude for the physical well-being of his future subjects and had invariably manifested the deepest interest in all matters pertaining to public health. It was therefore fitting to elect him to honorary membership in the representative medical body of the United Kingdom, and especially appropriate to do so at this meeting held in the province of Wales whence the Prince derived his best known title. Dr. Griffiths, therefore, moved the election as an honorary member of the British Medical Association of His Royal Highness, the Prince of Wales, and he did so in view not only because of the honor this membership would confer upon the association and upon the medical profession in the United Kingdom, but also in recognition of the distinguished services His Royal Highness had rendered to the science of medicine and of public health. The nomination was seconded by Dr. Andrew Clark, F.R.C.S., of London, and the election was carried by acclamation with cheers and the singing of "God Bless the Prince of Wales."

A vote of thanks was passed to the retiring president, Mr. Walter Whitehead, for the able services he had rendered as presiding officer of the association during the past year, and the motion was offered and carried to elect him a vice-president for life.

**The Report of the Council** was then presented by the chairman, Mr. Andrew Clark of London, and, after some discussion, was adopted. In the report satisfaction was expressed at the honors which had been conferred upon several members of the association, Sir Patrick Manson, and others. The treasurer's report of the income and expenditures for the year was then presented, and announcement was made of a number of grants to cover the expense of special committees and for scientific research. The total amount appropriated by the association for scientific research in the last thirty years, that is to say, since 1874, was about £18,000, in addition to some £2,000 granted to societies and other bodies working independently of the association.

In the discussion that followed the presentation of this report, Dr. Robert Bell of Glasgow found occasion to criticise quite severely the financial statement, and said that the manner in which the accounts were kept was most unbusinesslike. The methods of the council were defended by other speakers, and eventually the report was adopted as presented, except that an additional appropriation of £300 was made to the Sir Charles Hastings superannuation fund. The meeting then adjourned until evening.

**Address of the President.**—At the adjourned meeting in the evening the new president Dr. THOMAS DRYSLWYN GRIFFITHS delivered his address, taking as his subject "Evolution in Surgery." He spoke of the reciprocal influence of the three sciences of surgery, bacteriology, and therapeutics, and discussed the way in which existing medical knowledge could be further applied so as to benefit mankind in future years. He drew a most striking picture of hospitals as now constructed and conducted and compared them with those of fifty years ago. Cleanliness, sunshine, and free ventilation are now the characteristic features where formerly sepsis, crowding, and stagnant air prevailed. Not only were the principles of surgical asepsis unknown, but even isolation of those ill with what are now known as infectious diseases was often through ignorance neglected entirely or carried out so imperfectly as to be worse than useless. The wonderful transformation which had taken place in the surgical wards was due entirely to the influence of what the world has called, after the great discoverer of the nature of surgical sepsis, listerism. This term was used to cover all surgical methods based upon a recognition of the fundamental fact that the natural healing of wounds takes place only when the exposed and absorbent surfaces are protected against deleterious microorganisms. The principles of listerism could be applied with the greatest certainty of success in well-appointed modern hospitals by surgeons and nurses trained in the practice of aseptic surgery and with every facility at hand for attending to the details of the method. Through these hospitals the very poor were able to enjoy the benefits of skilled aseptic treatment. In the homes of the rich also it was comparatively a simple matter to provide the necessary assistants and appliances, since that was only a question of expense. But the application of listerism, or of antiseptic or aseptic surgery, as some preferred to call it, to the needs of the middle classes—of those in moderate circumstances who were too well off or too self-respecting to avail themselves of the free treatment accorded the very poor in hospitals and too poor to command the costly assistance procurable by the wealthy, was inferior and left much to be desired. For the needs of such the speaker advocated the establishment of what he called "Listerian homes," small surgical establishments not sufficiently large to deserve the name of hospital or even of infirmary, but sufficiently well appointed to meet the requirements of aseptic surgical practice. These establishments should be numerous and so distributed throughout the country as to be readily accessible to all in need of them. They could be founded by private beneficence or by public subscription, and could be placed at the command of all needing the conveniences they offered at moderate cost.

Leaving then the subject of surgical evolution, Dr. Griffiths discussed matters relating to public health. The application of modern medical knowledge in this domain, he said, had not kept pace with the progress in medicine and surgery. The mortality among children under one year of age had actually increased, yet the greater number of these deaths were due to preventible causes. Even the very moderate improvement recently effected in the sanitary laws had brought about an actual saving of sixty thousand lives in this country. The speaker advocated the formation of a public health service, the officers of which should be under the orders of the president of the local government board. The establishment of such a service would not be difficult, for a nucleus already existed

in the employment of medical men for special duties by various local authorities. If such a service could be established it would grow in importance and value to the community, and eventually it would be one which would offer an enviable career to men of the highest scientific attainments.

The end and aim of all sanitary science was the prevention rather than the cure of disease, and consequently, to speak of the crusade against tuberculosis only by way of illustration, while sanatoria and their like were all very well in their way, and indeed of the highest utility, the proper mode of combat was to go to the beginnings, to attack the evil at its roots. This was to be brought about by education of the people and by inculcating in them, by means of public lectures, the newspapers, and the like, the virtues of a general attention to hygiene and of a care for healthy homes.

The enormous success of the British Medical Association, which now counted in its ranks over 18,000 members, medical men from all parts of the United Kingdom, had brought with it corresponding responsibilities and power. One of the ways in which it was most desirable that it should meet that responsibility and exercise that power was by guiding and influencing Parliament and the various municipal and other public bodies in the matter of public health legislation. Not only could the enactment of vicious laws—that is to say of laws prejudicial to public health—be prevented, but the wise counsels of experienced sanitarians might result in legislation in certain matters which would work in the direction of the highest good and in a vast improvement in the health of the entire nation. Such a consummation was devoutly to be hoped for, and such it was within the power of the united medical profession of this land to bring about.

**Award of the Stewart Prize.**—Announcement was made that this prize, of the value of £50, had been awarded to Dr. Fred. Walker Mott for an essay embodying a report of researches made to determine the causes and devise means of prevention of dysentery in asylums.

On motion a vote of thanks was unanimously accorded to the President for his scholarly and practical address, and after other motions conveying the thanks of the association to the authorities of Swansea for their kindly reception, the meeting was adjourned.

**American Visitors.**—Among the Americans present from the United States were Drs. J. H. Edwards of Wylam, Ala., E. S. Foster of Boston, W. A. Gowing of Toledo, M. H. Gill of Hartford, and F. D. Sanger of Baltimore; from Canada, Drs. J. G. Adami and George Armstrong and Sir William H. Hingston of Montreal.

### WEDNESDAY, JULY 29—SECOND DAY.

The association met in second general session on Wednesday evening with the President, Dr. T. W. Griffiths, in the chair. The only title of importance on the program was the

**Address in Medicine.**—This was delivered by Dr. FREDERICK T. ROBERTS, Senior Physician to the University College Hospital and Holme Professor of Clinical Medicine in the University College, London. He said he had chosen as his theme one of the most important of all the subjects with which the modern physician had to deal, namely "Infective and Infectious Diseases." In this field, he said, the most startling and brilliant discoveries and those having the greatest influence upon the health and happiness, and therefore the progress of the human race, had been made, and it was here that was demonstrated in the most striking manner how remarkable had been the practical advance in scientific medicine during the last quarter of a century. But rich in discovery and scientific progress as had been the past, the future promised even more and greater developments, and rash would be the man who would put a limit to the benefits to accrue to the human race from the studies and experiments of the workers in this inexhaustible mine.

He would make a distinction, he said, between the two qualifying words used in the title of his address, for it was to be noted that the terms "infectious" and "infective" were not synonymous, the former denoting specifically that the disease so designated was capable of being communicated directly from person to person, or from some other animal to man. The infective diseases were equally due to the presence of pathogenic organisms, but were not so directly contagious or transmissible from the body of the sick person to a second susceptible individual. The morbid phenomena of each and every one of the diseases included in these two groups were the direct result of the action upon the body of one or more living microorganisms. Experiments and clinical experiences without number had demonstrated beyond the shadow of a doubt that the pathogenic microorganisms were possessed of a specific and individual activity, that is to say, that each microorganism possessing pathogenic properties was capable of setting in motion a morbid train of symptoms belonging to one disease entity and to no other.

Although it was only within the memory of men not yet past the middle of life that positive proof of the bacterial origin of many infective and infectious diseases had been furnished, the phenomenon of contagion had long been recognized and acted upon in the isolation of the sick. The number of contagious diseases which had definitely been shown to be dependent upon the vital activity of some demonstrable microparasite of either the animal or the vegetable world was already large and was constantly being added to, the list having been materially lengthened as the result of certain quite recent investigations. But the remarkable fact was to be noted that even now, in spite of all the resources of modern scientific research, there were many diseases known beyond doubt to be infectious, some of them, indeed, among the most common and the most studied, in which the specific microorganism had not yet been recognized. In most of these cases the certainty of the existence of some causative microparasite, either bacterial or protozoan, was practically absolute, but at present the physical proof was lacking. This was puzzling and a stimulant to further research, but it need not be crippling to those having to do with the management of such diseases, for we were amply justified in the confident assumption that some pathogenic microorganism did exist in each of those cases, and in using such belief as the basis of a sound working hypothesis.

Among the diseases now ranked, according to modern views, as infective, were pneumonia and acute rheumatic fever. Bacteriology had further proved conclusively that several previously unsuspected diseases were certainly infective, or even infectious. Among those the most worthy of remark were tetanus, tuberculosis, and malaria. It was impossible for the white races to evade certain responsibilities which were the necessary results of following out the so-called imperialistic sentiment, among which were those regarding the control of the terrible tropical or subtropical diseases. While on this subject he would call the attention of his hearers to the intelligent patriotic efforts of Sir Alfred Jones to promote the study of diseases of Southern climes in their home within the tropics.

Referring to the relative degree of infectiousness of the various diseases of the group under discussion, Dr. Roberts spoke of the curious fact that tuberculosis was at the present day regarded as one of the most virulently infectious diseases, equal to, if not surpassing, in this respect, even smallpox and scarlet fever. This idea was, of course, absurd, yet it had taken such firm root in the minds of many even well-informed persons among the laity that there was danger of its doing an infinite deal of harm in several ways. This widespread belief in the infectiousness of tuberculosis was without a doubt due in great measure to the crusade against the disease which had

been inaugurated some years ago, and since carried out with such energy by conscientious workers in all lands. While not relaxing their efforts looking to the eradication of this scourge of mankind, the workers should take care not to allow false notions of the nature of the disease to be propagated, for this would tend only to increase the misery of those already suffering from a distressing malady.

Typhoid fever was another disease which had until recently been regarded (and the belief had been practically acted upon) as not of infectious nature and consequently free from the dangers of personal contagion. Nowadays, however, there was a growing objection to the admission of typhoid patients into the wards of general hospitals, instances of apparent communication of the disease to others in the same ward having been more than once noted. As regards smallpox the danger of infection through the atmosphere was well established and practically recognized, but how far the contagious principle could be carried in the air from a smallpox hospital or from a hospital ship harboring smallpox patients was a matter which had not yet been satisfactorily ascertained. The determination of this point was, however, a matter of very great moment, for the uncertainty at present existing might have troublesome and even exceedingly grave consequences. The speaker had frequently read in medical literature the most contradictory opinions on this point expressed by men whose experience had apparently been such as to warrant them in speaking authoritatively.

Regarding certain diseases, it was absolutely true that infection could be and was spread through the medium of drinking water and food. Even in respect to tuberculosis, it could not be doubted, despite Koch's dogmatic negative statements, that the affection could be spread through the agency of the milk and meat of diseased animals. Recent investigations in this country had proved very conclusively that this investigator, despite his high scientific claims and his recognized right to speak with authority, was in this regard entirely wrong. It would be a very great error and one fraught with the gravest consequences to act on Koch's view or to ignore in the smallest particular the possibility of the conveyance by milk of the infective agents, not only of tuberculosis, but of other diseases as well.

Another mode of the spread of infectious diseases was the conveyance of the microparasites by animals, such as shellfish. There unfortunately could be no doubt that oysters were not infrequent and most potent agents in the propagation of typhoid fever. Recent investigations had also proved with absolute certainty the rôle played by insects in spreading various diseases.

Still another agent in the transmission of disease was man himself. It was well known that every one carried in the mouth and other parts of the body vast numbers of microorganisms which were ordinarily innocuous—at least to the host while his susceptibility to the particular disease which they represented remained in abeyance, but which might under favoring conditions become extremely virulent either to himself or to others. A man might thus infect his susceptible neighbor at any time while he himself went scot free.

Dealing with the question of the prevention of infection the orator admitted that we could as yet boast of very few specific remedies, and additions to the list were rarely recorded. He cautioned his hearers against looseness of speech and a too cheery optimism in the way of making promises and predictions which from the very nature of the case were in great danger of never being fulfilled. Any one recognizing the want of unanimity regarding the causation and very nature of many of these diseases could but confess that it would be most rash to speak of presumptions as if they were facts. But while caution in this respect was the part of wisdom, we should never relax our efforts to promote the good cause and to encourage those engaged in the slow and laborious and often thankless task of investigation. The duty of the medical profession was to second every measure, scientific or practical, which had for its aim the mitigation or eradication of those widespread and often terribly fatal infectious diseases which now played such a preponderating rôle in the increase of the death rate, and which, even in cases of recovery, left such serious and often irremediable sequelæ among large numbers of the community. These things it was the duty of the profession to do, despite the vicious attacks of those who would impugn their motives. There were numerous "antis" hovering about on the outskirts of the medical army, but for downright impudence and insolence the "antivivisectionists," so called, held the field. The hysterical outbursts of these impotent mouthers should be treated with the silent contempt which they deserved, and soon nothing more would be heard from them.

On motion, a vote of thanks was rendered Dr. Roberts for his interesting and instructive address on a topic of such vital importance to mankind.

Just as the session was about to be adjourned the president read a telegram received from the Prince of Wales warmly thanking the association for the honor of membership which had been voted him, and accepting the same with great pleasure.

### SOME OF THE WORK IN THE SECTIONS.

Most of the section meetings were held in the rooms of the Higher Grade School and the Swansea Grammar School.

**The Vaccination Acts and Smallpox Prevention.**—In the section on State Medicine the discussion on this topic was opened by the president, Dr. JOHN C. MCVAIL of Glasgow. He supported the contention of the Medico-political Committee of the British Medical Association that revaccination be made compulsory, advocating the passage of a law fixing the period at which the second vaccination is to be performed between the ages of ten and thirteen years. He said that the same provisions regarding the nullifying effect of "conscientious objection" should be operative in the case of revaccination as were now in regard to primary vaccination, but he held that the clauses granting exemption from the provisions of the act should be more definite than they were in the existing act. Regarding future legislation, he suggested that the law should entrust carrying out the provisions of the act to a specially constituted local government board. Vaccine lymph could be supplied by the government or by private manufacturers under government supervision and guarantee. The speaker said the Section on State Medicine should urge upon the council of the association the importance of using all the machinery of the British Medical Association in order to bring before the members of Parliament the extreme necessity of further vaccinal legislation on the lines already approved by the council, modified as it might be, by suggestions adopted by the section.

The discussion was continued by Drs. DRYSDALE, GARSTON of Cheshire, and MOLE of Gower. The latter urged that the vaccination marks should be not less than four in number. Not only, he said, should vaccine lymph be provided free to private practitioners as well as public vaccinators, but all fees for vaccination should be guaranteed, and therefore, if necessary, paid by the government.

Dr. HOEDER of Cardiff said that public vaccinators were underpaid, and he urged that the legal fees for vaccination be raised appreciably.

Dr. ROBERTS of Kilmarnock said that many of the difficulties in the matter of vaccination experienced by English practitioners were unknown in Scotland. In the latter country the vaccination fee was often included in the charge for confinement. In order to avoid possible trouble and to prevent the practice of vaccination being brought into disrepute in the minds of the laity, the

physician should be sure before performing the operation that the child itself was perfectly healthy, and especially that it was not a subject of hereditary syphilis, or of some generalized skin disease.

Dr. EBENEZER DAVIS, Medical Officer of Health for Swansea, referring to the difficulties which had been experienced by the government officials during the recent outbreak of smallpox, said that his experiences during that epidemic had strengthened him in the conviction that revaccination before the subject had reached the wage-earning age was most advisable and indeed, he might say, of absolute necessity.

Dr. GARSTANG moved and Dr. ALBERT JONES seconded the passage of a resolution adopting as the sense of the Section on State Medicine the suggestions made by the president of the section in his able address.

Dr. DRYSDALE moved the adoption of a resolution expressing the belief of the Section on State Medicine that smallpox would soon become as rare in England as it now is in Germany were every infant vaccinated during the first year of life and every child revaccinated at the age of ten or twelve years.

**Legislation Regarding Midwives.**—Dr. J. WARD COUSINS of Portsmouth read a paper on the need of further legislation regulating the practice of midwifery. He said that while the proposed Midwives Act would entail a much greater amount of labor on the part of the Medical Officers of Health, it would be most advantageous in that, through its provisions, the efficiency of the midwife would be tested in a most practical way. The majority of cases of confinement needed no other supervision than that which the ordinary midwife was entirely competent to give, but the real trial of the midwife's fitness for her task came when emergencies arose. She should be able to recognize the moment when the limit of her practical knowledge and of her skill was reached, and in her ability to recognize this moment lay the real test of her efficiency. The workings of the new act would put midwives to this very test, and in so far the proposed legislation was most commendable.

The discussion that followed the reading of this paper was chiefly upon the proper constitution of the local supervising committees, and the consensus of opinion seemed to be that this committee should be composed chiefly of medical men. In regard to this point Dr. Ward Cousins pointed out that in the county councils was vested the power of appointing the local committees and also of availing themselves, when necessary, of the services of private medical practitioners. He referred to one practice which was open to serious abuses. The law which now left it to the physician to report or not, as he might see fit, the birth of stillborn children, made possible the concealment of many crimes. It would be better to make the reporting of all stillbirths compulsory.

**Medical Experiences During the Pekin Relief Expedition.**—In the Navy, Army, and Ambulance Section, Fleet-Surgeon JOHN LLOYD THOMAS of H. M. S. *Excellent*, related his experiences as medical officer of the British Relief Expedition during the siege of the legations in Pekin in 1900, dwelling chiefly upon the cases of sunstroke and the treatment found most efficacious, and upon the means adopted for purification of the drinking water supplied to the forces on the march.

**Purification of Drinking Water Obtained from Suspected Sources.**—Staff Surgeon T. FALCONER HALL discussed this question in a paper of some length. The most certain means of obtaining a pure supply of drinking water was by distillation, but this was practicable in general only when the troops were in camp or garrison, and when they were on the march some other method had to be adopted. The next best means of purifying water was by boiling, followed by filtration. In this way the larger impurities could be removed, while the smaller microorganisms and their spores would be killed by the prolonged application of heat. The toxins which might have been previously elaborated would not, however, necessarily be destroyed by this process. The chemical methods of providing a safe and potable water which had been proposed from time to time were practically of little value, if not absolutely useless. It was impossible by this means to destroy all pathogenic organisms, especially those of typhoid fever and cholera, without at the same time rendering the water unfit to drink, if not positively dangerous.

## MEDICAL SOCIETY OF NEW JERSEY.

*One Hundred and Thirty-Seventh Annual Meeting, Held in Asbury Park, N. J., June 23, 24, and 25, 1903.*

FIRST DAY—TUESDAY, JUNE 23.

THE meeting was held in the Coleman House under the presidency of Dr. E. L. B. GODFREY of Camden.

**Adoption of New Constitution and By-Laws.**—For a year past a committee has been busily engaged in revising and altering the constitution and by-laws so as to make them conform to the new plan of organization adopted by the American Medical Association and by many other State societies. The committee presented a printed report, which was adopted without discussion. This makes New Jersey the twenty-seventh State to fall in line.

**Abuse of Medical Charity.**—Dr. E. Y. SUTPHEN of Newark presented the report of this committee. He said that in the London and in the St. Bartholomew's Hospital a plan of home visitation had been adopted with some advantage. It was probable that a similar plan would be the best one for this country. The committee suggested the propriety of the State society recommending to the district medical societies, especially those embracing the larger cities, to take some practical steps to secure themselves the protection they desired. It would probably entail only a very moderate per capita expense.

This was all the committee had to suggest, and as the committee had never had more than a half-hearted support from the time of its establishment, despite the earnest work of its chairman, it was perhaps well for the peace of mind of the society that the committee had been discharged, and the uncomfortable prominence given this very awkward subject was a thing of the past.

**Progress in Medicine and Therapeutics.**—Dr. W. H. IRELAND of Camden was the author of this paper. With regard to typhoid fever the opinion was expressed that the needless use of tub baths in this disease was responsible for certain unsatisfactory results, and that the statistics would be improved if some of these cases were treated instead by sponge baths. Little if any advance had been made in the medical treatment of typhoid fever. In marked contrast was the present status of the treatment of malaria and yellow fever. Dr. Councilman had recently announced that he had discovered the specific germ of smallpox, an achievement of much interest and importance if confirmed by further investigation. The serum treatment of disease promised to become increasingly prominent in the future. Apparently the fact had been clearly demonstrated that the resistance to many diseases was decidedly increased by the addition to the blood of a person afflicted with the disease of a small quantity of blood serum from a person who had just recovered from the disease. Brief mention was made of the possibilities of treatment by animal extracts.

**Progress in Laryngology.**—Dr. B. A. WADDINGTON of Salem presented this report. For the control of epistaxis the author recommended the introduction on a probe of a long cone of loosely wound cotton wet with hydrogen peroxide. The apex of the cone should reach the posterior nares, and by placing the finger on the base of the cone at the anterior nares the probe could be readily withdrawn. Such an application caused prompt

coagulation of the blood and an enormous swelling of the blood clot, thus effectively checking the nasal hemorrhage. Referring to the relation of the uric acid diathesis to certain cases of hay-fever, the statement was made that not a few of these cases could be relieved by the internal administration of nitro-muriatic acid in doses of from three to five drops in water after meals. Its good effect was usually apparent in one or two days, but to secure the best results the remedy should be continued throughout the hay-fever season.

**Progress in Surgery.**—Dr. CHARLES YOUNG of Newark read this paper. Speaking of gall-bladder surgery he said that Cushing had found that 30 per cent. of the gallstone patients operated upon at the Johns Hopkins Hospital had previously suffered from typhoid fever, and Ochsner found that 35 per cent. of his cases had previously had acute or chronic appendicitis. This fast was interesting in connection with the theory of the etiological relation of bacterial invasion to cholelithiasis. In the diagnosis Ochsner relied rather upon digestive disturbance, gaseous distention of the abdomen, dull pain extending to the right in the epigastric region on a level with the tenth rib, and extending upward toward the right shoulder-blade, and a history of one or more attacks of typhoid fever or of appendicitis. If to this were added colic and jaundice, additional confirmation was afforded. The chances were thought to be better without operation during the acute stage. In a series of 328 operative cases reported last year by Dr. W. J. Mayo of Rochester, Minn., the mortality was 2.5 per cent. Where the cystic duct was obstructed, cholecystotomy was usually found to be sufficient. In three cases gallstones were found outside of the gall-bladder with no connection with it, although they communicated by fistulous passages with the intestine. There were thirty-four cases of cholecystitis with three deaths, thus showing the serious nature of the affection. Jaundice in connection with stones of the common duct was a very variable feature; in many cases it was so slight as not to attract attention. Mayo had had no deaths from hemorrhage after adopting Robson's suggestion of administering calcium chloride. Of the eight deaths in the benign cases four were from progressive inflammation of the liver ducts. Mr. Moynihan of Leeds, England, had contributed to the literature an instructive article on cholecystectomy. One of no less experience in this field than Kehr recommended removal of the gall-bladder as a routine measure in the treatment of cholelithiasis. The gall-bladder should never be removed unless the surgeon was convinced that the common duct was patent.

**A Case of Amœba-Coli Dysentery.**—Dr. PHILIP MARVEL of Atlantic City reported this case. He said that the lesions produced by the amœba coli were almost always present in the large bowel. The ulcerations were characteristic, there being nodular projections and small cavities filled with gelatinous pus. The most intense change appeared to be in the membranous coat. The primary action of the amœba was believed to be the formation of granulation tissue, and that when pus formed it was always the result of infection. The case reported occurred in a woman of thirty-five, a native of New Jersey. She complained of intense, deep pelvic pain without abdominal distention or diarrhœa. In a few days the stools became dysenteric. The usual treatment for this condition was tried for two or three weeks, with unsatisfactory results. During this time there was more or less uterine hemorrhage. At the first examination a mass was found in the left broad ligament, but this disappeared subsequently. It was a pyosalpinx Curettage was done for the relief of this complicating condition, and strange to say, the dysentery was checked by this operation on the uterus. An examination with the proctoscope showed a large ulcerated area about two inches above the rectum. At Dr. Marvel's request the case was subsequently placed under the observation of Dr. John Clarke of the University of Pennsylvania. The Widal reaction was negative, whereas the bacteriological examination served to identify the amœba coli. The patient discontinued treatment after a time, and although not well she was greatly improved. Three microscopical examinations were made of material removed from the local seat of the disease by swabs, but no amœba-coli organisms were found at this time.

Dr. JUDSON DALAND of Philadelphia observed that it was quite possible that there were other ulcers beyond the field of vision. The ulcers were usually superficial, thus admitting of local treatment, and at the same time explaining the rarity of perforation. He thought benefit should result from washing out the colon with a solution of quinine, in view of the known action of this remedy when in solution in the blood upon another amœba, the malarial plasmodium.

Dr. Marvel replied that he had given quinine by the mouth, but had not used it locally, because of the negative results obtained by Dr. George Dock of Michigan, with this treatment, using quinine solution in strengths of 1 to 1,000 and 1 to 500.

**President's Annual Address.—The Educational Standards of the Medical Profession of New Jersey, Past and Present.**—Dr. E. L. B. GODFREY of Camden delivered this address. He said that in the first year of the existence of the Medical Society of New Jersey, or 136 years ago, the question of medical education was taken up. Only five years later the State required that the standard of medical education should be determined and vouched for by the Supreme Court of the State. In 1816 the State transferred the licensing power to the Medical Society of New Jersey. From 1851 to 1854 a fierce fight was waged between this society and the medical colleges of the country, and in the latter year a law was passed which admitted the graduates from all recognized medical colleges in the country on depositing an English translation of the diploma. Finally, in 1866, the Medical Society of New Jersey surrendered its examining and licensing power. Medical practice remained in New Jersey almost without restriction from 1854 to 1890. Public and professional sentiment became aroused over the imperfect training given in medical schools, and the conclusion was reached that the State could not accept a diploma from a medical college outside of its jurisdiction, especially from a private teaching institution. In 1890 the State of New Jersey established a minimum standard of qualifications, and appointed examiners for those applying for license to practise medicine within its borders. These officers were appointed by the State and were directly responsible to the State. It was not at first thought to be expedient to establish a very high standard. In 1892 an act was passed requiring a course of medical education extending over three calendar years. In 1894 a law was enacted which required a competent common-school education and a course of medical training extending over four calendar years, with an examination in fourteen subjects, and a general average at the examination of 75 per cent. By a law enacted in April of the present year, and going into effect on July 4, 1903, the applicant was required to have a diploma issued after four years in a State normal or high school of the first grade in this State, or any other institution of equal grade, or a certificate of having successfuly passed the examination for the freshman class of a reputable literary college. This new law also requires attendance at a medical school upon four courses of lectures of nine months each in different years. Physicians who have been in reputable and continuous practice for five years prior to 1903 are exempted from one course of lectures, and those who have practised for ten years are exempted from two courses of lectures. The examination papers of candidates are to be filed in Trenton and are subject to public inspection. The speaker said

that by a recent judicial decision it had been decided that osteopathy was illegal in New Jersey—indeed, that no system, medical or religious, such as the laying on of hands and Christian Science, was legal unless proved to be in conformity with the standards of the State. At the present time there was about one physician in New Jersey to every 800 of the inhabitants. The enforcement of the medical law in the State rested with the local prosecutors, and the Medical Society of New Jersey could do much in the way of co-operating with such prosecutors.

The speaker then discussed at great length the question of interstate reciprocity in the matter of medical licenses, and came to the conclusion that this was impracticable, and must be so for many years, or until the laws of different States became uniform, because there was no common ground for united action. Because of the two powerful adjoining States, New Jersey must be especially careful about indorsing diplomas from those States. Laxity in this respect would be a poor State policy, and would inevitably rob the medical profession of that State of much of its summer practice. The licenses of other States were not indorsed until all of the requirements of New Jersey, moral, academic, and medical, were complied with.

**Presentation of a Gavel.**—Dr. DANIEL STROCK of Camden, on behalf of the attending staff of the Cooper Hospital at Camden, presented to their colleague, Dr. E. L. B. Godfrey, the President of the State Society, a gavel made from some of the wood of the hospital.

**Osteopathy.**—Dr. DANIEL STROCK made a brief address in which he made clear, so far as the nature of the subject would permit, what was really embraced in the term osteopathy. He called attention to the fact that Dr. Still claimed to have invented osteopathy in 1874, and that although one would naturally infer that the term was applicable only to the osseous system, it was used to express mechanical treatment invoked to cure disease dependent upon disturbed relations not only of the bones, but of the ligaments, tendons, nerves, and blood-vessels.

Dr. R. C. NEWTON of Montclair followed with a paper, in which he showed that Dr. Still was not the originator of this system, and that his so-called discovery had been antedated by an Italian woman, who was brought to this country by General Woodford and who was known to have practiced osteopathy here. He added that there was a germ of truth in osteopathy, as some of the benefit was due to active and violent manipulation which regular practitioners advised merely, but which the osteopaths actually executed, and thus made sure that their advice was followed.

SECOND DAY—WEDNESDAY, JUNE 24.

**Progress in Bacteriology.**—Dr. R. B. FITZ RANDOLPH of Trenton read this paper. He said that since the publication of Koch's dictum regarding the non-communicability of bovine tuberculosis to man many investigators had diercted their attention to the subject, with the result that there had been accumulated considerable evidence to show that bovine tuberculosis was communicated to human beings either through wounds or by means of food. Cows secreting tuberculous milk might be so slightly infected with this disease as not to lead to the diagnosis of bovine tuberculosis without resort to the tuberculin test. It had been shown that the tubercle bacillus could thrive on the surface of fruit, and could be so communicated from man to man, but it was improbable that this often occurred outside of the laboratory because of the comparatively narrow limits of temperature within which the tubercle bacillus would grow. According to Trudeau, the presence of a living germ was necessary to secure the development of immunity. The production of a tuberculous antitoxin had not met with much success, the nearest approach being the serum bearing the name of Maragliano.

**Typhoid.**—There was little to record concerning the bacteriology of typhoid fever except with regard to the use of sera. Apparently a very good degree of immunity could be conferred by the process of so-called vaccination, but the period of immunity was uncertain. The difficulty in preparing an active curative serum was that the toxin was locked up in the cell. The serum diagnosis of typhoid fever was now so thoroughly established that it was employed in all laboratories. The His method of isolating the typhoid bacilli from the fæces was not frequently employed because of certain practical difficulties. Many of the sources of typhoid fever were still shrouded in mystery. While water-borne typhoid was very common, there were many other sources of infection fully as important. The transmission of the disease by flies, and presumably by other insects, was now well established. Welch had recently made the statement that the majority of cases of infection arose from the communication of the disease from one typhoid-fever patient to another, or through the medium of infected articles. Paratyphoid bacilli had been first described in 1896. These bacilli produced an acid reaction in milk, and resembled the colon bacillus in many respects, but did not produce indol. These organisms had been occasionally recovered from the fæces and urine. The mortality from paratyphoid infection was usually very low, being practically *nil* with the variety of this bacillus designated as "A."

**Plague.**—The persistence of the plague in San Francisco for the past three years was probably largely attributable to the unwarrantable action of the health authorities there. A relatively small number of the bacilli might cause the disease. As in typhoid fever, two methods of treatment had been proposed, *i. e.* protective inoculation and the use of a curative serum. Good results had followed the use of Haffkine's protective inoculations, but the reports concerning the curative serum were so far contradictory. The consensus of opinion seemed to be that in mild cases it was of decided value, and not of much use in severe cases.

**Dysentery.**—Reference was made to the discovery by Shiga of the bacillus of dysentery, and to the results obtained by Duval and Darrett in isolating this bacillus from forty-two cases of infantile summer diarrhœa. The researches to be carried on this summer would probably very greatly add to our knowledge of this disease.

**Report of Committee on Legislation.**—Dr. L. M. HALSEY of Williamstown presented this report. It stated that at the last annual meeting of the State society the committee had been instructed to endeavor to secure legislation for the protection of the physician on the witness stand. A bill had been drafted and presented to the Legislature by the member from Gloucester. Considerable opposition developed, the lawyers claiming that it would make it practically impossible for them to secure evidence in divorce cases. It was thought that the work accomplished by the commmittee would prove a useful entering wedge in the future. The committee had also worked energetically to defeat the osteopathy bill, and it had been insisted that the State could not discriminate between various so-called systems of healing, and that all practitioners of the healing art should be treated alike. Several other members of the State society and a number of homœopathists assisted in opposing the bill. It was not reported out of committee, but there was reason to believe that a similar effort would be made again before long. The committee also assisted in raising the standard of medical education for the State, which placed it practically on a level with the standard of the State of New York. The committee felt that its work was of such importance that the committee should be enlarged by the addition of representatives from each district society, and that the committee should be instructed to endeavor to secure the adoption of a standard for fees in connection with lunacy examinations, post-mortem examinations, and coroner's inquests. The present committee felt that

the minimum fee for a lunacy examination in the case of an indigent lunatic should be $5, the fee for post-mortem examination from $25 to $100, and the fee for services in connection with a coroner's examination from $5 to $10, depending upon whether or not it was held in the same county as that in which the physician resided.

**The Organization and Operation of Hospitals and Other Charitable Institutions in the State of New Jersey.**—Dr. WALTER B. JOHNSON of Paterson, the third vice-president, presented this essay. He said that male boards were business-like and raised more money, and likewise spent more freely for hospital maintenance than female boards, but they were apt to be too much engrossed in their own business. The female managing boards were most careful about the finances. Some experienced hospital workers favored a mixed board. The writer unhesitatingly recommended what was called the departmental system of management.

**Progress in Ophthalmology.**—Dr. TALBOT R. CHAMBERS of Jersey City presented this report. He said that during the past year there had been a marked increase in trachoma and conjunctivitis in Jersey City and in other parts of the country. In Russia the inspectors found not less than 5 per cent. of the children of the schools suffering from trachoma, and in many of the country districts nearly 50 per cent. of the school children were so afflicted, and this, too, despite the fact that the government expended annually $87,500 in the effort to control this disease. Attention was called to the importance of prompt treatment of all cases of penetrating wounds of the eye, and to the value of the eye magnet, and sometimes of the *x*-ray, in connection with cases of this kind in which a particle of iron or steel had passed into the eye. The subject of determining the conditions of the eyes of school children was next considered, and a system was described which was thought to be applicable to the public schools. It was intended to introduce it shortly into the schools of Jersey City.

**Operation for Complete Epispadias by Transplantation of the Urethra.**—Dr. FRANK C. CANTWELL of Trenton was the author of this paper. He described the technique of the operation, and reported his own two successful cases and others successfully performed by others. It was claimed for the operation that it left the penis not only normal in appearance but in the structure and relations of the parts. One of these patients had recently become the father of a healthy child.

**Infantile Colic.**—Dr. ALEXANDER MCALISTER of Camden presented this paper. He said that the most trifling circumstance in the life of the mother was often sufficient to give rise to colic in her infant. An improper rubber nipple was a fertile cause of colic. The best of such nipples after having been used for a short time permitted too free flow of milk, and it was a stubborn fact that a child having once become accustomed to such a nipple would persistently refuse to return to sucking at the breast. It should be made the rule to discard a rubber nipple after having been in use two weeks. The nipple therefore should be new, the perforation very small, and the bottle should be held by an attendant while the infant was feeding. The greatest care should be taken not to resort to narcotics until every other means had been faithfully tried and the nature of the colic carefully determined. It should be borne in mind that the dose of one drop of paregoric was the sure forerunner of ten drops of that delusive nursery medicine. A great deal could be accomplished in the relief of colic by friction and warmth, the latter being most conveniently applied by means of a small hot-water bag. A useful carminative, when one was indicated, was the formula for paregoric with the opium left out. According to Rotch, alkalies should also be administered. Milk of asafetida often proved exceedingly useful as a remedy for the relief of infantile colic.

Dr. WILLIAM E. DARNALL of Atlantic City said that some observers had noted that an attack of pain in the nursing mother might give rise to colic in her infant. This had long ago been pointed out by Dewees, who had observed a persistent colic in an infant coincident with a severe toothache in the mother and disappearing when that was relieved by extraction of the bad tooth. The influence of cold, as from lying in a wet diaper, should not be forgotten. According to Dr. Illoway of New York the play of the infant's features was an aid to the correct diagnosis. Thus where the colic was only a symptom of a more serious disorder it would be found that the child did not draw up its limbs against the abdomen as in ordinary simple colic.

Dr. JOHN C. JOHNSON of Blairstown remarked that a small umbilical hernia was a not infrequent cause of infantile colic.

**Mosquitos and Malaria.**—Dr. J. J. KINYOUN of Glenolden, Pa., presented this paper. He reviewed the work of Ross and others and pointed out the differences between the eggs of the culex and of the anopheles mosquito. The eggs of the former were deposited in one adherent mass, while the latter were deposited separately and were provided with air cells which enabled them to float. Of the sixty-one varieties of anopheles it had been found that only four or five in this country were responsible for the dissemination of malaria. The period of incubation for the tertian form was from five to fifteen days; that of the æstivo-autumnal and of the malignant tertian was five days, while that of the quartan had not yet been determined. The speaker said that he did not personally indorse the opinion of immunity from malaria. Many children did not appear to show any serious consequences from malarial infection, although an examination of their blood would show many malarial organisms therein. In 1890 he had had the good fortune to observe six cases of mixed infection of typhoid and malarial fever. In considering prophylaxis it should be remembered that the mere fact of the prevalence of anopheles did not necessarily mean malaria. It had been observed that in certain districts largely given up to the cultivation of tomatoes the people were wholly free from malaria; also that when the anopheles was fed upon tomatoes, melons, and other substances containing fruit acids these mosquitos could not be made the means of carrying malarial infection.

Dr. JUDSON DALAND of Philadelphia said that while he was convinced that the mosquito was the most important agent in the transmission of malaria, he believed it was not the only one. He believed that the existence of a special form of the malarial plasmodium explained the malignant malarias found about the Black Sea and in the tropics. It was said that in the southern part of Russia malaria and typhoid fever present such a similar clinical picture that the differential diagnosis is hardly possible without a microscopical examination of the blood. He had seen a double infection with malaria and typhoid in the soldiers returning from Cuba. It was perfectly conceivable that when a typhoid infection occurred the resulting changes in the blood interfered with the usual development of the malarial parasite. The reader of the paper had touched upon the interesting question of latency and immunity. It was undoubtedly true that the blood of many blacks living on the African coast showed the presence of the malarial parasite, unassociated with symptoms of malaria, but if these persons left this region and ascended the mountains the usual phenomena of this disease became apparent. The disease was really latent, and these persons were not really immune. Not only should the anopheles mosquitos be destroyed as a prophylactic measure, but persons ill with malaria should be protected from mosquitos, because if the latter had access to such persons they would convey the disease to others.

Dr. B. D. EVANS said that he had been assured that in "the black belt" of Alabama, where the most malig-

nant forms of malaria were rife, no mosquitos were found—an interesting but to him a very puzzling fact.

Dr. C. P. Noble of Philadelphia said that in early life he had lived in a low-lying part of the country which was at the time very malarious. At present there was practically no malaria there and this the physicians of the locality attributed to the fact that the old-fashioned wells had been superseded by driven wells.

Dr. Marcy spoke of the commercial aspect of the movement for the destruction of mosquitos, and remarked that as this alone would mean the redemption of large tracts of valuable land, it was worthy of serious consideration wholly apart from its sanitary features. The mosquito was undoubtedly an intermediary host, but it was just as certain that there were other methods of propagating malaria. A short time ago he had observed that almost every patient in the military hospital near the Black Sea was suffering from a severe form of malaria, yet mosquitos were not prevalent, from which he inferred either that the mosquitos in that region were very much overworked or else there was some other means of transmitting malaria.

Dr. Kinyoun, in closing the discussion, said that malignant malarial fevers occurred not only in Alabama but along the Atlantic coast from the Dismal Swamp to Galveston, Texas, and throughout this region the anopheles mosquito had been found. He was disposed to believe that there was another kind of mosquito or other insect that was capable of transmitting the infection, particularly in those disputed forms of which "black water fever" might be taken as the type. He also believed that Cuban malaria so-called was due to a type of parasite not yet described.

**Alexander Operation in the Treatment of Retrodisplacements of the Uterus.**—Dr. Frank M. Donahue of New Brunswick was the author of this paper. He stated that the one essential for a successful Alexander operat on was that the uterus should be freely movable and the tubes and ovaries healthy. Several modifications of the operation had been performed, but they presented in common the disadvantage that the abdominal cavity must be opened. Anterior fixation was objectionable not only because of probable complications in women of child-bearing age, but because the operation increased the tendency to congestion which in turn led to endometritis. Of forty cases in which the author had done the Alexander operation thirty had been heard from and all had been symptomatically cured. About 20 per cent. had since been delivered of full-term children. The operation was capable of effecting a cure in properly selected and otherwise very troublesome cases and without any mortality.

**Retrodisplacements and Their Treatment.**—Dr. J. M. Baldy of Philadelphia presented this paper. He said that retrodisplacements were almost always associated with other diseases, and the symptoms presented were usually those of such associated disease. A retrodisplacement of the uterus, even with prolapse of the ovaries, might exist for years without any symptoms. In such cases marriage was apt to lead in a short time to symptoms referable to the ovaries. The treatment of retrodisplacement was therefore the treatment of conditions in which the retrodisplacement was only an incident, and a treatment which wholly ignored the retrodisplacement might be completely successful. The operation which he advised was one in which the round ligaments were seized, drawn back into a loop behind, and fastened with a stitch. The utility of pessaries was so limited that he would not discuss them. Where they did good a tampon would act equally well. The speaker said that the majority of women who came to him with a pessary in the vagina had no malposition of the uterus or any pelvic disease and the indications were that there never had been. These women were neurasthenics or dyspeptics.

Dr. Mortimer Lampson of Jersey City expressed the opinion that the Alexander operation was essentially wrong in its conception, and was based on wrong anatomical principles. His personal experience, together with observations of the operation as done by others, had impressed him with the great difficulties of this operation, and with the fact that Kelly's modification was an improvement on the original Alexander operation.

Dr. Emery Marvel of Atlantic City said that there were several objections to the Alexander operation. Not the least of these was the fact that the surgeon worked largely in the dark and was liable to overlook complications, such as tubal and ovarian disease. The objection made to the other operations that the peritoneal cavity must be opened did not seem to him to carry much weight, and another objection, the liability to hernia, fell to the ground, for the Alexander operation presented two possibilities of the development of hernia as against the one chance of such a sequela after laparotomy. Ventral suspension was an operation that had done much good, but a serious objection to it was the liability to dystocia. He objected to Dr. Baldy's operation on the ground that it weakened the original supports of the uterus.

Dr. Philander A. Harris of Paterson heartily commended the position taken by Dr. Baldy, but said that he had had no personal experience with Dr. Baldy's operation. He believed that pessaries were occasionally useful in retrodisplacements of the uterus unassociated with other pathological conditions.

Dr. C. P. Noble was of the opinion that there were many cases of uncomplicated retroversion that gave rise to symptoms, and that many of these cases soon became complicated by prolapse of the ovaries. He had found no difficulty in curing the uncomplicated cases by the Alexander operation, an operation that he had done over 200 times. He had never known a hernia to follow this operation when it had been properly done—*i. e.* when it had been finished as a Bassini operation. It had not been his experience that in doing the Alexander operation one was liable to overlook disease of the adnexa, and where such disease was present he preferred to remove the uterus.

Dr. E. J. Ill of Newark was positive that the very extreme opinions held by Dr. Baldy were erroneous. Dr. Baldy characterized the Alexander operation as a foolish procedure, while admitting that he had only done it a few times. Dr. Baldy's operation involved the suspension of the uterus by its weakest point, and the suspension was effected in such a way as to give the least amount of leverage. It was far from true that pessaries were things of the past; he believed that nine-tenths of his hearers who were working in this field and were not operators, were using pessaries with great benefit to their patients. Although an operating surgeon himself, he was free to say that it was not at all necessary to operate in all of these cases.

Dr. Baldy said with reference to the liability to hernia after the Alexander operation, that certain authorities in New York had placed on record between forty and sixty cases of hernia having this origin.

**Pneumonia Simulating Appendicitis.**—Dr. J. P. Crozer Griffith of Philadelphia read this paper. He said that the fact that pneumonia in childhood might simulate appendicitis had been long known, but had been largely overlooked. The first he had seen was in a hospital, and he had been asked to see the case on the supposition that the child was suffering from arsenical poisoning, induced by large medicinal doses of arsenic. There were evidences of peritonitis, but as a routine measure the lungs were examined and a right-sided penumonia thereby discovered. The next day the evidences of peritonitis had disappeared. Another case had been

sent into the hospital with a diagnosis of appendicitis. There was no cough, and the signs and symptoms pointed to abdominal disorder. In a day or two pneumonia was discovered, and in time the abdominal symptoms disappeared. Attention was called to the fact that in these cases the high temperature and the rapidity of respiration should have shown the attending physicians sooner the possibility of the existence of a pneumonia. In another case coming to the hospital there was a history of a typical attack of appendicitis, which had been recovered from and had been followed by a relapse. On admission the temperature was 103° F., and the abdomen was tender and tympanitic. The case was found to be one of pneumonia, and the physician who had attended the child, although at first very indignant, examined the little one, and then admitted the correctness of this diagnosis. Several other cases were also reported. There had not been many cases recorded in recent literature. One of the most interesting articles on this subject had been written by Dr. Maurice Richardson of Boston. It was evident that in early life there was a tendency for the patient to refer the pain of pneumonia or of pleurisy to the abdomen. This was more apt to occur when the thoracic trouble was situated low down and when the right side was affected. Along with the abdominal pain there were constipation and abdominal tenderness. Due consideration must be given to the occurrence of a sudden rise of temperature to about 103° F., the tendency to maintain this temperature, the rapidity of respiration, the diminution or disappearance of tenderness on deep pressure with the flat of the hand. No operation for appendicitis should ever be performed in children until after careful and repeated examination of the lungs.

**Some Practical Methods of Hydrotherapy for General Practice.**—Dr. ELIOT GORTON of Fair Oaks, Summit, presented this paper. He said that a correct technique and attention to detail were necessary to secure good results from hydrotherapy. The essentials of such treatment were water, a bath tub, a bath thermometer, and a proper technique.

**Warm Full Bath.**—This bath should have a temperature between 98° and 102° F., and there should be complete immersion except the head, the latter being first wet with cold water, and then wrapped up with a moist towel. This was an essential point in the technique, although often overlooked. The bath should last for fifteen or twenty minutes. It had a marked sedative action, and was very useful in cases of delirium and insomnia. On leaving the bath perspiration should be abundant. Herein lay the great value of this bath in disease of the kidney. For a person suffering from heart disease the temperature should never exceed 95° F.

**Half Bath.**—The head should be wrapped in a towel wet with cold water, a warm drink should be given, and the patient should be seated in water at 90° F., while an attendant throws cold water with some force against the back and upper extremities, and employs frictions for a minute or two. The procedure should then be repeated on the front of the chest after one minute. The temperature of the water should be gradually reduced from day to day, but should never be lower than 68° F. In the aged the first temperature of the bath should be 95° F. In tuberculosis this bath was exceedingly useful. The temperature should be between 85° and 80° F., and the bath should last for six minutes. Such baths caused a lessening of the distressing cough, an increased appetite, and a wonderful gain in body weight. The bath was also very useful in cases of epilepsy, whether or not bromides were being given.

**Wet Packs.**—In maniacal conditions the effect of a prolonged wet pack was very marked. The temperature of the cold pack should be from 70° to 60° F., and of the high pack, 100°. Three woolen blankets are placed upon the bed and a coarse linen sheet, wrung out of water at the desired temperature, is placed over the blanket. The patient is then placed upon the sheet, and the latter is brought around the body and the arms and shoulders enveloped. The sheet should be tucked in closely between the limbs, so that it comes in contact with every part of the body and carefully excludes the air. When properly applied there is no discomfort after the first shaking. The duration of the pack should never be less than half an hour, and might be continued for two hours. While in the pack the patient should never be left alone.

**Drip Sheet.**—The only difference between the drip sheet and the wet pack was that the former was not wrung out, and the attendant applied rapid friction through the sheet. During the process, water at a slightly lower temperature might be poured upon the patient.

**Some Diseases of the Eye Due to Nasal Infection.**—Dr. S. ZIEGLER of Philadelphia was the author of this paper. The opinion was expressed that corneal ulceration arose chiefly from nasal infection. It was pointed out how infectious disease of the antrum of Highmore might lead to a pouring out of an infectious discharge into the nose and the carrying of the same through the lacrymonasal duct into the ocular chamber. The constitutional element should not be overlooked. Nasal obstruction and mouth-breathing were important predisposing factors. Over-indulgence in coffee, tea, and sweets gave rise to a constitutional condition which was exceedingly prone to lead to corneal ulceration. Irrigation of the nasal chambers was an important part of the treatment of corneal ulceration. For this purpose he made use of a 1-to-4 solution of peroxide of hydrogen, and sometimes also of cocaine or similar substances for reducing the nasal engorgement. A patulous tear duct must be secured, preferably by rapid dilatation without incision. A repetition of this procedure was rarely required.

Dr. W. P. EAGLETON of Newark said that it long had been known that about 90 per cent. of corneal ulcers were associated with nasal lesions, but it had not yet been shown that these ulcers were dependent upon the nasal lesions. The advisability of treating the duct would depend upon whether or not it was closed. To determine whether or not the duct was patulous, a drop of fluoricine should be applied to the conjunctival sac and the patient told after two or three minutes to blow the nose. If the duct were pervious some of the nasal secretion would be stained. He had seen very severe lacrymal abscesses follow dilatation of the nasal duct.

Dr. T. R. CHAMBERS of Jersey City said that there were thousands of cases of corneal ulcer that were independent of nasal lesions. He had frequently found the process of dilatation of only temporary benefit, necessitating ultimately resort to incision.

**Two Cases of Transient Complete Blindness of Both Eyes.**—Dr. C. J. KIPP of Newark reported these cases. —The first was one of amaurosis, arising probably from auto-infection. It lasted thirty-six hours and terminated in recovery. The second case was one of idiopathic optic neuritis of three weeks' duration, in which recovery also occurred.

THIRD DAY—THURSDAY, JUNE 25.

**Acute Inflammation of the Accessory Sinuses of the Nose.**—Dr. N. L. WILSON of Elizabeth read this paper. He said that anything which hindered free drainage from the upper part of the nasal cavity predisposed to such inflammation and to suppuration of the accessory sinuses. Pneumonia, influenza, scarlet fever, measles, typhoid fever, diphtheria, smallpox, cerebrospinal meningitis, and erysipelas were the diseases likely to lead to such affections of the sinuses. The inflammation might reach the sinuses from direct extension of the inflammation or through the blood stream by general systemic infection. The latter was much less frequent. The diseases most frequently giving rise to this order were

epidemic influenza and croupous pneumonia. Some writers believed that polypi were occasionally the cause of suppuration, but he was disposed to think that the polypi were the result rather than the cause of this suppuration. Another cause was irritation by dust-laden air, a fact which probably explained the frequency with which automobilists were affected with inflammation of the accessory sinuses. In acute inflammation the mucosa became congested and infiltrated with round cells, and an acute catarrh of the membrane developed. The exudation might become seropurulent or purulent. If the sinuses became blocked the exudation was retained under pressure and gave rise to symptoms. In every case of acute coryza of the exanthemata one should bear in mind the possibility of infection of the accessory sinuses, and remember that the antrum of Highmore, the frontal sinusus and the anterior ethmoidal cells communicated with the nasal chamber. Inflammation of the sinuses was usually ushered in by a general malaise similar to that experienced in ordinary grip. There was apt to be more or less stiffness of the muscles of the neck. Tenderness over the cheek or forehead might be elicited on slight pressure. The discharge was sometimes a straw-colored fluid, sometimes blood-stained, sometimes mucopurulent or purulent. The alternation in character of the symptoms was very suggestive of sinusitis. If the middle turbinate were contracted by adrenalin there would probably be found some discharge from the middle meatus. Transillumination was not infallible, although valuable in many cases. The clouding observed at such an examination was not due to the pus but to the thickened tissue. It was interesting to note that this valuable method of examination was not given to us by foreign investigators but by a physician of Philadelphia, who brought it forward in 1885. One of the most important steps in the treatment was to order the patient to bed and insist upon absolute quiet. This should be followed by diaphoresis, excited by a hot bath and hot drinks. The application of hot cloths to the head and the administration of calomel were useful adjuvants. After the skin and bowels became active the ice-bag might be substituted for the hot cloths, and the well-known tablet called "rhinitis" administered. Belladonna seemed to have a selective action on these parts, and by its use it was often possible to abort a coryza. A warm spray of Dobell's solution and the application of adrenalin were valuable local measures. The use of cocaine was not advisable because of the subsequent reaction. When suppuration was present cocaine and adrenalin should be used to facilitate the introduction of the catheter. Sometimes it became necessary to plunge a trocar through the antrum under the inferior turbinate, and force a cleansing fluid in until it escaped from beneath the middle turbinate. A few washings would usually suffice. The bleeding resulting from a turbinotomy was of decided value in lessening the congestion of the parts. While not a few of these cases would recover without treatment, the physician was not excused from doing what he could to facilitate this.

Dr. T. W. Corwin of Newark, speaking of the diagnosis, recommended that the body of the patient be bent over the back of a chair, so that the vertex pointed almost directly downward. The patient was then directed to blow the nose forcibly two or three times, when, on reassuming the upright position, it would often be possible to observe an accumulation in the attic of the nose, thus showing that the sinus had been emptied while in the inverted position. In the treatment he had obtained good results from projecting a current of hot dry air into the nose.

Dr. George E. Reading of Woodbury said that while belladonna was useful in these cases, its unpleasant effects could be largely prevented and its beneficial action augmented by the addition of aconite.

**A Clinical Contribution to the Knowledge of Tubercular Disease of the Female Urinary Tract.**—Dr. Edward J. Ill of Newark presented this paper, which was based on a study extending over the past thirteen years. The diagnosis, he said, could not be considered until the tubercle bacillus had been found, yet this was not always easy. The origin of such tuberculous inflammation was most frequently in the pelvis of the kidney. Cases were presented to show that not only the bladder but the ureter might apparently recover spontaneously. He did not, however, wish to be understood as advising that an infected ureter should be left undisturbed. The most frequent symptoms were pain in the loin and iliac region of the affected side, followed by pain in the bladder. Pain on urination always meant infection of the bladder, the most frequent sites being the trigone and the neck of the organ. Hæmaturia should always be looked upon with suspicion. It most frequently pointed to stone or malignancy, but the fact that it might be dependent upon tuberculosis should not be lost sight of. Every case of pus in the urine should be examined for tubercle bacilli when other obvious causes were absent. The prognosis of tuberculous disease of the urinary tract was usually considered to be bad, nevertheless there were patients who recovered and remained well for years. In making the bacteriological examination for diagnosis, one should be careful to exclude contaminations, particularly with the smegma bacillus, by using a specimen of urine obtained by means of the catheter under strict aseptic precautions.

**Court Testimony of Medical Experts in Mental Diseases.**—Dr. B. D. Evans of Morris Plains read this paper.

He said that New Jersey courts still held that if the prisoner knew the difference between right and wrong of the act committed he was criminally responsible in the sight of the law. If this were to continue to be the ruling, then progress was out of the question. It seemed to be necessary to find a precedent, no matter how moss-grown the same might be. Thus, the decisions of the noted jurist, Sir Matthew Hale, who lived in 1676, were still cited in court, yet this gentleman held to many gross superstitions, among others witchcraft. The speaker claimed that the courts could best subserve the ends of justice by making application of the law to the truths of medicine as they existed at the present time, instead of trying to make use of the medical beliefs of centuries gone by. Those who claimed to be experts in several branches of medicine might reasonably be looked upon with suspicion. The medical and legal professions should endeavor to establish a standard for medical experts, and those essaying to be such should be required to qualify in accordance with such standard, and the fact be made a part of the records of the county. He suggested that counsel on each side should each select one expert, and the judge a third, and that the evidence should then be summed up, and submitted to the court. This would eliminate the objection that these experts were paid advocates. The expert should remember that dogmatic evidence did not favorably impress either judge or jury, and they should carefully abstain from even the appearance of assuming the rôle of advocate. He should not hesitate to confess his ignorance, for even an expert could not reasonably be expected to be a medical encyclopedia. To be drawn into petty arguments was always unwise, even should the court be patient enough to allow it.

**Unusual Malformations in the Female Generative Organs.**—Dr. Emery Marvel of Atlantic City presented this paper, together with specimens and colored plates.

**Vaccination.**—Dr. George E. Reading of Woodbury discussed this subject. He said that, as a general rule, the immunity conferred by vaccination was not so long in young children as in adults, but in the vast majority of cases a successful vaccination in childhood, and again in adolescence, would give protection for life. The present school laws were not sufficiently stringent to secure

proper vaccination of young children, as shown by the fact that in a recent school census it was found that 70 per cent. of the children had never been vaccinated. Of course, it was the part of wisdom to revaccinate when there had been a direct exposure to smallpox. The existence of smallpox to-day was a blot upon our civilization.

Dr. W. U. SELOVER of Rahway advocated the vaccination of strong, healthy individuals as early as the sixth month, and a delay of several months in the case of delicate infants in the absence of smallpox in the vicinity. Some physicians, he said, preferred to use humanized vaccine virus for delicate infants, on the ground that the reaction was less than from bovine virus. In order that a vaccination could be considered successful it must have passed through the well-known stages without material modification. The period of protection from a primary vaccination varied from a few years to a life time, but he believed that in a few cases the protecting influence of a primary vaccination could be exhausted in eight or ten years. Certain diseases jeopardized the immunity afforded by vaccination. It was incomprehensible to him how any intelligent person could decry the efficacy of vaccination, for its efficacy could be conclusively demonstrated to any one who would place reasonable reliance on statistics. Permanently bad results from vaccination were so extremely rare as to sink into utter insignificance.

**Deformity and Its Prevention.**—Dr. T. BOWDEN of Paterson read a paper on this subject, in which he showed the need for early orthopedic treatment in such cases, and the responsibility of the family physician.

**Extensive Fracture of the Skull.**—Dr. JOHN C. MCCOY of Paterson reported this case, and presented the specimen. The outcome of this interesting case apparently sustained the author's position that it was justifiable to operate for epilepsy in every case in which the disease could be directly traced to a recent trauma. Although, he said, it was often impossible to eradicate all the pathological lesions, such operations usually caused a decided diminution in the frequency and severity of the convulsions, even though a cure were not effected.

**Officers and Place of Meeting.**—The following officers were elected: *President*, Dr. Henry Mitchell of Asbury Park; *First Vice-President*, Dr. A. W. Taylor of Beverly; *Second Vice-President*, Dr. Walter B. Johnson of Paterson; *Third Vice-President*, Dr. Henry W. Elmer of Bridgeton; *Corresponding Secretary*, Dr. Henry E. W. Hedges of Plainfield; *Recording Secretary*, Dr. William J. Chandler of South Orange; *Treasurer*, Dr. Archibald Mercer of Newark.

The society will hold its next annual meeting in Atlantic City, on June 21, 22, and 23, 1904.

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**Landmark for the Facial Nerve.**—It is familiar to all that the facial nerve is imbedded to a certain extent in the lowest part of the innermost section of the posterior wall of the external auditory meatus, and it would therefor seem natural to suppose that the descending portion of the aqueduct of Fallopius ran downward and outward with a considerable amount of obliquity. This is, however, more apparent than real, and, in fact, the direction is almost vertical. The apparent obliquity depends upon the position of the plane of the tympanic ring, which, of course, lies much deeper at its lower than at its upper part. Hugh Jones points out that the part of the auditory canal in which the facial nerve is imbedded is the highest part of the floor of the meatus and below a line running from this upward and inward at right angles to the plane of the tympanic ring. We may therefore chisel away with confidence all the posterior osseous wall lying external and superior to this line.—*Journal of Laryngology.*

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending July 25, 1903:

| | Cases. | Deaths. |
|---|---|---|
| **Measles** | 247 | 14 |
| **Diphtheria and croup** | 321 | 30 |
| **Scarlet fever** | 111 | 12 |
| **Smallpox** | ... | ... |
| **Varicella** | 13 | ... |
| **Tuberculosis** | 293 | 123 |
| **Typhoid fever** | 69 | 14 |
| **Cerebrospinal meningitis** | ... | ... |

**Health Report.**—The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U, S. Marine Hospital Service, during the week ended July 25, 1903:

SMALLPOX—UNITED STATES.

| | | CASES | DEATHS |
|---|---|---|---|
| Colorado, Denver | June 18–July 11 | 15 | .. |
| Illinois, Chicago | July 11–18 | 1 | .. |
| Danville | July 11–18 | 1 | .. |
| Indiana, Indianapolis | July 11–18 | 1 | .. |
| Louisiana, New Orleans | July 11–18 | 3 | .. |
| Massachusetts, Fall River | July 11–18 | 9 | .. |
| Michigan, Detroit | July 11–18 | 3 | .. |
| Port Huron | July 11–18 | 2 | .. |
| Mississippi, Natchez | July 4–11 | 1 | .. |
| Missouri, St. Louis | July 4–11 | 6 | .. |
| Nebraska, South Omaha | June 1–30 | 6 | .. |
| New Hampshire, Manchester | July 11–18 | 2 | .. |
| Pennsylvania, Carbondale | July 14–21 | 1 | .. |
| Philadelphia | July 11–18 | 24 | 14 |
| Pittsburg | July 11–18 | 29 | 8 |
| Norristown | July 11–18 | 1 | .. |
| Ohio, Cincinnati | July 10–17 | 4 | .. |
| Cleveland | July 11–18 | 1 | .. |
| South Carolina, Charleston | July 11–18 | 6 | 2 |
| Wisconsin, Milwaukee | July 11–18 | 2 | .. |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Austria-Hungary, Prague | June 20–July 4 | 5 | .. |
| Belgium, Antwerp | June 27–July 4 | 7 | 4 |
| Brussels | June 27–July 4 | .. | 5 |
| Ghent | June 20–July 4 | .. | 3 |
| Canada, Winnipeg | July 11–18 | 1 | .. |
| China, Hongkong | May 23–30 | .. | 1 |
| Shanghai | June 6–13 | .. | 1 |
| Colombia, Bocas del Toro | June 30–July 7 | 2 | 1 |
| Great Britain, Birmingham | July 4–11 | 1 | .. |
| Dublin | June 27–July 4 | 9 | 1 |
| Leeds | July 4–11 | 7 | 1 |
| Liverpool | To July 11 | 44 | 3 |
| London | July 4–11 | 4 | .. |
| Manchester | June 27–July 4 | 9 | .. |
| Newcastle-on-Tyne | June 27–July 4 | 1 | .. |
| Nottingham | June 27–July 4 | 2 | .. |
| India, Bombay | June 16–23 | .. | 21 |
| Calcutta | July 13–20 | .. | 4 |
| Madras | July 13–19 | .. | 1 |
| Japan, Formosa | April 1–30 | 5 | .. |
| " | May 1–31 | 2 | .. |
| Mexico, City of Mexico | June 28–July 5 | 7 | 3 |
| Russia, Moscow | June 20–27 | 3 | .. |
| Riga | Apr. 1–30 | .. | 28 |
| St. Petersburg | June 27–July 4 | 18 | 11 |
| Warsaw | June 13–27 | .. | 6 |
| Spain, Barcelona | June 20–July 4 | .. | 4 |
| Turkey, Smyrna | May 24–June 14 | .. | 3 |

SMALLPOX—INSULAR.

| | | | |
|---|---|---|---|
| Philippines, Manila | May 16–June 13 | 13 | 9 |

YELLOW FEVER.

| | | | |
|---|---|---|---|
| Colombia, Panama | July 6–13 | 3 | 1 |
| Costa Rica, Limon | July 2–9 | 3 | 2 |
| Mexico, Cardenas | July 10 | One death imported from [Tampico | |
| Coatzacoalcos | June 27–July 4 | 2 | 4 |
| Merida | July 12 | Present | .. |
| Progreso | July 12 | Present | .. |
| Tampico | June 27–July 11 | .. | 61 |
| Vera Cruz | June 27–July 11 | 64 | 21 |

CHOLERA—INSULAR.

| | | | |
|---|---|---|---|
| Philippines, Manila | May 16–June 13 | 127 | 112 |
| Provinces | May 16–June 13 | 2,463 | 1,718 |

CHOLERA—FOREIGN.

| | | | |
|---|---|---|---|
| India, Calcutta | June 13–20 | .. | 34 [sporadic. |
| Straits Settlements, Singapore | May 30–June 6 | .. | 1 |
| Turkey in Asia, Beytarie | June 6–13 | 26 | 23 |
| Kara | June 8–14 | 13 | .. |

PLAGUE—INSULAR.

| | | | |
|---|---|---|---|
| Hawaii, Honolulu | June 24 and 25 | .. | 2 |
| Philippines, Manila | May 16–June 13 | 19 | 19 |

PLAGUE—FOREIGN.

| | | | |
|---|---|---|---|
| Africa, Cape Colony | May 17–30 | 19 | .. |
| Natal | May 10–16 | 5 | .. |
| China, Amoy | May 8–June 13 | 525 | .. |
| India, Bombay | June 16–23 | .. | 92 |
| Calcutta | June 13–20 | .. | 31 |
| Mauritius | June 11–18 | 2 | .. |

# Medical Record

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## Original Articles.

### SOME COMPARATIVE EXAMINATIONS OF BREAST MILK AND COW'S MILK AND THE EFFECT OF THE ADDITION OF ALKALIES AND OTHER ANTACIDS TO COW'S MILK.

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FOR many years it has been taught that breast milk is alkaline, while cow's milk is acid, and that in a scheme of scientific modification of cow's milk for infant feeding, this difference should be adjusted by the addition of some substance that would overcome the acidity of cow's milk. For this purpose the addition of lime water or bicarbonate of sodium has been generally advocated and carbonate of potassium has also been used.

One ounce of lime water or twenty to forty grains of bicarbonate of sodium (1 to 2 grs. to the ounce) has been recommended as the proper quantity to add to twenty ounces of food or milk. One ounce of lime water contains approximately five-eighths of a grain of calcium hydrate, which has nothing like the antacid value of forty grains of bicarbonate of sodium.

The most recent teaching has been that these additions have no other effect on cow's milk than to cause it to turn red litmus paper blue, and thus correspond with breast milk. To us this explanation of the benefits derived from the addition of alkalies and antacids to cow's milk in infant feeding was not satisfactory. There naturally arise the questions, what causes the difference in reaction to litmus of breast milk and cow's milk? A great many substances that are not antacids are known which will turn red litmus blue. How do we know that we are adding the proper substances to cow's milk, and if these additions have no other value or use than to turn red litmus paper blue why should they be made?

To answer these questions a series of examinations of breast milk and cow's milk were made at the New York Infant Asylum.

As the result of these examinations it was found that variations in litmus paper will lead to gross errors in estimating alkalinity of milk, and that little dependence should be placed on this test. Some other facts were also established that throw light on the effect of many routine measures employed in infant feeding, and also demonstrated that the present doctrine as to the alkalinity of breast milk and the acidity of cow's milk will have to be revised, for not a single specimen of breast milk required less than 8 per cent. of lime water to render it alkaline, phenolphthalein being used as an indicator, while many specimens required over 20 per cent. of lime water to render them alkaline. Cow's milk required from 45 to 95 per cent. of lime water to render it alkaline. We were surprised by the discovery that certified milk and "laboratory" milk required more lime water to render them alkaline than "grocery milk" bought at four and five cents a quart. The weather was cold during the time these examinations were made, so there was little opportunity for the milk to become acid from the growth of lactic bacteria, and there could be little temptation to add preservatives, which sometimes contain alkalies, and which would, therefore, reduce the quantity of lime water needed. Some of the cheap milk was obtained where the possibility of addition of preservatives was hardly probable.

Another point brought out was that lime water and a sodium hydrate solution of exactly the same strength as the lime water do not show the same results in testing for acidity; much more lime water being required than sodium hydrate solution to render the milk alkaline. This was markedly the case with cow's milk, but not so much so with breast milk. The cow's milk swelled up and became mucilaginous on the addition of sodium hydrate or lime water—much more with the lime water than with the sodium hydrate. It was further learned that the thickening of the milk was proportional to the quantity of lime water needed to render it alkaline, those milks which received the most lime water becoming the thickest. Boiling the milk and lime water did not affect the mucilaginous property, unless an excess of lime water was added, when the milk curdled.

As Hammersten states that mucin has a weak acid reaction and forms neutral mucilaginous solutions with alkalies which do not coagulate on boiling, it was concluded that part of the acidity of fresh milk is due to the presence of mucin. Bicarbonate of sodium added to fresh milk does not cause the mucin to swell and become mucilaginous, and the subsequent addition of a strong acid—lactic or hydrochloric—causes an effervescence which shows that the bicarbonate of sodium has not acted as an antacid in the milk, but has remained unchanged. Further investigation showed that the effect of adding lime water or bicarbonate of sodium to milk was to retard or inhibit the formation of curds by rennet. It was found that other salts, such as carbonate of potassium, borax, and phosphate of sodium also retarded or inhibited the formation of curds with rennet, and in this respect had the same effect as lime water or bicarbonate of sodium.

As these facts are so contrary to the generally accepted beliefs, detailed accounts of the work and the principles involved will be given.

Indicators.—A one-per-cent. solution of phenolphthalein in 50 per cent. alcohol, and red, neutral, and blue litmus paper in strips, were used. A drop of the phenolphthalein solution produced a red color with lime water, which was diluted 300 times with distilled water. The red litmus paper showed a faintly alkaline reaction with lime water which was diluted twenty times. The phenolphthalein was thus at least fifteen times as sensitive as the red litmus paper.

Lime Water.—Lime was slaked and stirred several times with water; after the undissolved lime had settled, the lime water was poured off. This

process was repeated several times to remove any potassium or sodium or other soluble matter that might be present in the lime. Distilled water was then poured on the washed lime. In all these tests lime water of the same strength was used as there was always some solid lime at the bottom of the jar, and the jar was kept in a room the temperature of which was quite uniform.

Sodium Hydrate Solution.—As lime water is almost exactly one-twentieth normal, a twentieth normal solution of sodium hydrate was made and then adjusted so that one volume neutralized the same quantity of diluted hydrochloric acid as an equal volume of lime water.

Cow's Milk.—The fat and total solids were determined by the Babcock methods.

Breast Milk.—Not enough could be obtained to enable an estimation of fat and total solids to be made. Sometimes not over 15 or 20 c.c. could be obtained.

Method of examination.—In the case of cow's milk, the fat and total solids were first determined and then the reaction to *neutral* litmus paper. Breast milk was pumped into sterile beakers, the breast being emptied as completely as possible, and tested with red and blue litmus paper at once. 10 c.c. of milk were then placed in each of two white dishes, and one drop of the phenolphthalein solution added. Lime water was then added with a pipette graduated to 0.1. c.c. The tests were made in duplicate, and two and sometimes three of us were present, so as to reduce the personal factor in judging of the color changes. In a few cases it became necessary to use 5 c.c. of breast milk instead of 10 c.c. in making the test, as 20 c.c. were not obtained.

These tables show the results of the examinations:

COW'S MILK.

| Date | Kind of Milk | Per cent. Fat | Per cent. Solids Not Fat. | Reaction to Neutral Litmus Paper. | Per cent. Lime-water to Render Alkaline to Phelnolphthale'n. | Per cent. Lime-water to Render Alkaline to Red Litmus Paper. |
|---|---|---|---|---|---|---|
| 1. 14. '03 | Jersey cow | 5.60 | 9.70 | neutral | 70 | 40 |
| 1. 14. '03 | Jersey cow | 5.10 | 9.44 | neutral | 65 | 50 |
| 1. 14. '03 | Jersey cow (milked once in 24 hours) | 5.20 | 9.12 | neutral | 55 | .. |
| 1. 17. '03 | Jersey cow (qt. bottle) { cream. 8½ oz. / skimmed milk | .... | .... | neutral | 80 | 40 |
| | | .... | .... | neutral | 90 | 75 |
| 1. 17. '03 | Certified | 4.60 | 9.60 | neutral | 85 | 75 |
| 1. 17. '03 | Certified (Qt. bottle) { cream 6 ozs / skimmed milk | 24.00 | .... | neutral | 70 | .. |
| | | 1.40 | .... | neutral | 87 | .. |
| 1. 18. '03 | Certified | 3.80 | 9.14 | neutral | 83 | 80 |
| 1. 18. '03 | Certified (Qt. bottle) { cream 5 ozs. / skimmed milk | 24.50 | .... | neutral | 72 | 54 |
| | | 0.80 | .... | neutral | 82 | 79 |
| 1. 19. '03 | Laboratory | 4.00 | 9.27 | neutral | 80 | 60 |
| 1. 19. '03 | Laboratory | 4.00 | 9.23 | neutral | 80 | 60 |
| 1. 20. '03 | Laboratory. (Qt. bottle) { cream 5½ ozs. / skimmed milk | 21.00 | .... | neutral | 75 | 50 |
| | | 0.80 | .... | neutral | 80 | 50 |
| 1. 20. '03 | Certified | 5.60 | 8.85 | neutral | 80 | 60 |
| 1. 20. '03 | Certified (Qt. bottle) { cream 6½ ozs. / skimmed milk | 20.00 | .... | neutral | 65 | 50 |
| | | 0.60 | ... | neutral | 86 | 60 |
| 1. 23. '03 | Grocery | 3.60 | 8.52 | neutral | 70 | 60 |
| 1. 23. '03 | Country milkman | 2.90 | 6.30 | neutral | 50 | 45 |
| 1. 23. '03 | Country milkman (qt. bottle) cream 5 ozs. | 12.00 | .... | neutral | 60 | 50 |
| 2. 6. '03 | 5c. Grocery | 3.00 | 8.27 | neutral | 72 | 60 |
| 2. 6. '03 | 5c. Grocery | 3.00 | 8.40 | neutral | 65 | 50 |
| 2. 6. '03 | N.Y.I.A. | 4.00 | 8.80 | neutral | 60 | 50 |
| 2. 6. '03 | N.Y.I.A. { 1 Qt. bulk milk set for creaming.. } Cream 5 ozs. / Skim. milk .. | 14.00 | .... | neutral | 68 | 55 |
| | | .... | .... | neutral | 63 | 50 |
| 2. 12. '03 | Bottled milk | 3.60 | 8.72 | neutral | 65 | 55 |
| 2. 12. '03 | Bot. milk 1 qt. (cream 5 ozs.) | 18.00 | .... | neutral | 55 | 45 |
| 4. 23. '03 | Certified | 4.00 | 9.20 | neutral | 85 | .. |

BREAST MILK.

| Date. | Name. | Age of Milk. | Sp. G. | Temp. of Mother. | Reaction to Red Litmus Paper. | Per cent. Limewater to Render Alkaline to Phenolphthalein. |
|---|---|---|---|---|---|---|
| 2. 17. '03 | I. D. | 4 days | 1.030 | 102.2 | alkaline | 15 |
| 2. 17. '03 | P. P. | 3 months | 1.026 | normal | alkaline | 18 |
| 2. 19. '03 | I. D. | 6 days | 1.020 | 103.2 | alkaline | 8 |
| 2. 19. '03 | P. P. | 3 months | 1.031 | normal | alkaline | 18 |
| 2. 19. '03 | M. C. | 1 year | 1.029 | normal | alkaline | 23 |
| 2. 19. '03 | K. C. | 6 months | 1.030 | normal | alkaline | 22 |
| 2. 19. '03 | A. G. | 4 months | 1.032 | normal | alkaline | 22 |
| 2. 23. '03 | P. P. | 3 months | ½ hr. after nursing | normal | alkaline | 10 |
| 2. 23. '03 | I. D. | 10 days | ½ hr. after nursing | | alkaline | 10 |
| 2. 23. '03 | A. G. | 4 months | 1½ hrs. after nurs. | normal | alkaline | 16 |
| 2. 25. '03 | P. P. | 3 months | 1.028 | normal | alkaline | 12 |
| 2. 25. '03 | M. P. | 15 days | 1.032 | normal | alkaline | 13 |
| 2. 27. '03 | L. P. | 4 days | ..... | 99.4 | alkaline | 14 |
| 2. 27. '03 | K. M. | 8 days | ..... | normal | alkaline | 16 |
| 2. 27. '03 | S. L. | 14 days | ..... | | alkaline | 9 |
| 3. 2. '03 | Mrs. H. | 5 days | ..... | normal | alkaline | 16 |
| 3. 2. '03 | M. S. | 2 months | ..... | normal | alkaline | 15 |
| 3. 2. '03 | A. G. | 5 months | ..... | normal | alkaline | 15 |
| 3. 2. '03 | K. M. | 11 days | ..... | normal | alkaline | 10 |
| 3. 20. '03 | A. P. | 14 days | ..... | normal | alkaline | 17 |
| 3. 20. '03 | S. M. | 14 days | ..... | normal | alkaline | 12 |
| 3. 20. '03 | S. C. | 28 days | ..... | normal | alkaline | 14 |
| 3. 20. '03 | I. W. | 10 days | ..... | normal | alkaline | 16 |
| 4. 3. '03 | A. G. | 6 months | ..... | normal | alkaline | 16 |
| 4. 3. '03 | S. L. | 1 month | ..... | normal | alkaline | 12 |
| 4. 7. '03 | I. W. | 2 months | ..... | normal | alkaline | 16 |
| 4. 7. '03 | P. P. | 5 months | ..... | normal | alkaline | 16 |

Variations in acidity to phenolphthalein of the milk of two women:

| | PER CENT. LIME WATER | | PER CENT. LIME WATER |
|---|---|---|---|
| 2. 17. '03 | 18 | 2. 19. '03 | 22 |
| 2. 17. '03 | 18 | 2. 23. '03 | 16 |
| 2. 23. '03 | *10 | 3. 2. '03 | 15 |
| 2. 25. '03 | 12 | 4. 3. '03 | 16 |
| 4. 7. '03 | 16 | 4. 11. '03 | 24 |
| | | 4. 13. '03 | 24 |

*Shortly after nursing.

Relative quantities of lime water and sodium hydrate of same strength necessary to render alkaline to phenolphthalein:

COW'S MILK.

| DATE | KIND OF MILK | PER CENT. LIME WATER | PER CENT. SODIUM HYDRATE. |
|---|---|---|---|
| 4. 6. '03 | N. Y. I. A. | 70 | 50 |
| 4. 8. '03 | Jersey cow | 89 | 75 |
| 4. 8. '03 | N. Y. I. A. | 72 | 57 |
| 4. 11. '03 | 5c. Grocery | 86 | 69 |
| 4. 13. '03 | N. Y. I. A. | 78 | 62 |
| 4. 13. '03 | Certified | 82 | 70 |
| 4. 13. '03 | Certified | 95 | 75 |
| 4. 7. '03 | Filtered / Sour milk | 215 | 207 |

BREAST MILK.

| DATE | KIND OF MILK | PER CENT. LIME WATER | PER CENT. SODIUM HYDRATE. |
|---|---|---|---|
| 4. 8. '03 | 3 colostrums (mixed) | 16 | 14 |
| 4. 11. '03 | A. G. | 24 | 24 |
| 4. 13. '03 | 2 mixed | 14 | 14 |
| 4. 13. '03 | A. G. | 24 | 21 |
| 4. 13. '03 | M. L. | 22 | 20 |
| 4 13. '03 | 2 mixed | 20 | 17 |

In the midst of the examinations the supply of red litmus paper became exhausted, and more was ordered from the maker of the previous lot—one of the most reputable manufacturers in the United States. Whereas breast milk had been alkaline to the previous lot of red litmus paper it did not change the color of the new. It was hardly possible that all the breast milks had changed, so a visit was made to the manufacturer, who insisted that the paper was "all right." After some argument a small quantity like the former lot was found in his stock and purchased. When strips of the two lots of red litmus paper were dipped into breast milk it was found that one was turned faintly blue while the other remained unchanged. This may explain the statements found in nearly all textbooks that breast milk is neutral or faintly alkaline. It is easy to see from this what opposite statements as to the reaction of milk are possible when the litmus paper of even the most reputable manufacturers is used.

The following table shows the wide variation in results obtained with the two lots of litmus paper:

| Date | Kind of Milk. | Reaction to NeutralLitmus Paper. | Per Cent. Lime Water to Render Alkaline to | | |
|---|---|---|---|---|---|
| | | | Phenolphthalein. | 1st Lot Red Litmus Paper. | 2d Lot Red Litmus Paper. |
| 4-27-'03 | 5c. Grocery | Neutral | 75 | 40 | 70 |
| 4-27-'03 | N. Y. I. A. | Neutral | 70 | 35 | 70 |
| 5- 1-'03 | 4c. Grocery | Neutral | 80 | 30 | 100 |
| 5- 1-'03 | N. Y. I. A. | Neutral | 80 | 40 | *45 *80 |
| 5- 4-'03 | 4c. Grocery | Neutral | 85 | 30 | 85 |
| 5- 4-'03 | 5c. Grocery | Neutral | 80 | 35 | 80 |

*Two strips from same bottle.

To make clear the apparent inconsistency of milk of alkaline or neutral reaction to litmus paper requiring large quantities of lime water or other alkali to make it alkaline to phenolphthalein, it may be stated that during the past few years the conception of acids and alkalies has changed greatly.

According to the theory of ions, al neutral salts when dissolved in water undergo a change in which part of the salt becomes electrically dissociated, one portion of the salt carrying a charge of positive electricity and the other portion carrying a charge of negative electricity. These electrically charged substances are called ions, and most chemical reactions are supposed to consist of negatively charged ions neutralizing positively charged ions.

A compound which when thus electrically dissociated in an aqueous solution splits up into hydrogen and another atom or group of atoms is called an acid, *e.g.* H + Cl, or $H_2$ + $SO_4$. It may or may not redden litmus paper. A compound that in aqueous solution, splits up into hydroxyl (OH) and another atom or group of atoms is called an alkali or base, *e.g.* K + OH. It may or may not turn litmus blue.

Just as some salts are sparingly soluble in water while others are freely soluble, so some salts are very slightly converted into ions while others are freely converted into ions.

A strong acid or base is one that is freely changed into ions in aqueous solution; a weak acid or base is one that is ionized to a very slight extent only. For instance, hydrochloric acid perfectly free from water will not redden litmus paper, attack metals, or show any properties of an acid and can be stored in iron vessels, but when dissolved in water it is almost completely changed into H + Cl ions and becomes one of the strongest acids known, readily dissolving iron or other metals.

Boracic acid is converted into ions to a very slight extent only and is therefore a very weak acid.

To determine the point where an acid or alkali is neutralized a substance is added which takes no part in the reaction but which will produce a color as soon as an excess of acid or alkali is present. Such a substance is called an *indicator*.

Indicators are either weak acids or bases, and generally combine with the acid or alkali to form colored compounds.

Litmus is a substance that apparently acts either as an acid or base. The aqueous solution of litmus is of a violet color and forms blue compounds with strong alkalies and red compounds with strong acids. To get a red or blue color the acid or alkali must be stronger than the litmus.

Red litmus paper represents litmus acted upon by hydrochloric acid. Blue litmus paper represents litmus acted upon by sodium or potassium hydrate. Neutral litmus paper has a reddish violet color and turns bright red with strong acids or blue with strong alkalies.

When a strong acid is added to a solution of bicarbonate of sodium the carbonic acid being weak is displaced and is given off as a gas. Now there are many acids that are weaker than litmus. If a strip of litmus is dipped into a solution of a neutral salt of one of these weak acids it displaces the weak acid just as the strong acid displaces the carbonic acid of bicarbonate of sodium and combines with its base to form a blue salt, and the solution is said to be alkaline when in reality it was neutral. In this case the litmus did not act as an indicator, but as a precipitant.

Phenolphthalein is an acid very much weaker than litmus, and of course can not combine with alkali until all stronger acids present, including litmus, are neutralized; therefore phenolphthalein will show the presence of acid when litmus shows the presence of alkali, owing to its taking part in the reaction and displacing the weak acid. This is well illustrated by saliva containing thickened mucus. It is alkaline to litmus paper, but we found it required 70 per cent. of lime water to render it alkaline to phenolphthalein. The more mucus that was added to this saliva the more lime water was needed to cause an alkaline reaction to phenolphthalein and the greater was the thickening of the solution. The mucin which swelled up and combined with the lime was an acid stronger than phenolphthalein, but weaker than litmus. We were satisfied that a large part of the acidity of fresh milk to phenolphthalein was due to the presence of mucin, as the more lime water the milk took the thicker it became.

The fact that many acid solutions react alkaline to litmus is well known to bacteriologists. Eyre states that in making meat extract and other culture media the reaction should be determined to phenolphthalein, as the media will react alkaline to litmus while yet quite acid, as "litmus is insensitive to many weak organic acids, the presence of which is readily indicated by phenolphthalein."

There are many salts of strong bases with moderately strong acids, that in aqueous solution show an alkaline reaction to litmus and acid reaction to phenolphthalein. The cause of this is that litmus can displace portions of the acid and combine with the alkali, but the phenolphthalein is too weak an acid to do this. In solutions of salts of strong alkalies with very weak acids (carbonic, boracic, etc.), the base is ionized so much more completely

than the weak acid that it decomposes the water and free alkali is formed with which phenolphthalein can form a colored salt. Borax and potassium carbonate are examples.

It is probably owing to the fact that there is generally some carbonic acid present in the milk that there was more lime water than sodium hydrate needed to render the milk alkaline. The calcium carbonate formed would be precipitated while the sodium carbonate, as soon as formed, would be hydrolyzed and react alkaline.

The amphoteric reaction of milk to litmus paper is explained by Richmond as follows: "Litmus is an indicator of the medium class, *i. e.* it is unaffected by weak acids, and incompletely affected by acids of medium strength. Litmus paper may be either red, containing only the acid, or blue, containing the acid with such an amount of alkali that no red ions are formed, or at some intermediate stage. If we test with these papers a partially neutralized mixture of acids of various strength, we may obtain quite contradictory results. Phosphoric acid is a good example of three different acidities in one molecule; the first acidity is strong, the third is very weak; and the second is intermediate between the two, and about equal in strength to the acid of litmus. It has been shown that milk contains phosphates with the third acidity completely neutralized, and the second only partly so, and therefore milk is an excellent substance to show the peculiar behavior of litmus. If we take a blue litmus paper and dip it into milk, the blue litmus having the acid completely neutralized is more alkaline than the milk, and the two tend to come into a condition of equilibrium by a portion of the alkali of the litmus passing to the milk; the consequence is that the litmus becomes less alkaline, and turns slightly red. If we take a red litmus paper, which is more acid than the milk, alkali will tend to pass from the milk to the litmus, and turn it slightly blue. This is the so-called amphoteric reaction. A litmus paper of some intermediate stage would be unaffected. It is therefore quite fallacious to try and test the acidity of milk with litmus paper; the old test to see if milk is acid by putting in a piece of blue litmus paper has long been discarded by scientists, but unfortunately is still recommended by those who have the little knowledge which so often proves a pitfall; with a suitable litmus paper all fresh milk can be condemned by this test, while, by judiciously changing the paper, milk which is on the turn can be triumphantly proved fresh."

Having found that breast milk and cow's milk were both normally acid, and that the alkaline reaction of breast milk and amphoteric reaction of cow's milk to litmus had no practical significance and were due to the excess of phosphate of calcium in cow's milk and the chemical action of the litmus on the breast milk, an attempt was made to see what was the effect of the addition of lime water and bicarbonate of sodium which is advocated as a means of making the reaction of cow's milk to litmus correspond to that of breast milk.

It is generally recommended that 5 per cent., 10 per cent., and sometimes 25 per cent. of lime water be added to the infant's food, or 1 to 2 grains of bicarbonate of sodium to each ounce of food. As antacids there is here a great disproportion, as a 20-ounce mixture containing 10 per cent. lime water would contain about 1½ grains calcium hydrate or 40 grains bicarbonate of sodium. A small quantity of filtered sour milk which contains lactic acid, or a stronger acid added to feedings containing bicarbonate of soda, caused an effervescence, which shows that the soda had not acted as an antacid, but remained unchanged in the feeding.

Some fresh milk of the best quality was diluted four times with water to approximately 1 per cent. proteids, and to an ounce of this a few drops of dilute rennet solution which was not acid were added and the milk was gently warmed; a solid curd formed.

To other portions were added, 5 per cent, 10 per cent., 15 per cent., and 20 per cent. of lime water; ½, 1, 1½, and 2 grains of bicarbonate of soda to the ounce; ½, 1, 1½ and 2 grains carbonate potassium to the ounce; and ½, 1, 1½, and 2 grains phosphate soda to the ounce. The same quantity of rennet was added to each, and all were warmed as in the control. The curds with 5 per cent. and 10 per cent. lime water and phosphate of sodium were much softer and more flocculent than in the control. With one grain bicarbonate of soda to the ounce a very flocculent curd formed; with 2 grains only a trace of curd appeared. No curds formed with 15 per cent. and 20 per cent. lime water, or even with ½ grain carbonate of potassium to the ounce. When a small quantity of very dilute hydrochloric acid, not enough to precipitate the casein, was added, rennet curds formed. The curd of the milk containing bicarbonate of sodium was rendered spongy by the bubbles of gas produced by the action of the hydrochloric acid on the bicarbonate of sodium. Lime water caused the milk to swell up; none of the other additions did.

Tests were also made with some "grocery milk" containing fat 3.2 per cent. and solids not fat 8.54 per cent., which required 80 per cent. of lime water to render it alkaline to phenolphthalein with the following results:

| | | |
|---|---|---|
| 1 oz. whole milk + rennet | | = dense curd. |
| 1 oz. " " " + | 10 per cent. lime water | = less dense curd. |
| 1 oz. " " " " | 20 " " " | = still less dense curd. |
| 1 oz. " " " " | 30 " " " | = jelly. |
| 1 oz. " " " " | 40 " " " | = thin jelly. |
| 1 oz. " " " " | 70 " " " | = no curd. |
| 1 oz. " " " " | 2 grs. bicarb. soda | = soft curd. |
| 1 oz. " " " " | 4 " " " | = jelly. |
| 1 oz. " " " " | 6 " " " | = thin jelly. |
| 1 oz. " " " " | 8 " " " | = no curd. |
| 1 oz. " " " " | 1 gr. borax | = jelly. |
| 1 oz. " " " " | 2 " " | = no curd. |

In high dilutions of milk (.5 per cent. proteids) the addition of 10 per cent. lime water, as is recommended, is equivalent to adding 70 per cent. to 80 per cent. to the undiluted milk, which would make it decidedly alkaline in most instances, and absolutely inhibit the formation of curds. The addition of 2 grains bicarbonate of sodium to the ounce of the same dilution would be equal to .14 to 16 grains to an ounce of whole milk, or more than double the quantity required to inhibit the formation of curds.

It has been denied that lime water had any effect as a diluent, serving only to reduce the acidity of the stomach. Experiments on which such statements are based were made on cats or dogs, adult carnivorous animals, whose gastric juice is very acid. A baby's stomach is undeveloped, and does not secrete much acid, and therefore can not be compared with a cat's or a dog's stomach. Clinically, good results are often seen from the use of lime water and bicarbonate of sodium in milk, and the result can not come from the slight antacid value of the lime, or that of the bicarbonate of sodium, for this remains unchanged in the milk, but must come from the retardation or inhibition of the formation of curds.

*Conclusions.*—1. Breast milk and cow's milk are both acid.

2. The litmus paper test for milk is unreliable because of the variation in the quality of litmus

paper, and the litmus taking part in the reaction and not acting as an indicator.

3. The effect of adding lime water or bicarbonate of sodium to feedings is to retard or inhibit the formation of curds by rennet.

4. The teaching that lime water, bicarbonate of sodium, or carbonate of potassium should be added to fresh milk or feedings simply because they are antacids is erroneous.

5. The addition to milk or feedings of alkalies or salts that become alkaline in solution is an empirical method of aiding digestion by preventing the formation of dense curds that would slowly leave the stomach and be difficult of digestion in the intestine.

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## THE INFLUENCE OF HEREDITY ON THE EYE.

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The transmission of peculiarities of form and function, of tendencies to degeneration and to disease, from parent to child for some generations affects the eye as well as other parts of the human body. The form, the color, peculiarity of movement, as well as peculiarities of the deep tissues of the eye, are largely influenced by heredity. Consanguinity in the parents accentuates the hereditary tendency. In the greater number of cases of hereditary malformation, it is not so much that the defect is handed down from generation to generation through a long line, as that the children of one union, because of some peculiarity of mother or father, all or part suffer.

*Eyelids.*—Of the congenital peculiarities of the eyelids, the conditions known as epicanthus and ptosis are the only ones that can be said to be hereditary. Steinheim (*Centralblatt für praktische Augenheilkunde*, XXII, p. 249) reports the case of a family in which epicanthus and ptosis occurred fifteen times in the course of five generations. It is well known that in the Mongolian race epicanthus is a racial peculiarity.

*Coloboma of the Iris.*—McGilliray (*Ophthalmic Review*, XVII, p. 1) gives a genealogical tree of three generations with coloboma of the iris, five females and one male being affected. In some of the cases there was upward coloboma with subluxation of the lens downward. De Beck (*Archives of Ophthalmology*, XV, 1, 8) records a history of coloboma of the iris occurring in two generations of a family.

*Aniridia* (irideremia, absence of iris).—Gutbier (von Ammon's *Zeitschrift*, V, p. 78) gives the history of a family of eight children in which three males had this defect. One of these had four sons, three of whom suffered from total aniridia, one partial aniridia. The children and grandchildren had normal eyes. Of the children of one of the other brothers, a boy had normal eyes and a girl was without irides. A daughter of a third brother suffered from absence of irides. A total of ten cases in four generations.

De Beck (Transactions American Ophthalmological Society, 1894) reports the case of two brothers, one with aniridia and one with downward coloboma of the iris. The brother with coloboma had a son with aniridia. The brother with aniridia had a family of nineteen children, one son with aniridia and one with coloboma. The other children had normal eyes. The son with aniridia had six children; of these two sons and one daughter suffered from aniridia. The son with coloboma of the iris had five children; of these one daughter suffered from aniridia. The eyes of the others were normal.

Lang (Transactions Ophthalmological Society, U. K., X, p. 207) reports a case of the occurrence of aniridia in two members of a family of three. The paper of Lawrentjeff (*Centralblatt für Augenheilkunde*, IX, 10) shows conclusively that the affection aniridia is often hereditary. Aniridia and coloboma of the iris appear to occur more often in males, and, judging from reported cases, the line of descent is on the male side.

*Polycoria.*—It is doubtful whether this condition is ever hereditary. Mittendorf (Transactions American Ophthalmological Society, III, 735) describes two cases occurring in father and daughter, which suggests heredity.

*Coloboma of the choroid* due to heredity has been observed. Manz (*Græfe Sæmisch.*, Bd. II, T. 2, p. 86) refers to a case in which son, father, and grandfather were affected and to other cases in which a number of the children in a family presented coloboma of the choroid, the same condition being present in one of the parents.

*Inherited peculiarities of the cornea* are extremely rare, except as they are the result of inherited disease or of conditions affecting the entire globe. Oliver (American Ophthalmological Society, 1892) reports symmetrical opacities of the cornea occurring in mother and son.

*Albinism.*—Absence of pigment in the eye as well as other parts of the body occurs in races of all colors, and is often, but not always, hereditary. Crocker ("Diseases of the Skin," third edition, p. 674) states that "heredity is the only known cause of the complete form."

*Globe.*—Malformations of the globe due to heredity have been observed. Brouner (Rep. Ophthalmological Society, U. K., p. 439) reports two families with bilateral microphthalmus and cataract. In one case the father and four of eight children were affected. No consanguinity or history of syphilis. In the other case the mother and all of the children, four in number, were similarly affected. The mother of the woman is said to have had similar eyes.

Certain disease conditions of the eyes developing early or late in life, not due to inherited *disease* or to consanguinity of parents, but in which heredity is a strong factor, may now be mentioned.

*Lens.*—Wilson (*Journal of Ophthalmology, Otology, and Laryngology*, October, 1891) gives the history of the descendants of an individual who suffered from congenital cataract. Of thirty-one descendants running through four generations, sixteen were affected with congenital cataract, males and females in equal proportion. Tromaget (*Annales d'Oculistique*, CX, 200) found compound lamellar cataract in members of a family through six generations, females only being affected. He ascribed this case to heredity alone.

Derby (Transactions American Ophthalmologic Society, 1891) reports eight cases of zonular cataract among the members of a family. The cataract occurred in females almost entirely. Derby is of the opinion that such faults of development are more apt to be transmitted through the female and are more complete in the female than in the male.

Schanz (*Centralblatt für Augenheilkunde*, XXI, p. 264) mentions a family of three children, all of whom became blind at about the twentieth year from cataract. The mother was healthy.

Berry (*Ophthalmic Review*, VII, 1888) reports that in a family of fifty-five members, running through five generations, eight males and five females were affected with cataract. Not all were congenital. Berry terms many of these cases premature senile cataract.

The experience of oculists who have observed many cases of disease of the eyes leads them to conclude that in many cases, particularly those occurring relatively early in adult ife, heredity often exerts a strong influence, depending on what might be termed an inherited vicious habit of the system.

*Optic Nerve.*—Well-authenticated cases of optic-nerve atrophy occurring in members of a family throughout a number of generations, without consanguinity of parents or history of syphilis, are on record. The statement usually made is that the families possessed strong neurotic tendencies. The affection appears as an optic neuritis of mild degree and proceeds to partial or complete atrophy. Individuals are affected from the age of eight to thirty-five years (Norris). Batten (Transactions Ophthalmological Society, U. K., XVI, p. 125) reports the case of a mother whose sight began to fail at the age of twelve years; the daughter had distinct atrophy at the age of ten years. No general disease. Somys (*Zehender's klinische Monatsblatt*, XXX, p. 168) reports having traced optic neuritis through three generations; males only were affected. Story (*Ophthalmic Review*, 1885, p. 33) quotes Leber as having records of fifty-five cases occurring in sixteen families. Story reports five cases occurring in one family; the two that he observed developed central scotoma. Norris (Transactions American Ophthalmological Society, 1884) examined the eyes of three generations of a family in which optic-nerve atrophy was hereditary. The symptoms were, frequent frontal headache and gradual loss of central vision. There was contraction of the fields of vision for form and for colors yellow, blue, and red, in the order given. Three stages of the development of the atrophy were noted: (1) Cloudy swelling; (2) "lymph reflexes along the course of the retinal vessels"; (3) gradual death of the nerve tissue. Two cases ended in blindness. Some improved under the use of strychnia. From the recorded histories of these cases it appears that the affection is really a retrobulbar neuritis in the beginning.

*Retina.*—Of the affections of the retina in which heredity plays an important part in the etiology, hemeralopia, the amaurosis of amaurotic family idiocy, and retinitis pigmentosa may be mentioned.

Heredity is by no means a frequent causative factor in the production of hemeralopia, but it is occasionally so. Sedan (*Rec. d'opht.*, November, 1885) reports the case of a family in which, of twenty-nine members, nineteen were hemeralopic.

The other hereditary affections of the retina may be considered in the class of hereditary eye diseases which are apparently influenced largely by consanguinity and racial peculiarities. Amaurotic family idiocy, in which a prominent feature is the disease of the retina, occurs almost invariably in Hebrews, and is strongly influenced by family peculiarities; thus the twenty-three cases mentioned by Swanzy (Norris and Oliver, Vol. IV, p. 626) occurred in eleven families.

Retinitis pigmentosa has long been considered a disease in which consanguinity of parents plays a strong rôle in the etiology, but recent investigations place consanguinity in a very minor position in this respect, heredity being accorded the first place. Ayres (*American Journal of Ophthalmology*, 1886) reports 25 cases occurring in 19 families—18 males and 7 females. The parents were related in 28 per cent. There was a tendency to glaucoma in 3 families. Siegheim (Inaugural Dissertation, Berlin, 1887) reports 73 cases. He finds little support for the theory of consanguinity; he considers heredity to be a strong etiological factor. Of 11 cases of retinitis pigmentosa reported by Trousseau, only two had parents who were related. Liebreich was of the opinion that consanguinity could be demonstrated in 50 per cent. of the cases of retinitis pigmentosa, but more recent investigations have shown conclusively that this percentage is too high, the percentage being only about 25. The male sex is more frequently affected than the female, and the disease is more common with the Semetic than with the Aryan race (Schöbe).

Diseases that are closely allied to retinitis pigmentosa also largely influenced by heredity are the retinal degenerations presenting the symptoms of retinitis pigmentosa, but without pigmentation of the retina, and the condition known as *retinitis punctata albescens*.

*Glaucoma.*—This most important disease is influenced by heredity and by racial peculiarities. Von Graefe called attention to the influence of heredity in glaucoma many years ago. In the cases in which heredity is a factor the disease manifests itself early in life. Harlan (*Journal of the American Medical Association*, September 12, 1885) records the history of a family in which glaucoma occurred in nine members in five generations. The time of the development of the disease in four of the patients is given as one at seventeen, one at eighteen, and two at nineteen years of age. Howe (*Archives of Ophthalmology*, XVI, 1, 72) reports eight cases in three generations. Of a family, one of the members of which came under the observation of the writer, five members were affected in three generations. The percentage of cases of glaucoma due to heredity is small, but is sufficiently large to merit consideration. Knapp has called attention to the fact that glaucoma is more frequently met with in Hebrews, in and about New York at least, than in individuals of other races, and Brugsch-Bey found a higher percentage among Egyptians than is found among Europeans.

*Hydrophthalmus* (buophthalmus), a condition that has received the name of congenital glaucoma, is also strongly influenced by heredity.

By far the most common cause of disease of the eye due to heredity is syphilis. In 212 hereditary syphilitics, Fournier found the eye affected in 101 (Norris & Oliver, Vol. II, p. 440). Girls suffer more severely than boys.

A list of the affections of the eye due to inherited syphilis follows:

Alopecia affecting lids and brows.

Choroiditis, presenting mixed forms, occurring either as a congenital condition or before the twenty-fifth year, affects both eyes usually, however it may be confined to one eye.

Erythema of the lids, early in child life.

Iritis, acute, occurring in the first months of infancy.

Iritis, gummatous, occurring in the early years of childhood.

Eruptions, nodular, vesicular, papulo-squamous, all affecting the eyelids and occurring in childhood.

Optic-nerve atrophy, occurring congenitally or in the early years of life.

Ophthalmoplegia externa, rarely.

Palsies of eye muscles, nuclear.

Palsies of eye muscles, peripheral, occurring in childhood.

Parenchymatous keratitis, seldom before the age of six years and only very rarely after the age of thirty-five. Hutchinson narrates one case occurring at the age of sixty.

Periostitis of the orbit, in early childhood, pursuing an acute course.

Retina, pigment degeneration of (pseudoretinitis pigmentosa).

Retinitis, hemorrhagic.

Rupia, affecting the lids.

Tarsitis, occurring in early childhood, usually bilateral.

The transmission of faults in the shape of the eye, whereby the various errors of refraction, hypermetropia, myopia, and astigmatism recur in the offspring, is not unusual.

Muscular anomalies, particularly the various phorias, are not infrequently transmitted.

Color-blindness of all degrees is also strongly influenced by heredity. Reber (*Medical News*, January 26, 1895) mentions the occurrence of color-blindness in six women in two generations of a family. After giving the histories of a number of families in which color-blindness was hereditary, Jennings ("Color-vision and color-blindness," p. 41) sums up as follows: "Color-blindness is hereditary and attached to certain families. It may not be found in one generation, but reappears in the next. All the children will not be affected, the girls especially escaping. When several children are affected it is traceable to the mother. The kind and degree will be the same for all the cases in a family."

It will thus be seen that heredity influences the eye in respect to form and disease in no inconsiderable degree.

## TREATMENT OF TRACHOMA.*

By J. HERBERT CLAIBORNE, M.D.,
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In order that I may properly present the subject that has been relegated to me, namely, the treatment of trachoma, it is necessary that it should be stated first of all what trachoma is. This matter has already been ably set forth to-night by others. Nevertheless, in order that I may handle my subject in a sequential manner, I feel constrained to present the clinical picture of trachoma from my own standpoint. Of course, trachoma is acute or chronic, but for the sake of this discussion I divide it into the non-inflammatory and the inflammatory forms.

The non-inflammatory form is characterized by the existence of sago-like grains on the mucous surface of the upper and lower lids. I wish to lay particular stress upon the fact that the granulations must be both on the upper and lower lids. The form of trachoma which is known as follicular, in my opinion, is restricted to the lower lid and is particularly seen toward the outer canthus. Whether or not this form of trachoma is the beginning of the non-inflammatory form I do not know. The granulations on the upper lid are sometimes not observable until the lid is turned, because they are restricted to the retrotarsal fold. On eversion, however, of the upper lid they can be seen in great abundance in the cul-de-sac, but they do not occur in the depths of the sulcus. The picture presented by this form of trachoma is so marked, when typical, that no one could fail to recognize it. For my own part, I regard this form of trachoma as distinctly contagious, and therefore it should be removed at the earliest possible moment for the sake of the body politic and of the individual.

The other form of trachoma is sometimes known as Egyptian or military ophthalmia—though I see no reason for applying either term, inasmuch as it occurs elsewhere than in Egypt and among other bodies than soldiers. Its onset is characterized by acute inflammation, lacrymation, photophobia, and a great amount of discharge. Subsequently granulations form on the upper and lower lids, both on the exposed surfaces and in the retrotarsal folds constituting the primary form of the disease. The secondary stage is that in which the granulations coalesce, are no longer discrete, and the final stage is the cicatrization of the lids with pannus and opacity of the cornea.

It is well known, and has been observed here to-night, that the cause of the trachoma is not known. But it is a significant fact, as will be pointed out later, that mechanical treatment is the best and most efficient for a disease which is entitled to the suspicion of being microbic in origin.

The treatment of all trachoma may be divided into medical and surgical, and it is safe to say that almost all of the known remedies that are astringent have been employed with more or less beneficial effect. It requires no patriarchal experience to recall the time when the use of gonorrhœal matter placed in the conjunctival cul-de-sac was employed in cases of trachoma which were attended with pannus and cicatrization. This barbaric and criminal form of treatment has been finally relegated to the lumber room of therapeutic antiquity. Following that and just a little less severe and grievous was the use of the powder or watery extract of the juquirity, or abrus precatorius bean, which possesses the power of inciting a violent inflammation of the lids—an inflammation, indeed, which can hardly be differentiated from that produced by the gonococcus. This remedy should be employed, if ever, only in those cases in which there is dense pannus and keratitis, and in such selected cases beneficial results have been encountered on many occasions. This treatment at first blush would seem entitled to consideration, but the loss of an eye in Paris, followed by the loss of two eyes in this city, in the hands of eminent authorities, has checked enthusiasm, so that to-day it may safely be said that the use of the abrus precatorius bean no longer plays a rôle in the treatment of trachoma.

Silver nitrate has always been a favorite remedy in the hands of those who have not met with the most violent forms of trachoma. I have heard Hirschberg of Berlin say that he could cure all cases of trachoma with a one to two-per-cent. solution of silver nitrate. Obviously his experience with the severer forms of trachoma is rare, and that explains his attitude. Silver nitrate is of but slight value in the treatment of real trachoma, and, in my opinion, is not entitled to serious consideration. The use of zinc as a palliative and supplement to severe measures is to be commended. Bichloride of mercury in stronger or weaker solutions has likewise been employed, and lately the modern combinations of silver with egg albumen have been used with some putative benefit. The most recent remedy employed is the citrate of copper. With this I have had no experience. Formalin, in the strength of 1-5,000 to 1-10,000, has been used lately with benefit in the hands of several surgeons. Of all remedies used, however—one that has proved itself of inestimable value, and, in fact, is the *vade mecum* in the treat-

*Read before the Medical Society of the County of New York.

ment of trachoma—copper sulphate stick stands preëminent. This copper stick, or copper crystal, should be ground smooth and in the shape of a parallelogram, and should be so thin that it can be introduced under the upper lid without the use of undue force or traction. This should be placed in a porte crayon and applied as follows: The upper lid being everted, the stick should be applied delicately and gently underneath the lid in the cul-de-sac. I consider it unnecessary to touch the outer surface of the everted upper lid. Subsequently the cul-de-sac of the lower lid should be gently stroked with the stick. It will then be observed that the tears have produced a solution of the copper. The excess should be thoroughly wiped away, and when this is done the entire amount of copper placed upon the eye will be to some extent diminished. When this is done delicately and lightly, the pain following the procedure is, in some cases, slight, but in others it is considerable; in the majority of cases it is not so severe as is generally supposed, and much can be done to prevent pain by the delicacy of manipulation on the part of the surgeon.

I lay particular stress upon putting the stick underneath the upper lid, for if this is not done the desired effect will not be obtained.

I also wish to register my opinion against the use of the camel's hair brush. I consider it impossible to disinfect these brushes properly without destroying them. A cotton armed probe is the safer adjuvant.

Of course, the hygienic surroundings of the patient should be regarded. Dust, smoke, vitiated atmosphere should be avoided and the general health and cleanliness of the individual should be promoted. But when we reflect that all cases of trachoma we meet with occur in people who live under conditions in which it is impossible not only to produce asepsis in the surroundings, but even difficult to obtain cleanliness, we simply make this suggestion as a matter of conscientious detail and without any hope or expectation of its being followed out.

It frequently happens, however, that patients who have been cured or practically cured a number of times of trachoma get well only after entire change of surroundings.

Without loss of further time we will proceed to the surgical treatment of trachoma. Surgical treatment depends upon the kind, extent and stage of the disease and upon its intensity.

The first form—that with sago-like grains—is the form in which surgical treatment is most brilliant. Before speaking of the method which, up to the present time, seems to me the best, I will refer to the various methods in vogue before the last and best was devised. Possibly the oldest mechanical method is that of grattage or brossage—brushing or scratching the granules, which dates back to early times and has been referred to by Borelli in 1859, and Schroeder in 1889. This has been employed with some success in the hands of a number of surgeons in this city at the Eye and Ear Infirmary. It has been used with and without scarification. A coarse tooth brush was used, and after scrubbing the surface of the lids with this brush a solution of 1-500 bichloride of mercury was rubbed in. At first simple scrubbing was employed, later an instrument was devised and scarification preceded the scrubbing. The after-treatment consisted in the application of astringents and aseptic washes, among which was copper sulphate. It is fair to say that this method has been eliminated from surgery, except in the hands of a few men, and now has only an historical value. Salmonsohn has employed the galvano-cautery and was accustomed to burn out the granules with a looped electrode. I myself have frequently used the actual cautery with a platinum probe, invented by Dr. Gruening of this city, and have had considerable success with it in past years but have abandoned it entirely. Electrolysis was introduced by Lindsay Johnson of London. He was accustomed to scarify the granulations with a silloneur, a scalpel with three parallel blades, and afterward apply the electrode along the lines of incision. The most irrational form of treatment yet suggested was that of Galezowski of Paris. I refer to the excision of the strip of conjunctiva containing the granules. I cannot see that this commends itself to anyone who has in view the preservation of the normal structure of the tissue involved. Another operative procedure is curetting, advocated by Bardenheuer of Cologne, and Sattler of Leipzig. After cocainization or general anæsthesia, the capsule of each granule is ripped up and its contents expressed or scooped out with a tiny spoon. This seems needlessly long and tiresome, and does not commend itself to reason. Dr. Jameson of Brooklyn has invented a scarifier which consists of a number of pyramidal elevations arranged on a metal surface and pointing in different directions. He claims the advantage of removing only the granulations and not injuring the submucous tissue. A number of operations may be necessary to effect a cure.

The use of scissors for cutting away the follicles was at one time in vogue, but this method soon fell into disuse on account of the destruction of the submucous tissue which frequently followed it.

I reserve the most reasonable, thorough and effective form of treatment for the last. This is known as "expression." Cuignet described it as early as 1873. It was recommended also by E. Berlin, Mandelstamm, and Hotz. The latter was accustomed to express the granules with his finger nails. Most of us have kept pace with the development of this form of treatment. In 1891 Dr. Prince invented a ring-shaped forceps which he used in trachoma, and about the same time Dr. Noyes invented an instrument for the expression of non-inflammatory trachoma, used with some success in the New York Eye and Ear Infirmary. Prince's forceps are—except those I am about to describe—the best. The instrument of Noyes I consider harmful except in the most skilful hands. It remained for Dr. Knapp to cap the climax by constructing what is known as the roller forceps. As Hirschberg has remarked, this instrument is the only new thing which has been introduced in the treatment of trachoma in the last twenty years, and if this distinguished patriarch of ophthalmology, Dr. Knapp, had never done any other thing he would yet have written his name amongst the immortal ones of medicine. The instrument consists of a pair of fluted cylinders 2-3 mm. thick, and 10-11 mm. long, which roll on pivots on the horse-shoe-shaped ends of the shafts of the forceps. In order to be good, the cylinders must roll easily. The granules are rolled between the cylinders and their contents are expressed. The object is to bruise and break down the granules and squeeze out their contents. They are an instrument of force, and not of laceration.

The technique of the operation is, to some extent, the following: The upper lid having been everted, the folded edge of the conjunctival surface is grasped with a fixation forceps and pulled upward and outward. The rollers are then applied to the mucous surface of the lid folded upon itself and this is squeezed between the cylinders and the granules are expressed. When all granulations are expressed, as shown by smoothness of the lid, the lower lid is

treated in such a way that the granules are destroyed and the methods by which these two simple acts are achieved are different in the hands of every operator I have seen work. Suffice it to say that so long as the granules are destroyed without laceration of the membrane the end is achieved.

There have been a number of modifications of Knapp's roller forceps, and one which I will particularly mention is that of Dr. Campbell, in which the ends of the cylinders project beyond the tip of the shaft, and another of Dr. Rust, in which the horseshoe-formed end-piece has one arm in a straight prolongation of the shaft while the other turns off parallel with the cylinder, leaving a slight space between it and the cylinder. I do not think these possess any advantage over Knapp's forceps.

I have the honor to present to you to-night a case of instruments for the operation of trachoma, which consists of a pair of fixation forceps of stronger grip and bite than those ordinarily used, and two roller forceps in some respects a modification of those of Dr. Knapp. The first pair differs from Knapp's only in this respect that the cylinders instead of being fluted have parallel lines of roughened elevations or nodules upon them, so that in rolling they not only express the material but also rupture the surfaces of the granules and allow of easier "expression." The distinct advantage of this forceps in my hands is that less force is required to destroy the granules, and after operation there is an absence of the bruised, swollen appearance consequent upon the use of Knapp's instrument. I wish to lay stress upon the fact that with this forceps in my hands the operation has been achieved more quickly, easily, and thoroughly than with any other. The other forceps to which I call your attention is exactly like the one just described, except that the horseshoe containing the rollers has been bent to a right angle to the handle. I find this an advantage in getting into the outer and inner canthi, the hand being out of the field of operation.

Unfortunately a general anæsthetic is necessary, and ether appears to be safest. Cocaine solution is of no value, but lately the powdered crystals have been used on the surface of the lids with some success. Latterly Dr. Coburn and myself have been experimenting with ethel chloride. If this anæsthetic be administered as generally employed for two or three minutes and then the ether pushed, general anæsthesia can be induced in from two to five minutes. The patients recover more rapidly and, as a rule, neither vomit nor exhibit so much excitement as with ether alone.

There exists a difference of opinion as to the best after-treatment. Many rub into the lacerated conjuctiva strong bichloride solution or the solid stick of copper. I have never employed these methods. I have observed that in the hands of others this treatment is followed by great reaction. I consider it entirely unnecessary. I direct the parents simply to keep the eyes clean for a day or two, and I prescribe zinc or acid boric till the post-operative membrane is gone. I then apply silver nitrate in one-per-cent. solution for a few days and subsequently copper sulphate in solid stick till I am convinced the case is cured. I always send my patients home as soon as they can walk. I see no reason for keeping them in wards over night.

Concerning the second form of trachoma, Egyptian or military ophthalmia, medicinal treatment seems, in general terms, to be of the greatest service, except when the granules are distinct and definite, whether discrete or confluent, and it has been my custom to "express" these cases as long as I could see any granules at all. When the lid has become cicatrized and the cornea clouded it is useless to attempt expression. Cases of that description should be treated only medicinally, and bluestone is the remedy *par excellence*.

It is the custom of some to use atropine in all cases of trachoma in which there is pannus, alleging that iritis is generally present at the same time. This may be true and in such cases atropine is indicated, but in my experience iritis is exceedingly rare in trachoma, and it is my practice never to use atropine unless there is unmistakable evidence of the existence of iritis. Atropine itself is an irritant and seems to be distinctly contraindicated. The use of bluestone in this condition supplemented by zinc, boric acid and bichloride of mercury is, I believe, the accepted form of treatment to-day.

To sum up: The treatment of trachoma is medicinal or surgical or a combination of the two. In the non-inflammatory form—that characterized by the frog-spawn granulations—the operation of expression alone followed by appropriate after-treatment is indicated.

The best instrument at present in vogue in my opinion is the roller forceps of Knapp or some modification of it.

In the inflammatory form, the so-called military ophthalmia, the operation of expression as described above, followed by mild astringents and finally by the copper stick, is indicated, as long as there are granules in reasonable quantity. When the disease has passed the granular stage and is in the cicatricial, copper sulphate alone or in combination with other remedies is indicated.

30 West Thirty-sixth Street.

## ELECTRICITY IN THE TREATMENT OF DISEASES OF THE STOMACH.

By E. G. MARSHALL, M.D.,
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In the Medical Record of May 9, 1891, Max Einhorn published a paper entitled "A New Method of Direct Electrization of the Stomach." In this paper he described his "Deglutable Electrode," and gives a report of the physiological action obtained by using intragastric electricity on three persons having no digestive trouble, and also gives a résumé of his clinical treatment of several cases suffering from various stomach diseases. Previous to the publication of this paper, intragastric electrization had not met with much favor, owing to the imperfection of the electrodes then used.

Percutaneous electrization, however, had many advocates, and good results were reported by A. D. Rockwell and Beard in the *Phil. Med. Surg. Report* of 1868, No. 20, and in 1871, page 470, of the same journal. Neftel in 1876 says: "For more than eight years I have used the induced current in the treatment of dilatations of the stomach arising from chronic catarrh, with success." Ewald also had demonstrated that percutaneous electricity increased the motor activity of the stomach, and since then he has used Einhorn's electrode, somewhat modified by himself, and in his work on "Diseases of the Stomach," page 69, he says:

"Surely by using Einhorn's stomach electrode, or my modification of it, contractions of the muscular fibers of the stomach themselves must be obtained, and, as I have already stated, and as I shall discuss later on, excellent results have been obtained, especially in gastric dilatation."

Again in 1892, in the Medical Record of January 30 and February 6, Einhorn publishes a paper entitled, "Therapeutic Results of Direct Electrization of the Stomach," in which he states that by means of his Deglutable Electrode he had been

able to treat a large number of patients. In this paper he reports the physiological effect obtained from both the faradic and galvanic currents, and also the therapeutic results obtained in a variety of stomach disorders. The physiological observations made and reported by him at this time were mainly on the power of electricity to increase or diminish the normal secretions of the stomach, and he concludes his observations by saying that direct faradism generally increased the HCl, and that galvanism—negative pole in the stomach—generally diminished this secretion. His conclusions are not in accord with some other observers; for Ziemssen finds that both currents increase the secretions of the various glands. The latter observer, however, made his experiments on animals.

On looking over the reports of the physiological effects, so carefully made and recorded by Einhorn, the amount of increase or decrease in the secretions is generally small and often inconstant; but in several cases in which the HCl was wholly wanting, he was able to find it in small quantities immediately after direct faradism; nevertheless, in these cases, even after prolonged treatment, HCl, was not found in the stomach after test-meals, showing that the stimulation to secrete HCl was not permanent. But in most all these cases there was a marked improvement in the patients' feelings, and their power of digestion, so that it is hardly probable that the benefit derived depends on either the increased or diminished secretion of the HCl. That Einhorn does not himself think that the improvement depends on this power of increasing or decreasing of the HCl is apparent, for he goes on to say: "Should we wish to utilize therapeutically these experimentally obtained conclusions, we would expect theoretically that the faradic current would be more advisable in cases of subacidity, whereas the galvanic current would be preferred in cases of hyperacidity. But in reality we shall see later on that this can not be made an axiom for therapeutics.

There were cases of hyperacidity which greatly improved by the faradic treatment, and, on the other hand, there were cases of subacidity in which the faradic current did not bring much benefit, and the galvanic current proved very useful.

Charles G. Stockton's statement of how electricity acts, although very indefinite, is, perhaps, as good as can be given. He says in the *American Journal of the Medical Sciences*, 1880, page 20:

"Exactly what rôle is played by faradism I am unable to state: whether it is a gastric sedative or a gastric stimulant, I do not know. My efforts were in the direction of study, and the results were so favorable that I applied faradism to cases seemingly contradictory in character, and I have concluded that the great variety of gastric neuroses depends upon a common cause—an imperfect innervation of the stomach: that electricity improves this innervation, thereby relieving the cause and so the conditions which, at first thought, are so contradictory."

But be the explanation what it may, certainly the therapeutic results as reported by Einhorn are sufficient to command attention. He reports marked success in cases of hyperacidity with dilatation, but by the use of the electricity alone he was not able to reduce the hyperacidity to any appreciable amount. He reports one case of gastrosuccorrhœa continua chonica cured by use of galvanism, in three months. Some of his most brilliant results were obtained in cases of severe gastralgia. In the treatment of these cases of stomach neurosis he frequently had success with the galvanic current (negative pole in the stomach) after failing to get good results with the faradic current. It will be noticed, however, that, though the pain was controlled and the patient became well so far as being able to eat without distress, yet there was little change noted in the degree of acidity of the stomach secretions. He summarizes the report of five cases as follows (February 6, 1892, MEDICAL RECORD, page 145):

"Although the five above-described cases are quite different from each other as regards the type of disease, they all, however, have one point in common, namely, a severe gastralgia which resists every kind of treatment; the gastralgia, however, is the symptom which chiefly troubles the patient, and, as time goes on, seriously endangers his subjective and objective welfare; in all these cases the constant current, applied to the stomach walls, brought much benefit, and this in quite a short time; the gastralgia succumbed to the influence of galvanization."

Again in his work on "Diseases of the Stomach," second edition, page 147, he says: "Gastro-galvanization is almost a sovereign means of combating severe and most obstinate gastralgias, no matter whether their origin is of a nervous nature or caused by a cicatrized ulcer of the stomach."

Since Einhorn's report of intragastric electrization by means of his deglutable electrode, several other authers have reported equally encouraging results. A. D. Rockwell in "Hare's Practical Therapeutics," second edition, vol. 1, page 304, says: "My own experience is that the appetite is sharpened, digestion is quickened and constipation is relieved by both general and local electrical treatment—so decided in many cases as to make it pretty evident that the gastric and intestinal glands are made to secrete more liberally by the action of the current upon the nerves that supply these organs, than on the tissues of these organs themselves." In the same chapter Rockwell says: "In my judgment electricity must be classed as a tonic of a very high order. . . . it gives passive exercise to muscles, it promotes and renders more natural the process of excretion and secretion; in a word, it imparts tone and strength to both nerve and muscles."

D. D. Stewart (in "Sarjous's Cyclopedia," vol. 6) finds direct faradism of value in chronic gastritis and stomach dilatations. But he did not see much benefit in cases of nervous belching by intragastric electrization.

Thomas G. Ashton writes ("Hare's Practical Therapeutics, second edition, vol. 2, page 409): "There now remains but little doubt as to the comparative value of direct gastric electrization over the so-called percutaneous method. By the latter method the current must be so diffused in its passage through the abdominal wall that it is doubtful if any portion of its effects arrive at the stomach, or at least these effects must be then so attenuated that but little good will result. Nevertheless, that some good follows the use of the percutaneous method has been demonstrated by many observers."

William G. Thompson writes in his "Practical Medicine," in the chapter on dilatation of the stomach, page 408. "The daily application of electricity is of decided benefit in some cases, but only when one electrode is inserted through a stomach tube, with a stomach partly filled with water, and the other applied over the epigastrium."

In the *Journal of the American Medical Association*, December 6, 1902, page 1444, J. Edward Stubbert, speaking of chronic gastritis as a complication of tuberculosis, says: "In such instances

all medication should be discontinued and a careful analysis of the contents of the stomach should be made after a test-breakfast. When hypochlorhydria exists this should be corrected. In the majority of instances, however, the most desirable method of treatment is stomach lavage about three times a week, and in cases in which dilatation exists, this should be followed by Einhorn's electrode."

Since October of 1901, I have been making personal use of intragastric electricity. My first patient on whom I used this treatment was a man about sixty-five years old, who had been suffering for some three months with frequent attacks of vomiting. I had been unable to control the vomiting except by keeping him under the influence of morphine. Having exhausted every resource, I made use of Einhorn's electrode, using the faradic current, negative pole in the stomach. After the second treatment the vomiting stopped. The treatment was continued about every third day for four weeks. Besides the vomiting he had suffered from pain after eating and had no appetite. The pains were greatly relieved and he had a good appetite under the treatment.

My success in this case encouraged me to make further use of this treatment in a limited number of chronic stomach troubles of various character. Of these I hope to make a report at some future time. My experience during these eighteen months taught me that I could not always introduce Einhorn's electrode, and for this reason I have had one made of my own design. It consists of, first, a red rubber tubing twenty inches long, about the size of a No. 13 (American scale) catheter. In one end is set a nut, around which is wound a fine wire, which runs through the rubber tube and is fastened to the slotted post in the other end of the tube; second, a screw with a flatted head goes through a hard rubber cap, shaped similarly to an elongated tablet, and smaller at one end than at the other. When the screw is fastened into the nut it holds the hard rubber cap in place, and the latter protects the stomach from direct contact with the metal. When it is desired to clean the electrode, unscrew the hard rubber cap by turning it to the left and press out the screw, and then all parts are easily cleaned. When the screw is in place, it prevents any fluid entering the tube. There is never any trouble in introducing this electrode, and the tubing being much smaller than the stomach syphon, it causes very little discomfort to the patient. Since the first few weeks, when I used Einhorn's electrode, I have made exclusive use of this one and have found it entirely satisfactory.

Einhorn's directions for using intragastric faradism are as follows: "Sitting ten minutes: at first large plate electrode at the gastric and epigastric region for five minutes, then a small ordinary sponge electrode. The electrode is at first moved up and down from left to right in the gastric region (sometimes, especially when there is constipation, the electrode is passed over the region of the colon—ascendens, transversum, descendens—always beginning in the right iliac region and stopping at the left iliac region [duration two minutes]; thereafter one proceeds from the gastric region from right to left to the back, and remains at the left side of the seventh dorsal vertebra for one minute. We then return to the front, moving the electrode gently up and down over the gastric region for two minutes, gradually decreasing the current and thus ending the sitting. The current has to be of such a strength that it causes distinct contractions of the abdominal walls."

His method of administering gastro-galvanism is very similar, using a current of 15 to 20 milliamperes.

In the treatment of gastralgia he uses the negative pole in the stomach, but Goldschmidt recommends that the positive pole be used internally.

In using intragastric electricity, I have modified Einhorn's method somewhat with apparent advantage.

I use a comparatively large sponge electrode, placed over the gastric region; and another small sponge electrode (connected to the same pole by means of a Y-shaped cord) is applied on the front sides of the neck over the course of the pneumogastric nerve, first on one side, then the other; thus the pole, used externally, has two terminal sponges. By using the small electrode over the pneumogastric increased stimulation of the stomach is experienced, as is noted by the greater contractions of this organ. As the pneumogastric has both motor and sensory fibers, it would appear that this would be a rational mode of treatment in both motor and sensory stomach disturbances. That there is greater motor stimulation I have demonstrated, but have not yet tested it in any case of gastralgia. I have also observed that this form of treatment had a sedative influence over the heart's action in one case.

In preparing patients for treatment they should be given first a glass of water, on an empty stomach; then the sponge electrodes and battery all should be in readiness, so that as soon as the electrode is introduced into the stomach the connections can be instantly made and the current started. In this way the patient does not have to retain the electrode one or two minutes before the treatment begins, and thus needlessly prolong the sitting, and, furthermore, the inclination to retch is not nearly so great when the current is on.

The primary current may be used in the more chronic cases, but the secondary, long coil, is better suited when a sedative influence is desired.

The primary or low-tension current of the faradic battery (when either pole is used internally) has a greater power for exciting contractions than the secondary current, so the former would be used when such action is desired, as in cases of stomach dilatation, when there is no pyloric obstruction.

During the treatment, patients experience a pleasing warm sensation in the stomach, and after the treatment they express themselves as feeling rested.

In conclusion, I may say that intragastric electrization would not be resorted to except in those cases that had failed to yield to medicinal and dietetic treatment, but when these have failed it will be found of inestimable value.

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**Missing Links in Joint Disease.**—Preston King believes that evidence points strongly to the fact that rheumatoid arthritis is not a distinct disease due to any one specific organism, and that it is a condition of ill health resulting from various infective poisons. Indeed, the evidence to be found in the previous history, the exciting causes, the clinical features, and the bacteriology of rheumatoid arthritis all point away from this being any longer recognized as a distinct disease. It is a condition due, not to any one specific germ, but to various different kind of germs, which link it to rheumatism, to rheumatic arthritis, to gout, and to other diseases. The writer suggests that these organic poisons, either by themselves or through their toxins, produce their results by acting through the nervous centers in an individual whose vitality is lowered and whose joints have a tendency to disease.—*The Bristol Medico-Chirurgical Journal.*

# A CONTRIBUTION TO THE STUDY OF THE INTERCOSTAL PHONATION PHENOMENON AND THE LITTEN DIAPHRAGM PHENOMENON.

By ALBERT ABRAMS, A.M., M.D.,
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DIAGNOSIS is made up of such a multitude of little things, that nothing, however insignificant, can be ignored. This refers with all cogency to the diagnosis of chest diseases, for, notwithstanding our vaunted progress in the diagnosis of such affections, our conventional methods, notwithstanding their faithful execution, leave much to be desired. A recent method of diagnosis suggested by Stiller, the *intercostal phonation phenomenon*, is observed in lean individuals. It consists of a distinct elevation of the intercostal spaces when short words or syllables are uttered by the patient. The wider the intercostal spaces, and the latter are widest between the axillary and parasternal lines, the more evident the phenomenon. The phenomenon is specially distinct where the respiratory excursions of the lungs are greatest, viz., in the lower thorax. Weiz first described the phenomenon in question, but his explanation of its genesis was incorrect. It is caused by waves of air, which in the moment of phonation when the glottis is narrowed, are carried in all directions down the bronchial tree to the region of the lung contiguous to the intercostal spaces, causing these to bulge. The pressure is also exerted on the relaxed diaphragm, causing it momentarily to descend, which descension is manifested by slight protrusion of the epigastric angle, which may be observed even in obese individuals. In individuals in whom the bulging is not clearly manifest, the phenomenon may be detected by palpation. The practical value of this phenomenon in diagnosis, as suggested by Stiller, is the ability to determine the boundary between the lung and the liver or spleen and to recognize the existence of a pleural ex- or transudate and to differentiate the latter from a pulmonary infiltration or lung tumor if this is necessary. If fluid is present in the pleural space, the sudden increased pressure in the lung during phonation excites in the contiguous fluid push waves, which bulge the intercostal spaces: thus the dulness of a pleural exudate can be differentiated from the dulness caused by lung infiltration or tumor of the lung. This phenomenon also permits of an accurate demarcation of the liver or spleen from the fluid in the pleural cavity. The writer has carefully studied the phonation phenomenon in a large number of cases, and he finds that it is best elicited, if during phonation the patient closes his nostrils and places his other hand over his mouth, so that the expired air is partially obstructed in its exit from the lungs. Again, the patient should be instructed to practise forced expiration before phonation is attempted. For determining the line of demarcation between the lung and the liver or the lung and the spleen, the phonation phenomenon can never substitute careful percussion. Its real value lies in differentiating lung infiltrations from accumulations in the pleural cavity, and even here one can not regard the phenomenon as infallible, insomuch as it cannot be determined in obese persons, when the exudate is so large that it compresses the lung or when pleural thickening and adhesions exist.

THE LITTEN PHENOMENON.—This procedure, suggested by Litten[2] in 1892, renders visible the diaphragmatic movements. The most detailed description of this maneuver may be found in the admirable textbook of Cabot[3] and in the third edition of Sahli.[4] To elicit the Litten phenomenon, or phrenic shadow as it is also called, the patient lies upon his back with exposed chest and the feet directed toward a window. Cross lights must be eliminated by darkening other windows in the room. If the patient's bed cannot be placed in proper position with relation to the window, or if the observation is to be made at night, Cabot suggests using a strong light held at the foot of the bed, excluding all other lights.

The observer stands at the patient's side, as shown in the illustration, or stands a few feet from

Fig. 1.—Litten's diaphragm shadow. Proper position of patient and observer. The shadow is best seen near L. (Cabot.)

the patient with his back to the window and observes the lower chest at an angle of 45°. The observer then directs the patient to take a deep breath, and as the ribs rise with each inspiration, a short narrow shadow moves along the axilla from about the seventh to about the ninth or tenth rib. The shadow is less evident during expiration as it ascends to the point from which it started. In ordinary breathing, the shadow in its descent occupies 1–1½, and in forced inspiration, 2–3 intercostal spaces. The shadow line cuts the ribs at an oblique angle. The phrenic shadow can be observed on both sides of the chest and not infrequently in the epigastrium. It is best observed in lean individuals of either sex, and is never absent in health unless the individual is very obese or cannot be made to take deep breaths. In normal persons, during ordinary breathing, the shadow excursion is about 2½ inches; whereas in forced breathing it is 3½ inches. The diaphragm phenomenon is easily explained, if reference is made to the accompanying figure. At the end of expiration, the diaphragm lies flat against

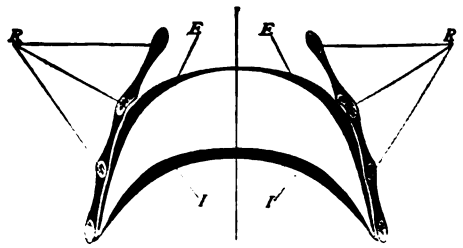


Fig. 2.—Excursion of the diaphragm during forced respiration. R, ribs; E, position of the diaphragm at end of expiration; I, position of diaphragm at end of inspiration. (Cabot.)

the chest from its attachment up to about the sixth rib, but during inspiration, it "peels off" as it descends and permits of the lung edge to come down into the space between the diaphragm and the chest wall. The "peeling off" of the midriff and the descent of the lung during the inspiration causes the moving shadow. The phrenic shadow is of undoubted clinical value and enables us to dispense with the Röntgen rays in many of our examinations.

First of all, the phrenic shadow permits us to say that in that particular chest region the diaphragm and the lung lie in contact with the thoracic wall, and that both are freely movable. Its absence would suggest an opposite condition of things. In pneumonia of the lower lobe, pleural effusion, pneumothorax and pleural adhesions, no shadow can be obtained. In all the preceding conditions the diaphragm is displaced from the chest wall, so that its excursions communicate no shadow. In advanced emphysema the shadow is diminished or lost, and the prognosis in this affection is gauged almost as effectually by the excursions of the shadow as by the spirometer, and the epigrammatic utterance of Lermoyez[5] seems apposite, that, in emphysema, "the ear makes the diagnosis, but the spirometer makes the prognosis." In the differential diagnosis, between empyema and a subphrenic abscess, the presence or absence of the phrenic shadow may be of service; in the former condition it is absent, in the latter it is present, however feebly expressed. Partial adhesions between the diaphragm and the chest wall are often recognized by an irregularity in the otherwise straight shadow. It has also been suggested that the phrenic shadow may be enlisted in differentiating a pneumothorax from a diaphragmatic hernia. The shadow is also of undoubted service in gauging the progress toward recovery of certain affections of the respiratory apparatus. In phthisis all writers are now agreed that limited diaphragmatic excursions constitute one of the earliest signs of the disease. It was Williams[6] of Boston who was probably the first to give prominence to this sign. To the knowledge of the writer, no explanation has been adduced in explanation of such limitation in the movements of the diaphragm, and he has shown elsewhere[7] that the condition is associated with hyperdistension of the lung, which, practically speaking, is nought else but a lung emphysema. Clinicians have long recognized, notably West,[8] that in certain general diseases in which the lungs are not otherwise affected, there is a loss of tone or tension in both lungs. The condition, has been comparable to tympanites. The term pneumoparesis is not applicable to the condition, as it implies an involvement of the vasomotor-nerves. The aufblähung of the Germans or *Volumen pulmonum auctum* is more suggestive of the lung condition. All this, however, is a mere theoretic discussion of the condition of the lungs in phthisis, for the clinical picture tallies in the main with that of emphysema. The following conclusions may be formulated as the result of the writer's observations with reference to the early phthisical lung: (1) In health the percussion note of the lungs is resonant during inspiration, and dull or even flat during forced expiration. (2) In phthisis, in the uninvolved lung areas and in a lung susceptible to tuberculous infection, the percussion note is unchanged during the two phases of respiration. (3) Associated with this unchanged percussion sound, there is an extension of the lung borders manifested by downward dislocation of the lung and diminution often to the extent of obliteration of the cardiac and splenic areas of absolute dulness. (4) Hyperresonance and not dulness is characteristic of early phthisis or of lungs predisposed to the disease. (5) The Röntgen rays show that while the diseased portion of the lung may be darker than normal, the unaffected areas show diminished density. (6) The diaphragm is restricted in its excursions in individuals predisposed to tuberculosis, whereas in phthisis it is markedly restricted on the affected side or sides, specially in the lower part of its excursion. Summarizing our knowledge of the move-

SYNOPTIC TABLE OF THE PHRENIC SHADOWS.

| PHRENIC SHADOW. | DISEASES OF THE LUNGS. | DISEASES OF THE PLEURA. | DISEASES OF THE DIAPHRAGM. | GENERAL DISEASES. |
|---|---|---|---|---|
| Is diminished. | 1. Bronchitis (usually on both sides).<br>2. Emphysema (both sides).<br>3. Tuberculosis on both sides, specially affected side.<br>4. Abscess of lung (on affected side.<br>5. Asthma (interparoxysmal period).<br>6. Atelectasis.<br>7. Bronchopneumonia.<br>8. Lung congestion. | 1. Pleuritic adhesions on affected side and the shadow is irregular.<br>2. Pleuritis (on the affected side). | 1. Subphrenic abscess. | Myogenic causes:<br>1. Debility.<br>2. Anæmia.<br>Mechanic causes:<br>1. Pericardial effusion.<br>2. Cardiac enlargement.<br>3. Pregnancy.<br>4. Ascites.<br>5. Distension of stomach or intestines.<br>6. Abdominal growths.<br>7. Enlargement of liver.<br>Inhibitory causes:<br>1. Peritonitis.<br>2. Pericarditis (acute). |
| It is absent. | 1. Pneumonia (on affected side).<br>2. Advanced emphysema.<br>3. Asthma (during paroxysm) | 1. Hydrothorax.<br>2. Pneumothorax.<br>3. Empyema.<br>4. Pleural thickening.<br>5. Pleuritic adhesions. (extensive).<br>6. Diaphragmatic pleuritis. | 1. Spasm of diaphragm.<br>2. Paralysis of the diaphragm. | In the foregoing conditions when pronounced. |
| It is increased. | On the unaffected side when, in consequence of disease, there is difficulty in respiration, the increased shadow is then purely complementary or compensatory. | | | |

ments of the diaphragm as influenced pathologically, and determined by the phrenic shadow, the above table is submitted.

It must be conceded that careful percussion affords in most instances a trustworthy gauge of lung mobility, but in every instance, all things being equal, the eye is a more reliable guide than the ear. An ocular demonstration of the phrenic shadow constitutes one of the most picturesque signs in clinical medicine. One reason why the phrenic shadow has not been brought more frequently into use is on account of the inconvenience necessary for its elicitation. The writer employs the sign constantly in diffuse daylight without special reference to the position of the patient. Used after this manner, it offers none of the inconveniences of the conventional clinical method. It is true that the uninitiated may, at first, experience some difficulty in its elicitation after this manner, yet, when once mastered, its recognition is easy. If the patient is in bed, it is more convenient to pursue the conventional method, but if the patient is an ambulatory one, he is placed with his back to the window, while the observer is seated at his side as depicted in the illustration. The patient stands with arm extended above the head, while the other arm supports the side. The position of the observer is not constant, and it may be necessary for him to view the axil-

lary region at different angles. The patient is then instructed to practise forced inspiration, but this exaction is often more difficult than the actual demonstration of the shadow. If he will not take a deep breath, ask him to cough or to suspend respiration for a time, or even make some violent exertion, maneuvers which will bring into play augmented midriff action. If the shadow is recognized, it may be followed to a surprising distance around the chest, and this fact alone suggests the advantage of viewing it in diffuse light. It is better, however, that those who have never seen the phenomenon should seek for it after the conventional manner, and then attempt its elicitation after the method here recorded. Another advantage of demonstrating the shadow in diffuse daylight, is evidenced by the fact that it can be seen on both sides at the same time, so that any discrepancy in the shadow becomes at once manifest. The patient stands as before, with his back to the window, while the observer sits a few steps away with his back also to the window. The patient, now being instructed to practise forced inspiration, the observer notes a punctated retraction of the lower thorax (marked by crosses) on either side, beginning usually in the scapular line, but not infrequently in the posterior axillary line, followed by a shadow which descends and ascends in the intercostal spaces. Note in the illustration that the patient's arms are extended above the head and the body is inclined slightly backward, as if to relax the muscles of the back. This mode of attitude is necessary to obtain the best results. The writer has sought to exaggerate the shadow by different means, and he finds that if the skin is colored yellow over the area described by the excursions of the diaphragm, the shadow picture is much intensified. For this purpose the skin may be colored with picric acid solution, or, better still, a saturated alcoholic solution of gamboge may be used, as it is readily removed by means of alcohol. If neither of these agents is at command, anointing the skin with yellow vaselin will suffice. This coloring of the skin will also intensify the shadow when the conventional Litten method is executed.* In concluding our examination after the manner just cited, we must not be unmindful of the fact that the phrenic shadow can be confounded with two other manifestations, which likewise produce shadows, viz., the expiratory sinking of the lower ribs and the inspiratory retraction of the lower intercostal spaces. The former is an expiratory, whereas the phrenic shadow is an inspiratory depression. Inspiratory retraction of the intercostal spaces is more likely to be confused with the phrenic shadow. In the former, however, the shadow is diffuse, whereas in the latter it is linear and the line can be seen to descend during inspiration to ascend again during expiration.

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*Since the foregoing investigations were made, the writer has found that if the skin embracing the area of the chest to be observed is made taut by grasping a fold of the skin, an intensification of the phrenic shadow results to a degree almost as great as when the skin is colored. Care must be exercised in not drawing the skin too tight, for otherwise respiration will become embarrassed and the shadow correspondingly diminished.

## SOME DANGERS OF THE HOT-WATER BOTTLE AS APPLIED TO THE NEW-BORN.

By DOUGLAS H. STEWART, M.D.,
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ANY defence of the time-honored hot-water bag is unnecessary. There is so much of good and so little of evil in its influence that its pernicious powers seem to have been lost to sight and memory. To its modicum of harm attention is invited.

How often is a feeble neonatus placed on an uncovered hot-water bag and burnt! Even after the burn is healing an eclampsia sets in, lasts a variable length of time and is followed by death. Such a burn may be so pitiably trivial that its effect on the convulsions may be quite overlooked; yet when situated on the buttocks, the lower back, the occiput, or near the navel, it is a most likely forerunner of fatal convulsive attacks. On the other hand, I have not seen a single instance of such eclamptic seizures following burns of shoulder, arm, leg, or thorax.

It certainly can do no harm to strip every infant in every case of convulsions, yet many obstetricians rarely see a baby's back after the handling of actual delivery. Talcum powder, silence, and manipulation may so completely hide all evidence of an accident caused by the nurse's carelessness in the application of heat, that although the doctor may closely examine the navel the infant may be lying upon a septic burn, and the true cause of "spasms" may not be apparent. From the above one might gather the idea that the injury described is common. I think it is. It is discovery that is rare.

Intracranial hemorrhage may follow overheating and extensive burning. One of my little patients was an instance of *post hoc*. He had given no sign of cerebral trouble until the buttocks and back were damaged by contact with a large hot-water bag. Autopsies show cerebral congestion and various capillary embolisms in the bodies of persons dead from the traumatisms of heat. In the new-born the convulsions, nystagmus and all that are symptoms common to burns and cerebral hemorrhage; and, in my single case, the fontanelle began to bulge some thirty hours after the burns.

If the reader will examine every new-born child on the third, sixth, and ninth days after birth he will become just as timid as I am, and will soon be as vigilantly watchful that there is always a thick folded blanket above every hot bag (not necessarily hot-water bag, for the material may be shot, sand, towels, etc.), and for that matter, a thick folded towel under every ice-bag.

An interesting case with autopsy is quoted in Quain's Dictionary:

A girl, aged fourteen, was covered with a sheepskin, and loaves of bread fresh from the oven were packed around her. She went to sleep and died. Similar loaves showed a temperature of 185° F. I have found temperatures varying from 120° to 200° in hot-water bags just taken haphazard with an ordinary bath thermometer, and the child that would have been laid on them was scarcely as many minutes old as the girl above mentioned was years.

A danger, which is most likely to happen when glass bottles are in use, is heating of the carotids. Although the evil effect of this action is well known to physiologists, it appears to have been overlooked by practitioners. Nowadays intravenous injections at 120° are common, thus one might forget that keeping the blood in the carotids at 110° or over may be followed by death.

In the use of the hot intravascular injection there

are at least three mitigators: (1) sodium chloride; (2) the body's heat-regulating apparatus, and (3) the transient duration of the temperature (120°).

Sodium chloride raises the coagulating point of albumin solutions, *e. g.* serum albumin in pure solution may be coagulated at 50° (122 F.), but the addition of NaCl. raises the temperature required for coagulation to 75°, or even to 80° (167° and 176° F.).

When a hot injection is made into a vein of the forearm, there is a constant unchecked radiation from the apparatus employed, and furthermore the patient's heat-regulating mechanism has some opportunity to modify the warmth before the blood is sent through the internal carotids and vertebrals. If, however, the temperature of the internal carotids is raised and maintained by contact heat, these vessels having no branches in the neck, the heat is conveyed into the cranium, through the circle of Willis, and simultaneous elevation in the vertebrals should render the effect, on the medulla and respiratory center, direct and marked.

The following from "Foster's Physiology" may prove interesting (I change some sentences for brevity's sake): "If the blood in the carotid be warmed above normal, dyspnœa is produced. It is not identical with that caused by imperfect arterialization of the blood, but it shows that the too high temperature of the blood directly affects the activity of the respiratory center." And again, "the regulative heat mechanism is unable to withstand the strain of too great an external heat or too prolonged an exposure to a less degree." Too warm blood exhausts the metabolic capital of the respiratory center, and it hurries on the beats of the heart, each stroke becomes more and more feeble as the rate is quickened, the beats become irregular, and finally cease. "Either of these two events alone, and certainly both together, are enough to bring mechanism to an end."

Ralliere demonstrated (dogs) that the blood temperature may be increased to 107° F., or (temporarily) even to 109.2° F. if immediate cooling is allowed. He states very plainly "The danger of hyperthermy lies in the duration." Now we can raise the temperature of the contents of the internal carotids above these figures by direct heat which may be maintained more or less indefinitely. But to return to our Medical Physics and ignoring all the nervous mechanisms of the body. Given a person weighing 143 pounds, whose blood weighs 13 pounds, and has a temperature of 100°, what will be its temperature if 6 pounds of salt water at 120° be mixed with the blood? The mixing to be instantaneous.

6 pounds @ 120° = 720 heat units.
13 pounds @ 100° = 1,300 heat units.

19 pounds @ × = 2,020 heat units.
2,020 ÷ 19 = $106\frac{6}{19}$ heat units per pound.

Ergo. $106\frac{6}{19}$° is all that could be obtained in a pail.

In the body we probably never do obtain this, because of the fact that in practice we begin with our fluid at 120° and take thirty minutes to inject it, during which time the laws of radiation are not in abeyance. We can hardly take it for granted that a bodily system which enables men to work in atmospheric temperatures of over 120° will remain inert when that same temperature is introduced into the vessels. On the contrary, with any duration of heat, not sufficient to overthrow the mechanism, would it not be quicker in its regulating action upon intravascular excess.

A perfectly healthy new-born child was placed in his crib, a hot-water bag underneath him and a bottle filled with hot water each side of his neck. This was the nurses' precaution, as the room was not very warm. She knew how efficient an ice-bag was when applied to the vessels of the neck, and she supposed heat could be utilized in the same manner with good effect. At the end of about a half-hour, on uncovering the child, I was surprised to find it breathing in a most peculiar manner similar to the Cheyne-Stokes' respiration. This soon ceased after picking up the infant, but, a few days later, I saw the same sort of dyspnœa in an older child; only here it followed a long continued poulticing of the neck. The rectal temperature was 104.2°. The poultices were discontinued, and all bad symptoms had disappeared at the time of my second visit, *i. e.* about two hours after the removal of the poultices.

One reason that such occurrences are not found frequently, is that the rubber hot-bag does not readily fit into the neck, but bottles will roll, and will stay snugly against the skin over the vessels of the neck. In my case, as the bottles formed an arch, their tops being in contact, any question of antero-posterior pressure may be dismissed. As to the temperature, I should say that any degree or amount of contact heat sufficient to keep the temperature in the carotids at 110° or over will certainly produce the disturbances described in about thirty minutes.

NOTE.—Since writing the above I have transfused two liters of decinormal salt-solution with a maximum of 120° and a minimum of 116° F. Observations of the rectal temperature during the time the solution was running into the arm showed 99½°. Five minutes after the transfusion was completed the rectal temperature was unchanged. This demonstrates that no parallel can be drawn between the application of direct heat and heat as used in intravenous transfusion.

121 WEST EIGHTY-FIFTH STREET.

## ARTIFICIAL FLUORESCENCE OF LIVING HUMAN TISSUE.

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As is well known, the *x* and similar radiations produce a coloration of many salts in solution. Upon this quality is based radiography. These radiations also cause certain dry crystalline and other substances to fluoresce and phosporesce. And upon this quality is based radiofluoroscopy and the fluoroscope in common use. *X* and other radiations also cause fluorescence and phosphorescence of quite a number of salts and chemical substances when these are held in solution. This latter fact may be easily demonstrated by the following simple experiment: Dissolve in a test-tube five grains of bisulphate of quinine in, say, three drachms of water. Close, for convenience, the test-tube with a cork and place it in the ordinary fluoroscope box from which the usual fluoroscopic screen has been removed and replaced by a covering of several layers of black paper. Upon now exposing the test-tube to the *x*-ray the solution of quinine will be seen to glow with a fine opalescent, bluish-purple fluorescence. The same experiment may be made with various other sustances, each affording a characteristic fluorescence.

Calculating the amount of blood in a human body to be one-thirteenth part in weight of the entire body, we may estimate that a person weighing 130 pounds will contain ten pounds of blood. This is equivalent to ten pints, or

equivalent to one grain to eight ounces of water. We may, therefore, without doubt, conclude that the fluids of a person to whom twenty grains of quinine has been administered represent a solution of quinine equivalent to that above mentioned; and equally when such a person is exposed to the *x*-ray, that the person's tissue will be rendered fluorescent in the same manner.

Among fluorescent liquids, some of which may be used medically, Mr. W. J. Hammer, in a recent publication, enumerates the following: petroleum, quinine, Magdala red, eosine, uranine, saffronine, paviine, aesculine, amidophthalic acid, fluorescine, rhodamin, thalleen, resorcorufin, and resorcin blue.

In the treatment of cancer and other diseases it occurred to me that I possibly might avail myself of these facts to administer a drug medically, capable of fluorescence and at the same time establish its fluorescence in the tissues themselves by means of the *x*-ray. In the case of the quinine solution we should get the much desired violet radiation, and get it, too, in very close quarters with the tissue elements we desire to effect. A feeble fluorescence of a quinine atom lying against a tissue atom should equal in therapeutic result a much more powerful radiation from a fluorescing source much further distant. Acting upon this idea I have been in the habit, during the last year, of administering from five to ten grains or more of bisulphate of quinine about one hour before *x*-ray treatments. I cannot affirm it, for we have nothing thus far but clinical evidence to rely upon, but I believe that my cases thus treated by a combination of fluorescing medicines and the *x*-ray have made more improvement and more certain recoveries than patients not thus treated.

At all events, while all are so blindly groping in the treatment of cancer, the idea involved in the procedure I have ventured to term *x*-ray histofluorescence has seemed to me worthy of submitting to others for trial and investigation.

I have also employed this combined treatment of the *x*-ray and internal administration of fluorescing medicines to advantage, in cases of chronic malaria, Hodgkin's disease, lupus, tuberculosis, and tuberculous deposits, and, in short, whenever it is desirable to set up reparative tissue changes, important to accomplish *per se* or as resistance to bacterial and parasitic invasion. A solution of quinine may also be used hypodermically and locally if desired, or may be applied with a brush upon an exposed or denuded surface. Any portion of the human body thus artificially fluorescent may be photographed in a dark room by its own light, and I have already obtained several such photographs.

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**Some Points in the Diagnosis of Gout and Some Aberrant Forms of the Disease.**—H. W. Syers says that it must be admitted that there is a use for the word "gouty" in the sense that certain symptoms depend upon the gouty constitution. It must never be forgotten that the changes external to the joint in gout may be quite as marked as, or even more so than, those which are internal to the articular cavity. It is not sufficiently recognized that the gouty process may set up an overgrowth of the bony tissue surrounding and immediately adjacent to the articular surface, while the latter is almost free from morbid change. As to latent gout, the patients who are affected in this manner are those who possess a marked gouty inheritance. Most characteristic of latent gout, though often misinterpreted, are the gastrointestinal symptoms from which this class of patients so often suffer. The most usual of these symptoms is acid dyspepsia. Great aggravation of symptoms ensues from the habit of smoking. The tendency to acidity is always accompanied with flatulence. Perhaps the most inconvenient of all these digestive troubles is a tendency to diarrhœa. It comes on at any time and is imperious. Apart from this annoyance, patients are generally quite free from any ailment whatever so long as they observe ordinary caution in regard to diet. The greatest care should be given to the diet. But no matter how much care and trouble are taken, the tendency to irregular action of the bowels will not be altogether overcome. It is an effort of nature to rid the system of noxious matters. There is no fear of an acute attack so long as this tendency to looseness of the bowels exists. The quantity and quality of nitrogenous food must be carefully regulated, but it cannot be cut off entirely. Short and repeated courses of carbonated water will often be attended with very good results.—*Treatment.*

**Hysterical Affections of the Eye.**—H. Gradle declares that with the exception of absolute hysterical blindness he has met with functional derangements attributable to hysteria so often that they constitute a notable percentage of the average practice. Of hysterical blindness, there are some fifty cases reported. The objective examination alone does not permit the distinction between hysteria and simulation. This origin may be suggested by the history. The only absolute proof of hysterical origin is the possibility of restoring the sight by psychic influence. A singular phenomenon in hysterical amblyopia has been recorded under the name "tubular field of vision." When there is a constriction of the field, the absolute area of the field is the same, no matter at what distance it is measured. The patient sees the world as if looking through a tube of infinite length. Double sight with one eye, not accounted for by optic conditions, is a symptom very suggestive of hysteria. Far more frequent than visual disturbances are pains and disagreeable sensations localized in the eyes or radiating from them into the head. But it is proven only when we succeeded in dispelling the discomfort by purely mental therapeutics—for instance, electricity. The most frequent hysterical motor phenomenon is winking. Irregular action of the ciliary muscles is an occasional manifestation of hysteria. It can usually be relieved by proper glasses, but may require some mental therapeutics.—*The Chicago Medical Recorder.*

**The Etiology of Serofibrinous Pleurisy with Reference to Cytological Diagnosis.**—C. H. Bunting says that, from his study of pleurisy cases, he does not pretend to show that all idiopathic pleurisies are tuberculous. That can be shown only by a large series of animal inoculations. These cases have, however, an exudate remarkably uniform in cellular content and general characters, which may be assumed to indicate a uniformity in the nature and etiology of the process. This uniform cellular formula, the work of others seems to indicate, is the formula of tuberculous pleurisy. Clinically considered, the cases of primary pleurisy studied may be divided into two groups: The larger group includes those which may be termed insidious pleuritis. The onset is more or less acute, but there is very little fever. The exudate is practically a chronic one when aspiration is made. The smaller group includes the cases in which the attack sets in with marked fever and such severe general symptoms that the patient is forced to take to his bed at onset. The cellular formula shows no distinction between these groups of cases. Aspiration has had no effect on the fever. The red blood count was uniformly high. A single case has come to autopsy. Tubercle bacilli had not been demonstrable in the sputum, nor had there been intrapulmonary signs. At the postmortem almost complete obliteration of both pleural cavities was found and also marked tuberculous involvement of the lungs.—*Bulletin of the Johns Hopkins Hospital.*

MEDICAL RECORD:

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## THE POSSIBLE NATURE AND LIFE CYCLE OF THE YELLOW-FEVER GERM.

SOME interesting and ingenious speculations on this subject, especially interesting as showing what some can get out of facts long and well known, are given by Dr. Carlos Finlay, Chief Sanitary Officer of Cuba, in the *Revista de Medicina Tropical*, for April, 1903. Starting from the difference in the duration of the clinical course of yellow fever and malaria, the author argues that whereas the human is the permanent host for the malarial plasmode, the mosquito (*Stegomyia*) is, on the other hand, the permanent host for the microorganism of yellow fever. And that while the reproductive stage of the malarial plasmode is passed in the mosquito (*Anopheles*) the reproductive stage of the yellow-fever microorganism is passed through in man. Regarding its nature, though it may seem idle to speculate about a thing that we have never seen, nevertheless the general similarities of all its manifestations suggest strongly that it is similar to the malarial plasmode—that is, that it, too, is a protozoan parasite. Thus we know that, like the malarial plasmode, it requires two hosts to complete its cycle, and one of these hosts is a mosquito (*Stegomyia*). Now remembering the facts of the development of the malarial plasmode—that the embryos leave the salivary glands of the mosquito to enter the body of a non-immune host, there grow to adult age, multiplying by schizogonia or sporulation in the blood, and continue to do so long after they have become ripe for sexual reproduction, sporulation recurring at regular intervals, and evoking the regular recurring chills which last sometimes several months where not treated—we see that this tenacity of existence in man clearly proves that he is the permanent host for this parasite. But sexual reproduction never takes place in the human, it occurring only in the body of anopheles. Should the latter not appear on time, resting bodies (crescents) are formed, which continue indefinitely the life of the parasite in the human body (though without the production of symptoms) until such time as opportunity arises for the parasite to reach the mosquito. When it does reach that host sexual reproduction results in the production of a large number of embryos which find their way into the salivary glands ready for immigration into a new, non-immune, permanent host. Should no such host appear, however, the embryos die, either in the salivary glands of the insect, or on infertile soil where they may happen to have been deposited. Again anopheles will become infected by stinging a malarial subject at any time when the parasite (in the form of resting bodies) is in the peripheral blood, a condition which lasts several months; while we know that stegomyia can be infected from a yellow-fever patient only during the first few days of the attack, the infection of convalescents not being transmitted to a new abode to which they may remove. While we do not know the utmost length of time that the malarial embryos may live in the salivary glands of anopheles, that time must, nevertheless, be comparatively short, as for want of space and nourishment in the tiny body of the mosquito they will not be able to reach their full development. We know positively, however, that the yellow-fever germ can live in stegomyia at least two months (and, in all probability, till the death of the mosquito). How explain this difference? Being the parasite of a minute insect, one would naturally expect that the yellow-fever germ would be much more minute than the malarial germ which has at its disposal, for food supply, the human body. Recalling the difficulty with which the first investigators recognized the malarial sporozoites in the salivary glands of anopheles, the search for yellow-fever sporozoites in the human may well be a hopeless undertaking. Possibly, however, some larger resting form might be found in infected stegomyias, and its discovery may be assisted by the consideration that it is here that it is to be looked for, and not in the blood of yellow-fever patients. Finally it is to be remembered that the actual existence of ultra microscopic germs having now been demonstrated, it is possible that the yellow-fever germ falls into this category. When we remember the small amount of food that a mosquito could supply to a great number of germs, one is inclined to suppose the relation between host and parasite to be one of commensals—that is, that the parasite takes part of the food in the mosquito's alimentary canal, as do many intestinal worms in man. In this way might be explained the association of infection with bacteria, which might possibly serve as extemporaneous hosts for the infra-microscopic germs.

Finally, the author adds that, from the prophylactic standpoint, over and above the attempt to exterminate the intermediate host, the foregoing considerations emphasize the importance of the prevention of infection of that host. As regards malaria, unfortunately, such prevention is practically impossible, by reason of the length of the life period of the parasite within the human body; but it is comparatively easy to prevent the infection of healthy stegomyias by yellow-fever patients.

## PROSPECTS IN THE MEDICAL PROFESSION IN GREAT BRITAIN.

THE plaint of the doctor in this country is a bitter one. It is asserted that it is with difficulty the ordinary medical practitioner is able to make a bare living. When, however, it is considered that there are in the United States 156 schools of medicine, and that the estimate has been made that there is an average of one physician to every 600 of the population a ready explanation is given of the dearth of "loaves and fishes," for the individual members of the medical profession. It is simply a question of the supply being greater than the demand.

In Great Britain the prospects of a doctor are not especially bright, but according to an exceptionally able article which appeared in *Cornhill Magazine*, June, they would seem at least to be better than in this country. The article referred to is written anonymously, but by one who knows well whereof he speaks. The medical profession in Great Britain is described as being a career suitable to a man whose ambition is not solely to make money, and who likes a hard-working earnest life. It is a profession access to which is not over-expensive, and one in which it is always possible to secure a subsistence from the outset. But are no great prizes to be obtained in medicine as there are in the church the law, engineering, or army, or are there no well-paid sinecures into which the medical man, wearied with a life of toil and strain, may gently fall and end his days in luxury and peace? The life throughout is strenuous and full, but on the whole one to be desired by an energetic, independent man.

The following is the account given in *Cornhill Magazine* of the various ways of entering the medical profession in Great Britain: "The control of legal admission to the profession is shared between the twelve universities and the nine professional corporations of England, Scotland, and Ireland, and a 'General Medical Council' which is mainly constituted of their representatives. To obtain admission to the 'Medical Register,' or roll of the profession, which is kept by the General Medical Council—that is to say, to become a legally qualified medical practitioner—it is necessary to obtain a degree or diploma, or a combination of several implying proficiency in the three branches of medicine, surgery, and midwifery.

"Degrees in medicine and surgery can only be obtained from the universities: diplomas possessing equal legal validity are granted by the corporations, which are partly linked in each division of the kingdom, for the purpose of granting qualifications in complete form."

The time required in medical study is a minimum of five years, but the five years is but a minimum. The majority who go in for a diploma do not qualify within this time, while for a degree at an English university, it is safe to reckon upon a course of six or seven years. The cost of a medical education in Great Britain varies very considerably at the different schools. Examination fees run all the way from $75 to $310. At the best London schools the curriculum for the college diplomas costs about $800, that for the London university degree about $950. The charges in Scotland and Ireland and in the provincial schools are less.

When a man has succeeded in taking his diploma or degree in medicine in Great Britain, he may embark in general practice, enter one of the public services, or qualify himself for consulting work. Taking into consideration the difference in the country and people, general practice in Great Britain and here is much alike. The work is laborious—more laborious of course in the United States than on the other side—and ill-paid. The average income, however, is better in England than in this country.

The manner of entering practice in Great Britain differs widely from the mode pursued in this country. according to the article above mentioned, "The 'good-will' of an established practice is a valuable asset, and may be acquired either through a partnership, or purchased outright from a retiring practitioner, or from the heirs of one lately deceased. The price to be paid varies according to circumstances, but in general may be stated at from one to two years' gross income of a practice or portion of a practice purchased."

A capital sketch is given of the inducements offered to young medical men to enter the British services, but our space is too limited to more than say that they present to a young man without capital a most promising career. The Indian Medical Service is even better than the army or navy, so far as pay is concerned. It goes without saying that the highest prizes of the British medical profession, as in all civilized countries, falls to the lot of the consultants. For this class London is the most lucrative field, although Edinburgh runs it hard, while many of the large provincial cities like Manchester and Liverpool afford ample scope for the exercise of the abilities of the talented, able man, with the promise of rich pecuniary returns.

The average fees of a doctor here are larger than in Great Britain, but owing to the overstocked condition of the medical profession in the United States, the average yearly earnings of medical men are larger in the United Kingdom than in this country.

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## WHAT CONSTITUTES DEATH AND WHEN DOES IT OCCUR?

HERBERT SPENCER, it will be remembered, has defined life as a continued adjustment of internal relations to external relations, and it is doubtful whether any definition of death would be better than a rupture of that adjustment. Ordinarily, of course, every one thinks that he knows when a man is dead. But when looked at more closely the subject is not quite so simple. For example, shall we say that a patient is "dead" when respiration ceases? In the writer's experience a woman suddenly became unconscious and ceased all attempts (even the slightest) at respiration. Under artificial respiration, however, the heart beat for five hours, when the artificial respiration was given up. The autopsy showed hemorrhage into the ventricles of the brain. Was, then, the woman "living" during the five hours of artificial respiration, or not. The question, while it may have somewhat the aspects of a metaphysical juggle, is by no means entirely of that nature. For on it might depend the question of survivorship; the question in law of "which died first," involving an entirely different inheritance of property. Again shall the criterion be the cessation of the action of the heart? Brouardel cites a case witnessed by Drs. Regnard and Paul Loye, in which the heart beat for one hour in a decapitated murderer, and he himself has seen the heart-beat persist fifteen, twenty, and twenty-five minutes in decapitated dogs, and in those dying from hemorrhage. It is no easier if we turn to the brain, for its functional activities are no more necessarily co-extensive with life than are those of the heart and lungs. Unconsciousness is normally periodic in sleep, and pathologically it frequently occurs without invoving the cessation of "life." The solution of

the riddle really lies in the fact that "death" is a negative term denoting merely the cessation of "life." This throws us back upon the question of what "life" is. Without any desire to dogmatize on this much-debated question (and leaving others free to inject into it any additional factors or elements that they please), "life" appears to be merely a convenient name for a series of physicochemical processes which avowedly differ much in complexity from "inorganic" phenomena, but which have never yet been shown to differ from them in kind. On the contrary the more we learn about physical and chemical phenomena, the more "physiological" phenomena we are able to explain. The essential of "life" then consists in the *capability* of responding serially and appropriately, by continual adjustments, to changes in the environment. It is not the actual demonstration at every moment of its presence that constitutes "life." For, unless we are to introduce some metaphysical dodge-the-issue (as, for example, "capable of life yet not living, or other empty phrase"), bodies are either "alive" or "dead." What meaning, however, has the word "alive" when applied to the seeds of wheat which grew after having lain thousands of years in a mummy's coffin? Evidently this: A seed represents a collection of chemical compounds which, *under suitable conditions* (of temperature and moisture) are capable of producing, by their mutual interactions, another series of compounds, which, in their turn, are capable of producing, by their interactions, a third series of compounds; the first, second, and third series of compounds representing in their totality respectively the first, second, and third stages in the development of the plant. But, as Ryder has shown, this repetition in heredity is conditioned upon repetition in environment—that is, the seed will respond in a regular serial order only provided the physical and chemical forces act upon it in the regular serial order to which it has been adapted, through countless generations, to respond. If beyond certain rather narrow limits, the forces acting upon the seed depart from the order and extent for which it has become adapted, then something other than the accustomed "normal" development takes place; and the result is some form of "monstrosity." The eggs of fishes when extruded are flabby and collapsed, and in this condition they appear to be in physicochemical equilibrium. Placed in water, however, during the first twenty minutes they imbibe it, swell, and become round and smooth, and fertilization occurs. But after the swelling and fertilization have occurred, the contents of the egg are in a different physical and chemical condition than when first extruded, and this different physical and chemical condition it is which involves the next change of state, cleavage. Yet that the latter change is no necessary outcome of the swollen, fertilized condition is shown by the possibility of inhibiting it indefinitely by a lowering of the temperature. When two cleavage spheres are formed, the physicochemical momenta are different from those acting prior to the first cleavage, and just such as to bring about the redivision into four; and so on; each stage bringing about, under the "normal" conditions, the succeeding stage.

The possibility of the continuance of "life" then depends upon the ability of the chemical compounds which (collectively and at any given moment) we term "the body," to give rise to another similar collection which shall be able *inter se* to maintain a similar adjustment of internal relations to external relations. Conversely, when the formation of such a derivative collection is no longer possible, "death" ensues. Less abstractly put, "death" is the name we give to the inability of the organs to act together with the harmony which characterizes "life." The rupture of the vital harmony does not, however, preclude a certain amount of activity of individual organs. Thus, perfused with blood, or other suitable fluids, the heart may continue to beat, the liver to secrete, etc., though the individual is "dead." This mode of viewing the question seems to be the only philosophical one. For just as there is no possibility of assigning a moment at which, in development, the physicochemical forces pass over into the "vital," so here there is no possibility of saying when the "vital" forces pass over into the physicochemical. All we can do is to set an arbitrary limit, by way of definition, and say that the "individual" is "dead" when the harmony of interaction in the "vital tripod" ceases.

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## THE CHANCROID BACILLUS, AND EXTRA-GENITAL CHANCROID.

Dr. Lincoln Davis contributes to the *Journal of Medical Research* for June a paper giving the results of his experiments, which add to the evidence already present in favor of the specificity of the bacillus discovered by Duprey in 1889, and by him considered as the cause of chancroid. At the present time there is, the author tells us, general agreement among bacteriologists upon the following points: That bacilli about 1.5 microns long, and 0.5 micron thick, with rounded deep-staining ends and a fainter-staining central portion, occur with great constancy in the pus of chancroidal ulcerations, and less frequently in that of chancroidal buboes; these bacilli occur both singly and in masses, usually outside, but sometimes inside the pus cells, and also in very characteristic chains; in the chancroidal tissues the organism usually stains solidly and the chain arrangement is particularly constant; and it takes basic anilin stains well, but is quickly decolorized by alcohol and by Gram's method. Finally such bacilli have been observed in no other form of ulceration. In 1898, for the first time, the disease was reproduced by Lenglet by the inoculation from a pure culture upon man. Sections from the artificially produced lesion showed the arrangement of the bacillus to be that characteristic for Ducrey's bacillus, and the latter was recovered from the ulcer. In 1901 also pure cultures were obtained by Besançon, Griffon and Le Sourd, and their results have since been confirmed. In 1900 Nicolle succeeded in producing by inoculation the disease in certain monkeys (notably Semnopithecus). The author's series of cases comprised forty cases of genital ulceration clinically resembling chancroid, and in thirty-two cases he found a bacillus corresponding exactly in morphology and staining reactions to

Ducrey's bacillus. In ten of the cases also the characteristic chain arrangement was observed. In eight cases it was impossible to identify Ducrey's bacillus among the varied assortment present, but these negative cases became rarer with the improvement in technique. Ducrey's bacillus was the prevailing organism in the simple ulcers as well as the phagedenic ones, and it was present in equal numbers proportionately, seemingly showing that the virulence of the process depends largely upon the resistance of the individual. Only one case of those which yielded Ducrey's bacillus showed a mixed infection; in this case syphilis later developed. Two of the cases yielding cultures were from extra-genital lesions. This leads the author to allude to Ullman's collection from the literature of sixty-four authentic cases, twenty-two of which occurred on the fingers; in all these twenty-two cases genital lesions also existed. Nine cases were verified by the finding of the bacillus, and four by positive inoculations. One case showed multiple abscesses on the dorsum of the hand. Peterson collected 9,000 cases of soft chancre, 8,992 of which were genital or perigenital (buttocks, groin, etc.), and eight extra-genital, five of the latter being on the hands. Queyrat, of 1,500 cases seen, mentions only five on the hands, genital lesions coexisting in all five cases. In four of the five the Ducrey bacillus was found. The author then reports his own cases, eight in number; six of them being genital, two extra-genital (on the hands), both without co-existent genital lesion. The supposed etiology in one of these last cases was the running of a splinter under the nail, although the possibility of venereal contact shortly after the injury to the finger was admitted by the patient. In the other extra-genital case, a month previously the patient, a tailor, had pricked his finger with a needle; shortly afterward the finger became sore and about a week later tender swellings appeared on the back of the hand and at the elbow, all three localities having been incised previous to his examination at the Massachusetts General Hospital. All the eight cases yielded cultures of the Ducrey bacillus. The author concludes that the organism is present in the pus of the ulcers in the vast majority of cases of chancroid, and occasionally also in that of the buboes; and it may be identified by its morphology and staining reactions, together with its inability to grow on ordinary culture media. Characteristic growth of the organism in a pure state may be obtained on suitable media from genital chancroids direct; also in some cases from the buboes. The growth is most luxuriant in a medium of fresh blood and bouillon, but unmixed human blood is the best medium for obtaining cultures from sources open to contamination. Inoculation of a pure culture in certain monkeys reproduces the lesion, and the original organism can be recovered in culture. The obtaining of the same organism in pure culture from lesions of the hands clinically resembling chancroid, indicates that chancroid may be primary on an extra-genital site. Bacteriological examination of all ulcers of this type is likely to establish a greater prevalence of extra-genital chancroid than has hitherto been reported.

## The Principles of Medical Ethics in the United States.

There has been much misunderstanding concerning the attitude of the Medical Society of the State of New York on the Code of Ethics question, for the original arguments upon which the differences of opinion regarding the desirability of modifying some the provisions of the old rules have become now a part of ancient history. For this reason we take the opportunity of printing the following letter from our distinguished townsman, Dr. D. B. St. John Roosa, contributed to a recent issue of *The Lancet*, giving an account of the fundamental objects that actuated the movement. We do this the more willingly as it presents the views of the Medical Record on the subject, advocated at the time when the discussion was at its height and when party feeling resulted in the formation of radically opposed factions. Happily the recent action of the American Medical Association has reconciled all previous disagreements and has fallen in line with the advanced views regarding the relations of legally qualified practitioners to each other. Thus recent events have proved that the Medical Society of the State of New York was right in its original position, although much in advance of professional opinion at the time.

The following is the letter of Dr. Roosa:

"While making a short stay in London, in reading *The Lancet* of July 4 my attention was arrested by the views of your New York correspondent on the subject of the agitation concerning the code of ethics of our profession in the United States which has been more or less existent since 1882. Quite an opposite view from that taken by your correspondent is entertained by a large number of the profession, especially in the State of New York, on some points of his discussion. I therefore beg, as one of the active participants in this agitation, that I may be allowed briefly to present that view. The Medical Society of the State of New York, a representative and incorporated body of the regular medical profession which has been in existence for nearly 100 years, in the year 1882, having hithero adopted the code of ethics of the American Medical Association, changed this code, chiefly in the matter of freedom in consultation with all legalized practitioners. The State Society was led to this action by the fact that the State, in consequence of the expulsion of homœopathic practitioners from the regular county medical societies of the State some years before, had legalized these practitioners and organized them into a body with powers equal to those of the State Society organized early in the last century. Many in the State Society at that time advocated the abolition of all *written* codes of medical ethics. In the face of great opposition in other States and some in our own, the New York State Society in 1886 went further and abolished all reference to a code in its by-laws. But that society and all the societies represented in it, the New York Academy of Medicine being one of them, has ever since, in spite of the absence of a written code, maintained the highest standard of professional ethics. The object of this important action of the State Society was not to secure consultations with homœopathic practitioners, but to establish a *modus vivendi* with them preliminary to securing their coöperation in the passage of a law making the same requirements of all practitioners of the State as to qualifications for practice within the State. The result was accomplished. Having been placed on an equal footing with the regular profession by that profession itself, as they had been already

by the State, the Homœopathic State Society united with that of the regulars in securing one of the best laws that exists in any country regulating the licensing of practitioners of medicine. This law came into force in 1891. Now, no men or women can practise medicine in our State, no matter what degree or degrees they may have, unless they have passed a satisfactory and rigorous examination on all points in medical science. This examination is conducted by an independent board of medical examiners appointed by the Board of Regents of the University of the State. Homœopaths, regular practitioners, eclectics, even members of the Colleges of Physicians and of Surgeons in London, graduates of Paris or Berlin, physicians from other States of the Union, all must pass this State examination or not be allowed to practise in our borders. The only exception made as to uniformity in the examinations is that homœopathic and eclectic practitioners may be examined with different questions in therapeutics. In other respects the papers are of the same character. This law has been copied in other States of our country, notably by Pennsylvania, Virginia, Illinois, and others. It will be seen by this statement of facts that the Medical Society of the State of New York had a much broader aim than that of "mitigating the restrictions of the old code" in abolishing all written codes of etiquette, and that its action has been followed by the most beneficent results to the profession, results which were fully in the minds of its members when they took upon themselves the responsibility and breasted the obloquy which their action involved. That action has finally been fully vindicated by the sentiments of the various States of the Union as represented in the American Medical Association. This association has hitherto refused representation to the Medical Society of the State of New York, but at the next meeting that representation will undoubtedly be accorded and the strife over the code be ended."

## Registration of Nurses.

Registration of nurses is being strongly advocated in Great Britain, but with true British conservatism the matter is not to be pushed with any undue haste. The question will be considered in all its bearings, before any definite decision is arrived at. However, there is no doubt that the sentiment of the medical profession, of the nurses themselves, and of that portion of the general public which interests itself in the subject, is in favor of the registration of nurses. The supplement to the *Hospital*, June 27, has an article treating of the training and registration of nurses, the greater part of which is devoted to a somewhat sharp criticism of the futility of legislation in connection with registering nurses, that has up to the present obtained in the United States. The article reads as follows: "It is the fashion of those who write and speak most about the registration of nurses to point with scorn to the present state of affairs in England, and to laud the introduction of legislation for the registration of nurses in the United States. Now our American cousins lay down in their registration bills "That nothing shall in any manner whatever curtail or abridge the right and privilege of any person to pursue the vocation of a nurse, whether trained or untrained." (Carolina.) This clause clearly reveals the spirit in which such legislation is enacted in the United States. An agitation is gotten up to secure an act on a particular matter, which is duly passed but never enforced, for the simple reason that no machinery for its enforcement is set up or probably desired. There is no utility in an act of legislature unless that act is so drawn as to define clearly the purposes aimed at, and to secure the provision of funds, and an adequate and properly constituted authority to ensure its enforcement. When passed, none of the American Registration bills fulfil these essential conditions, and for all practical purposes they might just as well have no existence." These strictures are to some extent justified by the facts of the case. In but few States has an attempt even been made to guarantee the efficiency of nurses, by compelling them to offer evidence that they have had a sufficient period of training, and to undergo a test examination. In those States in which efforts have been made to adopt such a course and to introduce bills providing for the registration of nurses, unexpected opposition has been developed against their passage. The Illinois bill was vetoed by the Governor. The good effects of the Carolina bill were nullified by the clause referred to in the *Hospital* supplement, and in no State but New York has a bill been passed likely in any way to improve the status of the nurse. The New York bill, although by no means an ideal one, is an advance movement, for it provides a system of registry for regularly trained nurses who shall have passed a satisfactory examination before a board of examiners appointed by the regents of the University of New York. Nurses passed by the board will each receive a license as registered nurse and may attach R. N. to their names, as may also nurses already qualified by long service. The writer in the *Hospital* supplement also falls foul of the length of time considered sufficient for the training of a nurse in the American acts, *i.e.* two years. He does not think two years enough, but wants an ideal of at least three years training and with a minimum age of twenty-five years for the holder of a license. It is an obvious truth that nurses should be thoroughly qualified for the work that falls to their lot. The only way to reach such an end, is that they should give evidence that they have been well trained, and should pass an examination before they are permitted to act as nurses. It would be manifestly to the benefit of all concerned if every State were to pass bills for the registration of nurses embodying these principles. The status of nurse at the present time is ill-defined, and the whole question of nursing is in an unsatisfactory condition.

## Modern Life and Drug Taking.

The drug habit is said to be on the increase in all civilized countries. Without a doubt such is the case in the United States, and it has been recently reported that in Great Britain drug taking among the population at large is assuming alarming proportions. The *London Spectator*, July 4, has an article on the subject, which treats of the situation from the more obvious standpoints. The writer calls attention to the strain placed upon the individual by the obligations and distractions of modern life, producing nervous affections in profusion, and attributes to these the prevalence of drug taking and of indulgence in stimulants, and gives a tabular statement of the death rates from various causes in Great Britain, during periods of five years from 1861 to 1890, as adding to the force of his argument. He points out that there are two classes of mankind who become slaves to alcohol or opium, those at the apex and those at the base of the intellectual triangle. The first class have recourse to alcohol—which is a sedative and

not a stimulant—because the central activity of its members is exceptional, and whose thoughts are often poured out with such startling originality and profusion, that they endeavor to check them by drinking to excess. They feel impelled to put a break on the mental wheel. On the other hand, those at the base of the intellectual triangle are "a group of human beings whose lives are spent in environments well-nigh stifling to the development of happiness, with the result that they drift into a state of insensible ill-health and inevitable depression, which drives them to seek comparative oblivion in the effect of alcohol or other sedatives."

Thus at the apex of the triangle we find mental and at the base physical misery, and in these facts the remedy for intemperance must be sought. In order to cure disease it is necessary to take away the cause.

The drugs used are many and various, and not difficult to procure. A large number of them are sold over the counter of a druggist's store, as ordinary articles of commerce, among which are the bromides, and other drugs which have a similar action. Such sedative agents have an insidious effect, for while on the one hand "they diminish pain and decrease irritability, on the other hand they lessen the vigor of the organism, alter the quality of the blood for the worse, and tend to shorten life.

As in the United States, so in Great Britain, the more potent drugs, or compounds of them, can be procured with more or less ease. For although, says the writer, "their sale is restricted to registered chemists, there is frequently very little difficulty in obtaining those which are generally known as patent medicines and sold under the protection of the Government stamp. This is especially the case with preparations of morphia."

Regarding the fashion in drugs, it would seem to be—according to the article in the *Spectator*—much the same in England as here. At one time it is opium, then chloral, chloroform, sulfonal, cocaine, and so forth. This fact, however, stands out with sinister prominence, that whatever, the drug of the day may be, many of its victims are overcome by their craving for it; they sink into the drug habit, and either find a premature grave or live on, degraded human wrecks.

The means of obtaining powerful drugs is at the present time too easy. There is no doubt but that the opinion among members of the medical profession throughout the world is identical upon this point. Laws with respect to the sale of such drugs should be made far stricter than they now are, and, further, should be stringently enforced. Drunkenness is probably decreasing, but the drug habit, which is more harmful in every way, is making rapid strides.

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### A Statistical Study of Intestinal Parasites at the United States Government Hospital for the Insane.

Messrs. Philip E. Garrison, Brayton H. Ransom, and Earle E. Stevenson of the Hygienic Laboratory, U. S. Marine Hospital Service, have been recently making investigations with regard to intestinal parasites found among five hundred white male patients at the U. S. Government Hospital for the Insane. Of the soldiers examined those admitted before 1898 numbered 30 men, 4 of whom, or 10 per cent., had intestinal parasites. Three infections were with trichuris trichuira, and one with hookworms. Soldiers admitted after 1898—This class contained 40 men, 9 of whom, or 22.5 per cent., were infected with parasites, eight infections were with trichuris trichuira, and one with hookworms. Of soldiers returned from the Philippines, 59 were examined, 25 of these, or 42.46 per cent., had intestinal parasites, 15 men were infected with trichuris alone, and one with hookworms alone, 7 with hookworms and trichuris, one with hookworms and strongyloides, and one with hookworms, trichuris, and ascaris. Thus, in the 59 soldiers there were 10 infections with hookworms, 23 infections with trichuris, and one infection with strongyloides, and one infection with ascaris, or a total of 35 infections.

The report says that "the soldiers admitted after service in the Philippines—among whom was found a percentage of infection more than twice as high as in any other class—were for the most part young men, their average age being 30.5 years. The much higher rate of infection in the men from the Philippines can be accounted for by the greater prevalence of the parasites there, and by the poor sanitary conditions under which it was necessary for the men to live during active service in the islands.

The results obtained in these examinations at the Government Hospital would indicate that a large number of the United States soldiers returning from service in the Philippine Islands return with a parasitic infection of the intestines. While the percentage of infection with hookworms among these soldiers was not so high as that with whipworms, its clinical importance is much greater, because of the severe anæmic and nervous symptoms which the hookworm is capable of producing and the danger of this parasite being spread in this country, especially the danger of its being carried to parts of the country where it does not now exist.

The investigators summarize as follows: (1) The results of the investigations show that 13.2 per cent. of the patients examined were infected with intestinal parasites. The parasites found were hookworms (uncinaria Americana, or agchylostoma duodenale), whipworms (trichuris. trichuira), seaworms (oxyuris vermicularis), Cochin-China worms (strongyloides stercoralis) and eel-worms (ascaris lumbricorides). No evidence of infection with tapeworms, flukes, or coccidia was found. (2) Our results differ from those of most foreign investigators principally in the lower rate of infection, in the absence of tapeworms, and in the presence of hookworms, and of Cochin-China worms. (3) The results show that the percentage of infections tends to vary inversely with the age and with the duration of institutional life of the patients. (4) They also indicate that army life is conducive to parasitic infection of the intestine, and, moreover, that a high percentage of the United States soldiers returning from service in the Philippine Islands have intestinal parasites. (5) The presence of a moderate number of worms in the intestine seems to have no relation to the presence of undigested starch and meat in the dejecta, or to the litmus reaction of the fæces.

The researches at the Hygienic Laboratory of the Marine Hospital Service have definitely proved, what was fairly well known before, that the Philippine Islands simply swarm with parasites, and that despite the greatest care soldiers serving there will become the victims to parasitic infection of the intestines. As to any connection between parasitic infection and insanity the investigators make no reference.

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### The Modus Operandi of Saline Purgatives.

It has generally been supposed that these purgatives effect catharsis by diminishing or preventing absorption of water from the intestine—that is, by decreasing osmosis into the blood vessels through con-

centration of the solution outside of those vessels to approximately the density of the blood. Still, many years ago it was noted that hypodermic injections of magnesium sulphate in small dose (3 grains) would produce catharsis. Dr. J. B. MacCallum, working over this subject, at the University of California, finds that, in rabbits, barium chloride, and sodium citrate, fluoride, sulphate, tartrate, oxalate, and phosphate act as purgatives not only when introduced *per oram*, but when administered hypodermically. The purgative action is produced first by an increased peristalsis, and secondly by increased secretion; both of which conditions can be directly observed. Intravenous injections caused increased peristalsis within one minute, but when introduced into the intestines five times the amount is required and the effect is not manifested for ten to fifteen minutes. This seems to indicate that absorption must precede purgation, and that the effect is produced by way of the nervous system. At any rate the action is not due to the prevention of absorption of water by the gut. Moreover, Loeb has pointed out that the salts which produce purgation are precisely those which he has found to produce contact irritability, muscular twitchings, and hypersensitiveness of the nervous system, and has suggested that the increased peristalsis is due to increased irritability of the intestinal nerves and muscles. The correctness of this view seems to be shown by MacCallum's observation that the simultaneous injection of calcium salts (which, as Loeb has shown, decrease nervous irritability), in the amount of seven centigrams. MacCallum remarks that there is, then, a perfect analogy between the purgative effects and its inhibition by calcium, and the production of and suppression of muscular twitchings and nervous hypersensitiveness, and, finally, that the administration of calcium salts for diarrhœas (especially those which accompany hysteria or nervous excitability of any sort) here finds its rationale.

### The Mosquito Plant.

That mosquitos are chiefly, if not wholly, instrumental in spreading malarial fever has been definitely decided. The object then at the present time is to devise efficient means of destroying mosquitos, or at any rate of preventing them from reaching human beings so as to be able to bite them. A successful wholesale destruction of the disease, bearing insects can hardly be looked for, although in the vicinity of towns much can be effected in this direction. Measures designed to keep mosquitos out of dwellings and to protect the exposed portions of the person when abroad, will be the principal means of defence for some time to come. There has recently been an interesting correspondence in the *London Times*, regarding a plant which is said to have the property of quickly ridding a district of mosquitos. Sir George Birdwood, a recognized authority on botany, says that this plant and allied basils have been known from time immemorial throughout India, as a defence against mosquitos and a prophylactic in malarial districts. He instances some striking examples that came under his own notice of the manner in which this plant acted as extirpator of mosquitos. Capt. H. D. Larymore, writing from Northern Nigeria, Africa, gives similar testimony with regard to the plant. He says, "I can personally testify to the extraordinary effect produced on mosquitos by the pleasant odor of the fresh leaves of the 'mosquito plant' (Ocimum viride), and by placing two or three pots containing growing plants in each room and along the windward veranda, a house can be kept practically free from the insects. One of the malaria-giving specimens which I caught alive and tenderly inclosed within a leaf of the plant lost consciousness in a few seconds." If this plant really has such a magical effect upon mosquitos as is ascribed to it, it is assuredly deserving of the attention of those directly interested in the extirpation of the insects. It certainly would not be amiss if the "mosquito plant" were given a trial in certain districts of the United States.

## News of the Week.

**Increase in Smallpox and Typhoid Fever in Philadelphia.**—There were reported to the Philadelphia Board of Health for the week ended August 1 109 cases of typhoid fever, with 14 deaths, and 29 cases of smallpox, with 3 deaths. There were reported also 54 cases of diphtheria, with 3 deaths, and the same number of cases of scarlet fever, with 4 deaths. The number of deaths among infants was smaller, being 92 as compared with 123 for the preceding week. The Bureau of Health has organized a series of lectures to mothers on the summer care of infants, to be delivered in the populous districts by a corps of physicians. The total number of deaths for the week was 485, as compared with 500 for the preceding week.

**Crude Drugs from Domestic Sources.**—A number of common plants, occurring in some cases as weeds, furnish, when properly collected and cured, crude drugs such as are now imported in large part from Europe and elsewhere. The Bureau of Plant Industry of the U. S. Department of Agriculture is now engaged in the preparation of a Farmers' Bulletin pointing out the desirability of satisfying the demand for these drugs from domestic sources. The bulletin will contain descriptions and cuts of the plants, and methods of collecting, handling, and curing will be given. In order to increase the effectiveness of the bulletin it is thought necessary to bring the prospective collector in touch with buyers. Therefore circular letters are being sent to dealers in drugs asking if they wish to be included in the list of firms to whom the bureau is authorized to direct those wishing to submit samples and get prices.

**Many Applicants for Medical Practice License in Massachusetts.**—The examination of applicants for registration in medicine recently held in Massachusetts is said to have demanded the largest committee room in the State House, owing to the fact that upward of two hundred applicants applied for the examination. Five examinations for several years past have been given annually, but it is likely that this number will be increased with the increasing number of applicants.—*Boston Medical and Surgical Journal.*

**A Record of Cancer Investigations.**—In view of the constantly increasing number of treatises and journal articles relating to the subject of malignant neoplasms, the "Committee on Cancer Research," which was established in Berlin in February, 1900, has decided to establish a periodical as a central organ for all those interested in the subject. The journal, the title of which will be *Zeitschrift für Krebsforschung*, will be published from time to time as material accumulates. The editors will be Drs. D. v. Hansemann and George Meyer, the publisher Gustav Fischer of Jena. The journal will be published in pamphlet form, and 640 pages will constitute a volume, the price of which will be 20 marks.

**Bacteriologist for the Philippines.**—Dr. Charles B. Hare of Ann Arbor has accepted the appointment of government bacteriologist in the Philippines, at a salary of $1,500. He contracted the bubonic plague at one time, while working in the laboratory of the University of Michigan.

**Philadelphia Spitters.**—War has been begun against the defilers of sidewalks in Philadelphia, and many men have been arrested recently and fined for spitting on them in defiance of the law. It was announced in the papers some time ago that a similar campaign had been begun against these nuisances in New York, but no results are yet evident.

**Too Many American Congresses on Tuberculosis.**—We received some time ago a circular signed by Dr. Daniel Lewis of New York, as president, announcing that the American Congress on Tuberculosis would not be held in St. Louis in 1904, for the reason that the International Congress on Tuberculosis would be held in Paris the same year. We have also received a circular signed by Dr. E. J. Barrick of Toronto, as president, announcing that the American Congress on Tuberculosis would be held in St. Louis in 1904. We assume that the two congresses are antagonistic, since we are warned in one of the circulars that no communication is genuine without the signature of the secretary of that individual congress, yet we find that Dr. Barrick of Toronto is the president of one congress and the third vice-president of the other, and that Dr. J. G. Adami of Montreal is an honorary president of one and a member of the committee on pathology and bacteriology in the other. That is almost as confusing as the overlapping of membership in the two New York County medical organizations.

**Dr. Henry W. Berg.**—Through one of the inexplicable accidents which happen in even the best regulated printing establishments, the name of the author of the article on "Chronic Postdiphtheritic Laryngeal Stenosis as a Cause of Persistent Intubation of the Larynx," published in the MEDICAL RECORD of August 1, was printed Henry W. E. Berg. The initial "E" inserted itself without reason and to the regret of author and editors.

**The Chicago Board of Health.**—The Civil Service Commission of Chicago recently made an investigation of the Health Department of that city, and, as a result of its findings, brought specific charges of laxity in the methods of the department. Among other things, the report of the commission found that: "Complaints made to the department are not, at the time they are received, entered in any permanent record, but they are distributed in the boxes of the various inspectors, who then sort them over and reject such as they see fit to reject, making investigations of the remainder. These latter are entered in a permanent record book. When a complaint is turned over to an inspector there is no system by which the work of the inspector is supervised. It is wholly within the discretion of the inspector whether the nuisance complained of is abated within six days or six months, or whether it is abated at all. The 'stay book' shows that after prosecutions have been begun action is stayed at the discretion of almost any one connected with the department, not of one responsible officer, and there is no supervision of a case after it is stayed, so that in most cases when a stay is ordered it is an equivalent to a nullification of the complaint. Not only have a number of people in the department the authority to grant stays, but these officials act in most instances at the suggestion of persons wholly outside of and in no way connected with the department." The Commission holds the Health Commissioner, Dr. Reynolds, directly responsible for what it calls this "mischievous policy of delay and concession," and it adds that the health inspectors have become careless in their work and discouraged, since there is no incentive to good work, action being so seldom taken on their reports. Dr. Reynolds has denied most of the accusations against the department, and explained others by saying that the necessary improvements would in many cases be so costly that the carrying out of the inspectors' suggestions would amount practically to confiscation of the property. The Mayor has sustained the Health Commissioner in so far as to retain him in office, but has warned him that the work of his department must be bettered.

**The Health of Pittsburg.**—It is feared that typhoid fever will become epidemic in Pittsburg unless the condition of the water supply soon shows an improvement over what prevails at present. The number of new cases of the disease amounts to from sixteen to twenty a day.

**The Vanderbilt Memorial Hospital in Newport.**—The hospital erected at Newport, R. I., by Mrs. Cornelius Vanderbilt, in memory of her late husband, was turned over to the trustees of the institution on August 1, the transfer being made by Mrs. Vanderbilt by letter. In the letter Mrs. Vanderbilt also announced that she would endow the building. The building is of Indiana limestone, three stories high. The ground floor is devoted entirely to the out-patient department. On the second floor are the committee rooms and several wards. The third floor contains several wards for children.

**Plague in San Francisco.**—It was believed that a plague had been eradicated from Chinatown in San Francisco, only two cases having been discovered there during the first six months of this year. In July, however, a slight recrudescence occurred, four cases being reported during the month. The health authorities of the city are employing the same rigorous measures to stamp out the disease that were inaugurated in compliance with the determination of the convention of health experts in Washington last November. A regular inspection is made of the quarters occupied by the Chinese, many of the rooms are disinfected, the sewers are being flushed, and a bounty is paid for dead rats.

**Obituary Notes.**—Dr. ALBERT JEREMIAH SCHUREMAN of Newark, N. J., died on July 28 in the home of his brother, Dr. Charles A. Schureman, in that city. He was seventy-five years of age. His death was due to a general physical breakdown. He was a graduate of the Medical Department of the New York University in the class of 1872. He was well known not only as a physician but as a writer and an artist.

Dr. FRANCIS F. MILES, a well-known practitioner, died in Baltimore on July 30, at the age of seventy-six years. He was born near Charleston, S. C., and was graduated from the Medical College of the State of South Carolina in 1849. He served through the Civil War in the Confederate Army. He had practised in Baltimore since 1867.

Dr. GOTTHOLD PAPE died at his home in Hoboken on August 2, at the age of sixty-one years. He was born in Germany and obtained the degree of Ph.D. from the University of Göttingen. He came to this country just before the breaking out of the Civil War and served in the Union Army in the Thirteenth New York Independent Battery of Light Artillery. He was graduated from the Medical Department of the New York University in 1880 and settled in Hoboken, where he practised medicine up to the time of his death.

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

GENERAL MEDICAL COUNCIL—OPEN-AIR TREATMENT—DECIDUOMA MALIGNUM—HEALTH CONGRESS—ORTHOPEDIC HOSPITALS—"JOURNAL OF THE ROYAL ARMY MEDICAL CORPS"—TWO INQUESTS.

LONDON, July 17, 1903.

THE special session of the General Medical Council met on Wednesday. The chief object of the meeting was to consider the impulse created by the conduct of the two royal colleges. You will remember that these have repudiated for a long time the control of the council over the teaching institutions they may recognize. The dispute has been discussed at intervals for the last nine or ten years, but last year it seemed more likely to come to a head. The recalcitrant colleges stood on what they held to be their legal rights under their charters. Most people think if it comes to a fight between royal charters and acts of Parliament the latter must prevail. That would be good for medical education which, with all its faults, the council has done much to improve. The report of the committee which exposed the valuelessness of the first year's education at schools for boys accepted by the colleges was, after discussion, adopted.

Dr. Moore told the council that the College of Physicians considered the council had no power whatever in regard to the regulations, but viewed the General Medical Council as a criticising body—as such they considered its criticisms with the utmost deference and respect.

That being the position of one college, the other disputes its action and looks upon the interference of the council as *ultra vires*. You see, the matter has made no progress. Sir Victor Horsley who is not afraid to follow his opinions by action, proposes to represent to the Privy Council that these preliminary examinations are inadequate. The matter is being discussed as I write.

The open-air treatment is making renewed progress with the public. On Wednesday Lord Roseberry opened the new pavilions of the Victoria Consumption Hospital, near Edinburgh, which has been at work for some seven years. The extensions are to cost about £7,000, the original property having been purchased for £17,000. Dr. Philip said the expenditure on the institution would be £3,000 in excess of income. All the beds but eight are free. The eight are for those who can afford to pay £1 1s. per week, which sum does not cover the cost. In fact, the cost per bed is from £100 to £120 per annum. Dr. Clouston, President of the Edinburgh Royal College of Physicians, in his speech, dwelt on the educative value of the hospital.

Lord Roseberry said it must have been a shock to many to be told that consumptive patients were to be exposed for their cure to all the worst that the climate of Scotland can do, and yet it is an undoubted fact that that exposure has been of the greatest benefit to many cases. Some slept in the open air all last winter, and sometimes snow had to be taken from under their beds in the morning. With the facts before us, said his lordship, "we may lift up our hearts with thankfulness to the Almighty, who has let us into the secret of this great healing prescription, and to those men who have given their lives and their time to the relief of this form of disease." He concluded with an eloquent appeal for more money, and donations were announced amounting to £1,489.

Deciduoma malignum has occupied the thoughts of gynecologists for several weeks. Dr. Teacher brought the subject before the Obstetrical Society, which gave two evenings to it last month. In 1896 a committee of that society reported that there was nothing in the specimens submitted to justify the name or the supposition that they were of decidual origin. In 1902 Dr. C. Lockyer read a paper which impugned this conclusion, and induced some to accept the view of Marchand that these tumors originate in the corionic epithelium.

Dr. Teacher's elaborate paper presented much more evidence to this effect, and those best able to judge seem to have become convinced. As an eminent professor writes to me "it is now almost unanimously agreed that there is a special form of malignant growth, taking its origin from the fetal elements of the decidua, and giving rise to metastatic deposits."

The question of the nomenclature of these growths was raised at the society and several names proposed, but deciduoma malignum has been so long and so generally applied that it was felt to be hopeless to displace it as a clinical term, although pathologically incorrect.

A resolution that a minister of public health should be appointed and the medical department of the Local Government Board enlarged and made into a health ministry occasioned a rather lively debate in the Sanitary Congress last week. On the one side it was said the minister should not be a politician but should attend the cabinet when health questions were discussed. On the other it was said a minister would only hamper the medical officers of health, who most of all needed freedom—freedom from the influence of property owners on local councils. A cabinet minister would be chosen as a party man—not for special knowledge. From this point the discussion degenerated into a talk about the qualifications of politicians and cabinet ministers—a talk which could have no influence on the powers that be.

A paper was read on the work of the West Riding Rivers Board which held out the prospect of purification as most hopeful. When the sewage of the boroughs has been removed the rivers will again be fit for fish.

Another paper by a medical man contended that overfeeding rather than over-crowding is the chief cause of fevers. He is reported to have declared that twice a day is often enough to feed an infant, and adults from twenty-one to fifty years of age should be content with one meal a day. After seventy-five they should know themselves what was good. I wonder if he has brought up babies of his own.

Prof. Clifford Allbutt's address was one of the most interesting events in the congress. He entered a tilt against the theory of the survival of the fittest. If the most vigorous in body were really the salt of society the elimination of the unfit by disease would be too rough a method of compassing the survival of the fittest. When philanthropists raised the cry of degeneration, physicians were not to submit to be told that medicine must bear part of the blame. To proclaim that preventive medicine could improve all bad stocks up to the average and the good ones infinitely above, was more than he dared to suggest; but he called upon the congress to declare that public health would do it better than public disease, and to urge the Darwinian to study his own origin more closely than he had yet done, and so learn that even unfitness is not uncaused, so that it would be more to the purpose to search for its various causes than to look to blind readjustments after degenerative influences had done their work.

Major Ronald Ross, C.B., gave a lecture in which he related the success of a French company which had followed his advice as to the extermination of mosquitos, with the result that malaria began to decrease within six months. The suppression of the insects has been nearly complete.

The Institute of Preventive Medicine is henceforth to be named after Lord Lister. The name of Jenner, as I reported to you, had to be given up on account of its prior use by another body.

The scheme to amalgamate the Royal and the National Orthopædic Hospitals has been approved by the governing bodies.

The *Journal of the Royal Army Medical Corps* has made its appearance under the editorship of Major R.H. Firth. The first number contains many things of interest to the profession generally, and, of course, is full of that especially interesting to the corps.

Two inquests on medical men in one week are rare. Drs. S. A. Bernays, aged fifty years, died at St. Thomas's hospital while under an anæsthetic. At the post-mortem he was found to have been suffering from chronic tuberculosis and death was supposed to be due to cardiac failure.

The other inquest was on Dr. A. E. Wainwright, a young man of twenty-five years who was acting as a *locum tenens*. He was seized with abdominal pains and rapidly succumbed. The inquest was adjourned for an analysis, but that shed no light on the case, and at the adjournment an open verdict was returned.

## THE PROFESSIONAL NURSE.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: The so-called "Professional Nurses" have been making strong endeavors, in different States, with some success, for direct professional registration in the laws of the land and State registration on the same or similar lines to those accorded to the medical profession. That this is a justifiable move is beyond question. It should guarantee to the public a means of distinguishing between the trustworthy and competent person and the contrary by signifying the graduated from the non-graduated nurse. The guarantee, however, is, by no means, infallible. Some "training schools for nurses" are still too much "trade schools," even as there are still too many such among our medical schools. The question at issue is, how much fundamental knowledge should a professional trained nurse have. By fundamental is meant scientific knowledge, fundamental acquaintance with the "theories" of the work and the "reason why" of his or her

acts. That a man or woman can be trained or drilled to be reliable in work, and yet know little or nothing of the science of it, even as a soldier can be drilled in his duties and still know nothing of the science of war is not only self-evident, but practically even more than the present training schools have generally attained to. A writer on this subject has recently claimed that the trained nurse should be competent to make every clinical test of urine, blood, or diseased product. That can be done even as an engineer can be taught to run a locomotive and yet know nothing of the science of mechanics. Another question is, who should decide on the standard of education of the professional nurses—the nurse organizations, the faculties or managers of the training schools, or the medical profession? It would seem that that question should be entirely in the hands of the medical profession. If the physicians and surgeons do not know what is required of the nurse, who does? As to the "faculties" of training schools, their opinions are not worth much where those schools are sort of independent institutions, having hospital connections, but not a part of great public hospitals. The training schools are more or less like the medical. Too many of them are of a semi-private nature, for the "good" of those directly interested, the public and the student-nurses being consistently and persistently exploited for that "good" and little else.

The Organization of Professional Nurses, like many a medical society, have also the same weakness. They are liable to get under the control of ambitious persons who desire to shine before the public. What is worse, these "leaders" are saturated with a "will-o'-the-wisp" idealism which is pure moonshine, shadowed by intellectual cloudiness.

To return to that fundamental question—does the professional nurse require a more or less profound education in the scientific bases of medicine in connection with an exact training in practical routine? If so, how much, and where is the nurse to get that scientific instruction? Certainly not in any of the existing training schools as now organized. The "probation course" of two, three, or six months, or even a year, generally demanded is of little or no use except to obtain a very general idea of the student's fitness, physical more than mental. It is largely comparable to the "one year's reading with some practitioner," now traditional, that formerly prevailed in our medical education. If the medical profession and public service require scientifically educated nurses, then that education must and should be given in institutions entirely free from any hospital connections, and should be free. In other words, the respective States should establish a State normal or preparatory school for nurses where these fundamentals and all laboratory drilling should be taught. The term should be of two years' duration, with three months' vacation between the first and second year. Graduated students should then be apportioned out to the respective public hospitals and institutions for another term of two years. Finally, on receiving a certificate of competency from the hospital, the student-nurses should be examined by a State board, registered, and given their diploma of competency. While private, or semi-public (endowed) hospitals might have the privilege of employing uncertified attendants they should be strictly forbidden issuing any certificates indicating any kind of proficiency to any such employees, and if requiring "professional" nurses should be obliged to apply to the State Board of Registration for them. Complaints as to unfitness or improper conduct of registered nurses should be made to the State Board of Registration, which should have the power to place the nurse on "probation," or to withdraw a certificate altogether in warranted cases. MEDICUS.

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**A Pathognomonic Sign of True Chronic Maxillary Sinusitis.**—G. Mahu calls attention to the fact that in true chronic maxillary sinusitis, the mucosa rapidly increases in thickness even during the early stages, so that it becomes spongy and myxomatous in appearance. As a result, the capacity of the sinus is considerably reduced. This is determined in the following way: The patient sits erect, and after the pus is washed out of the antrum a syringeful of water is introduced into the cavity, care being taken to drive the piston home. Next the water is sucked out of the cavity and the quantity is measured. It represents the capacity of the antrum up to the level of the ostium. Mahu concludes that when the quantity of fluid withdrawn in this manner is less than one and a half cubic centimeters, the case is one of true chronic sinusitis.—*Journal of Laryngology.*

# Progress of Medical Science.

*The Boston Medical and Surgical Journal, July* 30, 1903.

**Efforts to Abate the Mosquito Nuisance in Brookline.**—H. Lincoln Chase describes his efforts in this direction. All pools, ponds, ditches, and other breeding places, including catch-basins, were located upon the town map. The approximate areas were determined, and the number of catch-basins ascertained. Breeding places of culex and anopheles were determined in order to learn the proper intervals for treatment, whether every three or four weeks. The public dumps and other places where accidental receptacles of water were to be found were located. Light fuel oil was used. In ponds and pools one ounce of light fuel oil was used to fifteen square feet. If there was luxuriant vegetation in them, an excess of one-quarter of the original amount was added. If there was a clear water surface, one-sixth more than usual was added. After spreading the oil, a puddler violently agitated the water with a hoe. The shallow pools, if not large, were filled in. Many small pools were drained or filled. The results of this work were most favorable.

**The Need of a Supplementary Lantern Test for the Proper Examination of Color Perception.**—Charles H. Williams declares that a very extended use of the Holmgren test in the hands of many examiners is now showing that some cases are able to pass this test correctly and without hesitation, who, when examined with the lights from a distant signal, may be unable to distinguish the red or green with any reasonable degree of certainty, and, in fact, often confuse these colors. This occurs most frequently in cases of acquired defect in color-vision caused by excessive use of tobacco or alcohol or by a combination of the two. In such cases there is often a small defect in the central part of the retina, so small that the retinal image of the skein of worsted is large enough to be formed partly within the affected area and partly beyond it, and if at any part it falls on healthy retina its color can be at once recognized. If the object is small, like a distant signal light, the retinal image is formed wholly within the affected area, and the color is not recognized. In addition to the test with different colored lights, it is important to make the test with a light whose intensity can be varied by fixed amounts; for in some cases the defect depends upon the intensity of the light. The writer, for this purpose, has made an electric lamp with a specially constructed rheostat in the base, through which the current for the two incandescent lamps can be passed. The resistance can be varied from nothing to 150 ohms. This lantern test is now used on certain roads in addition to the Holmgren worsted test. With these two tests carefully made it is reasonably certain that no dangerous case of defective color-sense will be passed. When the defect is acquired, improvement may come from removing the cause. But in the congenital cases no treatment will be of much use.

*Journal of the American Medical Association, Aug.* 1, 1903.

**Acute Epiphysitis Causing a Condition Subsequently Simulating Congenital Hip Misplacement.**—John P. Lord reports an illustrative case occurring in a child of two years. The Lorenz-Hoffa cutting operation was undertaken, and this showed the original trouble to have been a healed funnel-shaped depression over the capsular ligament, marking the site of the former sinus through which the destroyed epiphysis had been discharged as pus and débris. The capsule had been converted into a dense ligamentous structure. The opinions of several orthopedic surgeons are cited to show that there is small prospect of success from treatment in many of these cases, and that active surgical intervention is of doubtful utility.

**Tuberculosis of the Mammary Gland.**—A. H. Levings shows that tuberculosis of the mammary gland is not an infrequent condition, but one which goes unrecognized, a statement which is confirmed by the fact that up to 1898 only fifty-seven well-authenticated cases had been reported, and yet he has himself seen seven cases during the past two years. He summarizes his paper as follows: The process may remain for months or years in the form of hard, irregular, and fairly circumscribed nodules. Liquefaction and pus formation are secondary and later processes. The disease attacks the breast most commonly during menstrual life, and occurs with the greatest frequency in single women. The condition is more often primary than has been generally supposed, and both glands are often implicated nearly simultaneously. Palliative treatment may be practised when the process is circumscribed, but when diffuse, radical measures should be recommended.

**The Treatment of Uncinariasis.**—Thomas A. Claytor says that as the primary infecting agents, the eggs, are found in the evacuations, and it is well known that the embryos can not live without air, it is advisable to adopt Sandwith's suggestion regarding prophylaxis, *i. e.* the use of trench latrines outside of infected villages. The infection of human beings takes place chiefly through infected water or food, or through contaminated hands carrying the parasite to the mouth. Thymol is the remedy *par excellence* in this disease. It is best given in two doses of thirty grains each, at 8 and 10 A.M., and this should be followed two hours after the second dose by magnesia or castor oil. Thymol being a poison, its action should be carefully watched. Ordinarily two or three doses are sufficient to effect a cure, but occasionally an obstinate case is encountered. The author closes his paper with an account of an investigation made upon dogs to determine the best method of administering the thymol. An alcohol solution gave rise in dogs to aspiration pneumonia, while the dry powder caused no serious results. He thinks it probably safe to give 2 to 4 gms. of thymol to a human being, followed by one or two tablespoonfuls of brandy, and later by a purge. The alcoholic solution causes a more rapid expulsion of the parasites. The stools should be examined weekly for eggs, and the thymol treatment continued so long as they are present.

*Medical News, August* 1, 1903.

**Pustulation and Its Accompanying Secondary Fever a Complication and Not an Essential Symptom of Smallpox.**—Jennie C. Drennan states that, unfortunately, instead of vesiculation being the final cutaneous lesion in smallpox there is a subsequent one, pustulation, which the writer believes is the result of a secondary infection by pus organisms, which are ever present in the skin. On the cessation of the excretion of the toxins of the smallpox germs by the death of the latter, these pyogenic organisms will find the vesicular fluid a suitable medium in which to flourish. This vesicular serum soon becomes turbid from the rapid development of these pus germs and the vesicle becomes a pustule. Secondary systemic irritation results with a rise of temperature and a second inflammatory reaction around the foci of infection. In the treatment of smallpox, injection of a toxic serum obtained from a cow suffering from the initial symptoms of cowpox should be given in the stage of invasion. Cleanliness and disinfection of the skin, and the internal administration of calcium sulphide to prevent pustulation, are indicated, also opening of all vesicles. The prevention of pustulation will abolish pitting. Symptoms should be treated as they arise.

*New York Medical Journal, August* 1, 1903.

**Dhobie Itch.**—Charles F. Mason distinguishes three varieties, two mycotic and one bacterial. The former are easily recognized by the festooned rings with raised margins and by the microscopical findings. The latter is characterized by an eruption of vesicles, usually about the axillæ or groins, unattended by constitutional disturbance. This form demands thorough cleanliness of the parts and of the underclothes, sponging twice daily with 1 to 1,000 bichloride solution, and dusting with a powder composed of equal parts of zinc oxide, boric acid and starch. In the mycotic varieties the edges of the rings should be painted with tincture of iodine, or an alcoholic solution of corrosive sublimate, or a 10 per cent. salicylic-acid ointment should be applied. The word "dhobie" in India means laundryman, and indicates the popular belief that this is a filth disease.

**An Improvised Method of Operating for Varicocele.**—Lucien Lofton takes up the cudgels in defence of the old operation of ligation, and describes his method of doing this operation. The spermatic cord and artery are carefully separated from the mass of veins, and the latter is then transfixed with a large curved surgeon's needle, armed with catgut. The essential point of the operation is to make the needle describe a half circuit of the interior lining of the scrotum, and come out of the original opening. By this procedure the veins are immediately anchored to the inner side of the scrotal wall, and the patient is thereby enabled to continue his business without a day's interruption. The tying of the ligature should be done gradually, so that if the cord and artery are by chance included in the ligature the severe pain produced will call attention to this fact at a time when it can be remedied. Recovery takes place in about four weeks, and complete atrophy in about six months.

**The Death Rate of Pneumonia.**—Thomas J. Mays gives an interesting study by the graphic method of the vital statistics regarding pneumonia, heart disease, and phthisis. For the most part these figures cover the period from 1876 to 1902, and are taken from the States of New Jersey and Rhode Island, the District of Columbia, and from eleven prominent cities. The tracing from Chicago is peculiar in that it shows an increase in the death rate from pneumonia of 350 per cent., and from heart disease of 450 per cent. A composite chart, built on the combined average death rate for all the places mentioned, shows the total increase of pneumonia to be not quite 10 per cent., and of heart disease, 85.85 per cent. The author concludes that there is no good reason for alarm concerning the ravages of pneumonia, because its highest death rate occurred in 1896, and since then has declined 21.17 per cent. In all of the places considered there has been a reduction in the phthisis rate from the early eighties to 1898, and since then a general net increase. The natural average decrease in the death rate of phthisis is shown to be between 2 and 3 per cent. The figures also show that deaths from heart disease are increasing.

*American Medicine, August* 1, 1903.

**Bradycardia as a Symptom.**—Roland G. Curtin states that bradycardia has been observed as occurring during the course of many acute and chronic diseases. A symptom which is so common, and which occurs in such a multitude of widely different diseases, can be of but small diagnostic value. As an aid in prognosis it would appear that, given a constitution not undermined by disease, and a gradual subsidence of the primary cause of the slow pulse, bradycardia need not necessarily be regarded as a particularly grave symptom. On the other hand, if it is associated with or caused by a depressing chronic condition, especially of the cardiovascular system, it becomes a most serious symptom. When accompanied by anginose symptoms it is frequently followed by sudden death.

**Appendicitis as an Incident in Development.**—Woods Hutchinson believes that a survey of the conditions of the cæcoappendix in different forms of life points irresistibly to the conclusion that in our own ancestry, beginning as a large, voluminous, and actively functional pouch, the concentration of nutritive qualities of the food-supply, the dropping of the purely herbivorous or granivorous diet in the rodents, the acquisition of a diet of chiefly fruit, nuts, insects, small birds and their eggs in the lemur and in the monkey, and finally of a diet almost purely of nuts, fruit, and small birds, in the anthropoid apes, have resulted in its constant and steady diminution in size and importance, and unfortunately for us, in the last two steps of the process in a markedly disproportionate degree of recession in the distal two-thirds of the pouch. The process goes on in the direction of eliminating and completely obliterating a superfluous and no longer useful part of our alimentary tract. Any remnant of tissue, no matter how insignificant, which no longer serves a useful purpose in the struggle for existence, is sooner or later doomed to complete extinction.

*The Lancet, July* 25, 1903.

**Susceptibility of Criminals to Atmospheric Changes.**—W. Norwood East, as a result of an inquiry extending over three years, and comprising observations on 700 prisoners, concludes that, with the possible exception of temperature variations, the criminal is unaffected by atmospheric changes. The fact is emphasized that the normal individual is often materially influenced by such changes, and that the results of this investigation afford additional confirmation of the author's former contention that the criminal is insensible to external impressions.

**Influence of Locality and Surroundings on Recurrence of Malignant Disease after Operation.**—D'Arcy Power reports seven cases occurring in his own experience, and then suggests that certain modes of life, certain kinds of diet, or, in short, conditions leading to a lowering of the general standard of health, are especially favorable to the development of malignant disease. He considers it extremely probable that the recurrences in malignant diseases are not really so capricious and arbitrary as they now appear to be, and solicits the coöperation of those who are favorably situated for such observations in solving this problem.

**Hepatectomy for the Removal of Riedel's Lobe.**—Charles Barrett Lockwood describes the various forms which this rather rare abnormality of the liver may assume, and then reports a case in which he was compelled to resort to excision of this lobe in order to relieve severe and persistent pain. At first the young woman was supposed to be suffering from a displaced and movable kidney; subsequently the symptoms pointed so strongly to appendicitis that the appendix was removed, but was found to be normal. After keeping the patient under observation for a number of months it was considered justifiable to excise the tumor, and this was done on

February 28, 1903, with complete and permanent relief of the pain. The excision was done in such a way as to leave two flaps of liver tissue, which were sutured together with twisted silk. Hemorrhage was easily controlled by an encircling suture buried in the liver substance. It is interesting to note that the gall-bladder was perfectly healthy.

**Enzymes in Tumors.**—Arthur Harden and Allan Macfadyn present a preliminary communication on a conjoint research made by the bacteriological and chemical departments of the Jenner Institute on the intracellular physiology of the epithelial cells in health and disease. They made use of fresh cell juices, obtained by cold grinding methods, from normal as well as from diseased epithelial tissues, and studied the nature of the enzymes present as far as possible by quantitative tests. The control experiments were made upon the normal tracheal epithelium of the ox, and resulted in revealing the presence of an invertase, an amylase, a maltase, and a proteolytic enzyme. So far, lactase and rennin have not been detected. The diseased epithelial tissues were chiefly cancerous tumors of the human breast. The enzymes discovered in these tissues are: an invertase, a maltase, an amylase, proteolytic enzymes, acting in acid and alkaline solutions respectively, a catalase and an oxidase, together with traces of a lipase and possibly of a peroxidase.

*British Medical Journal, July 25, 1903.*

**Treatment of Atrophic Retinæ with Retinal Extract.**—Robert W. Doyne says that, so far as his observations go, improvement by this method of treatment can be expected only in cases of retinal atrophy in contradistinction to nerve atrophy. The cases in which he has had marked improvement have been retinitis pigmentosa, retinal degeneration in high myopia, retinal degeneration in choroiditis, and tobacco amblyopia. Cases of asthenopia from functional exhaustion should be benefited.

**Two Cases of Fracture of the Base of the Skull, in Which Recovery Followed Venesection.**—Stephen Paget reports two cases of this nature. In one case, that of a young man, there was profound unconsciousness thirty-six hours after fracture of the base of the skull, with a temperature rising rapidly to 104°, and the intensest degree of Cheyne-Stokes breathing. He was dying. But as soon as he was bled to 20 oz. plus 12 oz., he began to get better and made a complete recovery. If venesection in such cases could restore consciousness more or less for a few hours only it would still be a valuable method, but these cases show that it may bring about recovery.

**The Causes of Acute Abdominal Pain in the Healthy, Exclusive of Traumatism.**—J. Lynn Thomas states that umbilical or circum-umbilical pain is a common sign of grave abdominal lesions in any locality. He attaches little significance to the absence of hepatic dulness. Of more importance is the degree and continuity of rigidity of the abdominal muscles under prolonged examination with the patient's thoughts diverted. The frequency and condition of the pulse are of considerable value in estimating the gravity of the patient's illness. Temperature is a factor of questionable value in forming an opinion as to the necessity of surgical interference. Vomiting is one of the least significant symptoms, from a purely surgical standpoint. The writer concludes by reviewing cases of gallstone, thrombosis of the superior mesenteric vessels, extrauterine pregnancy, and gastric ulcer.

**Influenzal Orchitis.**—R. Clement Lucas reports three cases. The first case was that of a married man who had a severe inflammation, attacking each testicle in succession, following upon an attack of influenza. The other two cases were in boys, one aged eight, and the other three and a half years. These three cases occurred within a few weeks during the severe autumn epidemic, and suggested the idea that perhaps in certain epidemics the tendency to testicular complications may be more common than in others. The acute inflammation which occurred in the younger boy's case closely resembled the acute inflammation, with redness and oedema of the scrotum noticed in the case of the man. It was an acute inflammation of both the body and epididymis of the left testis, extending through to the scrotum, causing oedema and redness of the superficial tissues. From these cases it is concluded that inflammations of the testes may occur as the result of influenza following close upon the fever; and that after one testis has recovered the second may be attacked. When there is an epidemic of influenza in the neighborhood, sporadic cases of orchitis probably occur as the result of the influenza organism, though it may be difficult to trace the relation of the orchitis to the preceding infection.

*Münchener medicinische Wochenschrift, July 14, 1903.*

**Koplik's Spots in the Early Diagnosis of Measles.**—Aronheim, during a recent epidemic, saw at least 150 cases before the eruption had appeared. Careful examination was made for the presence of Koplik's spots, but in only nine were they found. From this it would appear that they do not occur in anything like the proportion of cases as has been supposed, and that their value in the early diagnosis of measles has been very much over-estimated.

**Protection of the Healthy Skin During the Application of the Röntgen Rays.**—G. Holzknecht and R. Grünfeld have devised a protective covering for the skin for use during the application of the Röntgen rays. It consists of a sheet of tin which is covered on both sides with a thin layer of hard rubber. The plate thus made may be of any size and shape desired and perforated by as many apertures as wished. It is very flexible and may be easily adapted to the various curvatures, etc., of the body. It is light and easy to handle, and may be sterilized, washed, or heated without damage. Its extended use shows that it affords a complete protection to the healthy skin from the burning and other annoyances which frequently attend the use of the application of the Röntgen rays.

**Aortic Regurgitation Following Traumatism.**—Th. Struppler reports a case in which an aortic regurgitation first developed four months after a severe traumatism (crushing) of the breast. It seems certain that the cardiac lesion was due to the traumatism, since previous examination had shown none to be present, and at no time had the patient suffered with any condition which might act as an etiological factor in the development of the insufficiency. The especial peculiarity of the case consists in the low tone and variable intensity of the murmur. As a rule, traumatic lesions of the aortic valves give rise to loud and constant murmurs. This, however, is not always the case, since in this patient the murmur on different days was very variable, on some being very loud, and on others scarcely appreciable, so that if auscultation were practised on the latter the heart would, in all probability, have been pronounced sound.

*Deutsche medicinische Wochenschrift, July 9, 1903.*

**Active Immunization against Pest by Means of Non-virulent Cultures.**—W. Kolle and R. Otto say that experimentally in animals much more complete and permanent immunity against pest is obtained by the inoculation of non-virulent cultures of pest bacilli than by the products of virulent cultures which have hitherto been used for this purpose. The inoculation of rats and guinea-pigs, by the authors, with such non-virulent cultures produced a complete immunity in 80 per cent. of the former and 60 per cent. of the latter animals. Furthermore this immunity was still present three months after the inoculations. For this purpose only one inoculation was practised in each animal. As will be seen, these results much excel those obtained by Haffkine and others from inoculation with the products of virulent cultures.

**Antitoxin Treatment of Diphtheria.**—W. Pulawski has treated many hundreds of cases with antitoxin with a marked reduction in mortality over all other forms of treatment. All of the fatal cases had laryngeal complications, and many also showed affections of the trachea, bronchi, or lungs. Laryngeal cases were treated successfully with great regularity, unless they first came under treatment at too late a period of the disease. Purely tonsillar cases usually run an abortive course if the inoculations are given early in the course of the disease. In none of the cases were any of the so-called antitoxin rashes observed, nor did any complications of a serous nature develop. There were no local infections at the site of the inoculations. As a rule, the most prompt results were obtained in those cases in which, in addition to the antitoxin, the ordinary medical and surgical measures, when indicated, were also used. The mortality for the laryngeal cases was 12.7 per cent.

*Berliner klinische Wochenschrift, July 13, 1903.*

**Treatment of Hay-fever with Dunbar's Antitoxin.**—Robert Immerwahr has been a sufferer with hay-fever for twenty years, and has tried the usual methods of treatment with ill success. He has recently used Dunbar's antitoxin, but did not obtain any appreciable relief therefrom. During a portion of the time that he used it the symptoms were somewhat improved, but this was during rainy and cloudy weather and without any treatment the symptoms are lessened under such conditions. It is probable that if he had remained indoors during the treatment the results would have been better, but he was forced to be continually out of doors. The direct application of the antitoxin is difficult of application and for many reasons unsatisfactory, and it is to be hoped that its subcutaneous use will soon be perfected.

**Bactericidal Action of the Radium Rays.**—R. Pfeiffer and E. Friedberger show that these rays possess but little, if any, bactericidal power, unless the radium is brought into close proximity (not over 1 cm.) with the organisms to be killed. Typhoid and cholera bacilli were the organisms which were experimented with, and these growing in nutrient media were killed or markedly inhibited when exposed to radium at the above distance for forty-eight hours. Further experimentation shows that the action is a pure bactericidal one, and that the radium had no action upon the nutrient media so as to destroy its nutrient properties. Further research is necessary in order to decide whether radium is suitable for the treatment of various bacterial cutaneous diseases, or whether its injurious effect upon the tissue cells will preclude its use in this field of medicine.

**Etiology and Specific Treatment of Autumnal Catarrh.**—Dunbar considers as autumnal catarrh that form of hay-fever which occurs in the United States during the latter part of the summer and early autumn, and which is thought to be due to the inhalation of the pollens of the golden rod and rag weed. The question arises as to whether the pollens of these plants are identical or closely related to those which produce the hay-fever common in Germany. Experimentation has shown that they are not identical, although in all probability closely related. Persons who are susceptible to the pollens of Germany vary in their susceptibility to the pollens of the golden rod and rag weed. Furthermore, those which are susceptible to both, if given the latter to inhale, show different results from the application of Dunbar's antitoxin. In some the symptoms are entirely dissipated by such antitoxin. While in others no effect is produced. No endeavors have as yet been made by the author to obtain an antitoxin for the pollens of the golden rod and rag weed on account of the small supply of the same which he possesses.

*French and Italian Journals.*

**Smallpox and Vaccination.**—J. E. Laberge, in an exhaustive article on the subject, gives the following statistics of the results of vaccination: In Westphalia, for the thirty-one years preceding the discovery of vaccination, the annual number of deaths to the million was 2,643. This has fallen to 114 for each year following. In London there used to be from three to five thousand per million; after vaccination was introduced this fell to 304, then to 149, and to 132 in 1855. In Sweden, from 1774 to 1801, the annual number of deaths per million was 1,973; from 1802 to 1806, 473; and from 1871 to 1877, when vaccination was obligatory, 189 per million. The statistics of other countries give the same results. The author strongly urges compulsory vaccination.—*L'Union Médicale du Canada*, July, 1903.

**Nycturia in Cardiovascular Affections.**—M. Péhu holds that in a large number of subacute or chronic affections characterized by temporary or permanent involvement of the heart, the normal rhythm of urinary elimination is modified, the excretion being more active at night than during the day. This symptom is found not only in diabetes and scleroses of the urinary apparatus, but also in diseases affecting the systemic or the portal circulation. It would appear to be due to insufficiency of the myocardium in eliminating fluids ingested during the day, which remain in the tissues or blood. During the repose of the night, as arterial pressure is raised, watery excretion is produced. According to this theory, nycturia is a sign of cardiac weakness and will assist in the diagnosis of insufficiency of the muscle when there is no frank asystole. The occurrence of this symptom will suggest certain methods of treatment, especially the reduction of fluids ingested.—*Revue de Médecine*, July 10, 1903.

**Malaria and Mosquitos.**—Ph. Hauser concludes that while it is proved that malaria may be transmitted from a malarial patient to a healthy individual by means of the mosquito, it has not been proved that there is no other method of transmission. Malarial germs live outside of the human body in moist soil. Malaria may exist in regions totally devoid of anopheles. The infectious germ may live in the soil in some form as yet unknown and be transmitted to man through the air, or through the mosquitos, which obtain it from the soil. The flagellate form of the plasmodium is merely the first step of the free life of the parasite. Man may become infected by drinking water in which infected mosquitos have died, or by inhaling dust from dried marshes. Blood containing the parasite may transmit malaria by means of handkerchief or other clothing stained by this blood. Infected mosquitos dying in the marshes or in stagnant water set free the hematozoon, which may transmit malaria through the air alone.—*La Médecine Moderne*, July 8, 1903.

**Constipation of Spasmodic Origin.**—M. Romme says that habitual constipation is, as a rule, due to atony of the intestines. Some cases, however, are of nervous origin, and due to a spasmodic condition of the large intestine, and it is not to be wondered at that they fail to yield to the treatment usually applied. The patient is usually neuropathic, and the condition not of long duration. The abdomen is usually found to be flattened, and not painful. The large intestine is contracted and feels like a cord. The sphincter is in a condition of permanent contraction. Treatment consists, in the first place, of warm compresses on the abdomen, renewed every hour or two, and left on for two or three days and nights. Tepid sitz baths should also be given, or, better yet, douches of tepid water on the abdomen for about two minutes at a time, applied circularly in the direction of the ascending, transverse, and descending colon, then to the legs, thorax, and back. Large intestinal douches of tepid water are also beneficial. In obstinate cases drastic purgatives are injurious. Belladonna, or opium preceded by a little castor oil, may be administered.—*Tablettes Médicales*, July 16, 1903.

**The Yellow Diazo-reaction.**—C. Gualdi says that the attention of scientists has been so far mainly directed to the red diazo-reaction of Ehrlich, and considers it strange that a fact observed by Ehrlich himself appears to have escaped their notice, namely, the yellow coloration of the foam of urine after treatment with the sulph. anilic solution and ammonia. The author's conclusions, from his observations and experimentations in regard to this point, are: that yellow diazo-reaction is found in cases of pneumonia which run a typical course and terminate by crisis; that it is also found where there is intestinal putrefaction. It is probably due to the decomposition of albumin, either in the tissues of the body or in the ingesta; yellow diazo-reaction is associated with the presence of large amounts of phenol in the urine, or of substances containing one or more phenol radicles. Certain substances given to the patient or added to the urine may simulate yellow diazo-reaction. Clinically this sign is of prognostic value in pneumonia, and is an easy method of demonstrating the presence of phenol in the urine.—*La Riforma Medica*, July 8, 1903.

**Pupillary Disorders in Tabes.**—A. Rochon-Duvigneaud and Jean Heitz state that from the examination of seventy-seven cases of tables they reach the following conclusions: (1) In 35 per cent. of the cases the pupil had retained a certain degree of reflex contraction to light, and dilatation in darkness, thus presenting an incomplete Argyll symptom. (2) Thirty per cent. showed on both sides and 13 per cent. on one side a diminution or abolishing of the contraction reflex to convergence. They had lost all reaction to light and therefore had a complicated Argyll symptom. (3) Myosis was regularly accompanied by a simple Argyll symptom—that is to say, the contraction to convergence was perfect. (4) Mydriasis was always accompanied by a complicated Argyll symptom, *i.e.* the contraction to convergence was absent or defective. Reaction to light was totally abolished. In a certain number of cases mydriasis depended on blindness. (5) If mydriasis existed with preservation of vision, accommodation was usually found to be paralyzed. There is therefore total internal ophthalmoplegia exhibited in the sphincter of the iris and the ciliary muscle. (6) In a certain number of cases, usually accompanied by mydriasis, we find a paralysis of the iris reflex to accommodation and to convergence, incident with a preservation of accommodation. The cause of this is unknown.—*Archives Générales de Médecine*, July 7, 1903.

*Annals of Surgery, May*, 1903.

**Os Trigonum Detected by the X-Rays.**—H. P. Mosely reports the case of a man aged twenty-seven years who, as the result of being struck by a falling piano, received severe injuries to the leg and ankle. On admission to hospital, the latter was swollen, tender, and œdematous. Manipulation over the tarsal bones caused pain, and there was much deep ecchymosis. No crepitus or false point of motion could be detected. A fracture of the tarsus or metatarsus was suspected, but could not be made out. Under the rays it was found that there was what was at first supposed to be a fracture of the astragalus, a portion of its posterior aspect being chipped off. Another exposure made after recovery showed the same condition, which was also found to be present in the uninjured ankle. The object giving the shadow was regarded as an os trigonum, an abnormal tarsal bone described by Bardeleben in 1883. According to Quain, it is an ossicle, due to the separation of the external tubercle on the posterior surface of the astragalus and its ossification from a distinct center.

# Book Reviews.

THE REFRACTION AND MOTILITY OF THE EYE. For Students and Practitioners. By WILLIAM NORWOOD SUTER, M.D., Assistant Surgeon Episcopal Eye, Ear, and Throat Hospital, Washington, D. C. Illustrated with 101 Engravings in the Text and 4 Plates in Colors and Monochrome. Philadelphia and New York: Lea Brothers & Co., 1903.

THE scope and character of this work has been very modestly and accurately set forth in the preface. The author has endeavored to furnish a textbook on the subjects of refraction and motility of the eye which can be readily understood by the beginner in ophthalmology and sufficiently complete to meet the requirements of advanced students and practitioners.

The work is one of 390 pages, is well printed, and is fully illustrated. It occupies a middle plane between that of the elementary works on refraction and motility and the works of Donders and Landolt. The book is divided into four parts. Part I is devoted to the theory of refraction and considers the "nature of light," the properties of lenses of all kinds, and the optical principles of ophthalmoscopy, skiascopy, and keratometry. Part II contains a discussion of the normal eye as regards its refraction and motility. Part III takes up the discussion of the errors of refraction as regards the human eye. Part IV treats of the disorders of motility of all kinds.

The work is devoid of bias, is direct and accurate, and is undoubtedly the best of its kind that has been published in recent years.

THE PRACTITIONER'S GUIDE. By J. WALTER CARR, M.D. (Lond.), F.R.C.S., Physician Royal Free Hospital; T. PICKERING PICK, F.R.C.S., Consulting Surgeon St. George's Hospital; ALBAN H. G. DORAN, F.R.C.S., Surgeon to the Samaritan Free Hospital, and ANDREW DUNCAN, B.S. (Lond.), F.R.C.S., M.R.C.P., Physician Branch Hospital Seaman's Hospital Society. London and New York: Longmans, Green & Co., 1902.

THIS work aims to present to the general practitioner condensed descriptions of disease, with especial reference to diagnosis, symptoms, and treatment. From such a point of view the labors of the editors have been admirably performed, and, in an emergency, will tend to save much precious time for the eager reader. The matter is admirably condensed and covers the discussion of all the maladies liable to be encountered by the busy medical man. The subjects are treated in alphabetical order and admit of ready and easy reference. A specially valuable feature is the detailed treatment of each affection, and the reasons for such modifications as may depend on particular conditions; and, best of all, the work, as a whole, is thoroughly practical in every particular.

THE SURGICAL TREATMENT OF GASTRIC AND DUODENAL ULCERS. By B. G. A. MOYNIHAN. New York and Philadelphia: W. B. Saunders & Co., 1903.

THIS monograph gives, in a concise form, the extensive experience of the writer in gastric surgery. Moynihan values highly the results of gastroenterostomy for chronic ulcer of the stomach. In his hands it almost always gives complete satisfaction, both to the patient and the surgeon. In all cases of gastric ulcer gastroenterostomy should be the only operation to be performed. Excision is unnecessary, often impossible, always insufficient. It therefore does not deserve commendation.

With reference to the newer means of facilitating gastroenterostomy Moynihan expresses himself as follows: "In the performance of gastroenterostomy, I have made the anastomosis on the anterior and on the posterior surface, and I have used the Murphy button and Laplace's forceps as aids to the operation. I wish to speak gratefully of the help I have received from these instruments, but the greatest service they have rendered me is to convince me that they are entirely unnecessary. No better anastomosis is possible than that made with the simple suture, none is so safe, none so adaptable, and so far as speed is concerned, I am content to abide the decision of the timekeeper. With the simple suture a gastroenterostomy rarely takes, from the beginning of the incision to the last skin suture, more than thirty minutes."

THE MEDICAL AND SURGICAL USES OF ELECTRICITY, Including the X-Ray, Finsen Light, Vibratory Therapeutics, and High-frequency Currents. By A. D. ROCKWELL, A.M., M.D. New York: E. B. Treat & Company, 1903.

THE work of Beard and Rockwell after passing through several editions was revised in 1896 by Dr. Rockwell in a very thorough manner. In again coming forward with a new edition the author has not failed to make full use of his opportunities. This is clearly shown in the six additional chapters on Vital Processes, the Finsen Light, Vibratory Therapeutics, and High-frequency Currents. The nutritional value of the current, so strongly brought out in previous editions, is again accentuated.

This work has been reviewed on former occasions with much detail. To particularize again would entail needless repetition.

Enough that the work has stood the test of long usage; that it has been increased in usefulness by the additions already adverted to; and that coming again, an old friend, mellowed by time, and set out in a new and engaging dress, it may confidently be commended as a safe and helpful guide.

SPECIELLE MUSKELPHYSIOLOGIE ODER BEWEGUNGSLEHRE. Von Dr. R. DU BOIS-REYMOND, Privatdocent in Berlin. Mit 52 Abbildungen. Berlin: August Hirschwald, 1903.

THE author puts into this volume the results of his careful study of the various phases of muscle physiology. He considers the structure of the bones, joints, and muscles. He investigates both the general and special mechanism of the muscles, and concludes with a chapter on standing and walking.

LERNEN UND LEISTEN. Rede zur Feier des Geburtstages des Kaisers und Königs in der thierärztlichen Hochschule zu Berlin gehalten am 27. Januar, 1903. Von HERMANN MUNK. Berlin: August Hirschwald, 1903.

THE writer presents this enthusiastic little monograph which is full of encouragement to the student. Its keynote is, "The more one learns, the better service he can render to his country."

GOLDEN RULES OF REFRACTION. By ERNEST E. MADDOX, M.D., F.R.C.S., Ed. Oph. Surg. Royal Victoria Hospital, Bournemouth; late Asst. Ophth. Surg. Royal Infirmary, Edinburgh, and Syme Surg. Fell. Edinburgh University. "Golden Rules" Series, No. XII. Bristol: John Wright & Co.; London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd., 1903.

THIS little work contains many of the essentials of refraction given in a very elementary form, and may be of some service to the general practitioner and to the student, principally as a stimulus to the acquirement of a greater knowledge of this important subject.

PETITE CHIRURGIE PRATIQUE. Par TH. TUFFIER et P. DESPOSSES. Paris: C. Naud, 1903.

THE teaching of minor surgery to medical students has been incomplete in most of our schools. The principles of asepsis and antisepsis, the method of administration of anæsthetics, the treatment of fractures, and the technique for the performance of minor surgical operations are most important for the young physician who is to enter active practice without the advantages of a hospital training. Tuffier has in this excellent book afforded to nurses much needed information for the care of the sick and wounded, and to students and practitioners a clear, concise exposition of the principles of minor surgery, including bandaging, anæsthesia, the treatment of fractures, and the like. The book is well illustrated, and well edited and printed.

DISEASES OF THE LIVER, PANCREAS, AND SUPRARENAL CAPSULES. By LEOPOLD OSER, M.D., Professor of Internal Medicine, University of Vienna; EDMUND NEUSSER, M.D., Professor of Internal Medicine, University of Vienna; HEINRICH QUINCKE, M.D., Professor of the Practice of Medicine, University of Kiel; G. HOPPE-SEYLER, M.D., Professor of Internal Medicine, University of Kiel. Edited with additions by REGINALD H. FITZ, M.D., Hersey Professor of the Theory and Practice of Physic, Harvard University, and FREDERICK A. PACKARD, M.D., Late Physician to the Pennsylvania Hospital and to the Children's Hospital, Philadelphia. Authorized translation from the German, under the editorial supervision of ALFRED STENGEL, M.D., Professor of Clinical Medicine in the University of Pennsylvania. Philadelphia, New York, London: W. B. Saunders & Co., 1903.

THE first portion of this volume treats of the diseases of the pancreas, taking up the latest known facts with regard to this little understood organ. The author has incorporated the essentials of Korte's and Mayo Robson's work, to which the editor has added the latest information of Opie and of Flexner, some of which appeared since the issue of the original German text.

The section on the diseases of the Suprarenal Glands, written by E. Neusser of Vienna, gives in a concentrated form what is known about these organs and their internal secretion. The main part of the book is apportioned to the disorders of the liver. Dr Hoppe-Seyler and Dr. H. Quincke of Kiel have done full justice to their task, and have produced a piece of work which will long remain an authority on the diseases of this viscus. The physiology, anatomy, deformities, pathology, etc., are all sufficiently complete while the portions appertaining to diagnosis and treatment will commend themselves to the clinician as being the outcome of ripe experience and close observation.

# Society Reports.

## NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

*Stated Meeting, Held April 23, 1903.*

L. J. LADINSKI, M.D., CHAIRMAN.

**Nephropexy for Movable Horseshoe Kidney.**—Dr. ARNOLD STURMDORF reported this case. He said that, according to Henry Morris, horseshoe kidney occurred once in 1,600 cases, and the rather extensive literature on nephropexy that had accumulated since Hahn's first publication in 1881 did not contain a single reference to this anomaly. His patient was an Italian woman, who had been referred to him through the courtesy of Dr. A. Morani. She had been married eight years, was the mother of three children, and had never aborted. There was nothing in the previous history bearing upon the condition. She complained of a dragging sensation in the lower dorsal and upper lumbar spine with constant pain of varying intensity radiating from this area downward and forward toward the lower abdomen. The pain and dragging would subside when the patient assumed a recumbent posture, but she was never entirely free from discomfort in the back and right side of the abdomen. These symptoms had first appeared two years ago after an instrumental delivery, and since that time had gradually become more severe until they had finally incapacitated her for household duties. Several times during the past seven months she had experienced sudden exacerbations of the pain during which complete anuria had occurred, followed after a variable period by a copious polyuria with partial abatement of all the symptoms. The patient had lost both weight and strength. When examined on February 2, 1903, it was noted that she was a pale and slender woman, but without any apparent abnormality of the bodily functions, with the exception of the urinary fluctuations referred to. Palpation revealed a hard and smooth solid mass occupying the right side of the abdomen and seeming to fill the right loin. It could be freely moved up and down and slightly from side to side. Its lower pole was on a level with a line connecting the two anterior superior spinous processes. It extended anteriorly to a continuation of the parasternal line. The lower end of the mass was indefinitely rounded, and the upper end reached under the ribs and could not be palpated. The right margin was rounded and well defined; the left was irregular and depressed. It did not appear to have the shape of the kidney, and although distinctly movable in an upward direction, it could not be made to slip into position on bimanual pressure in the manner so characteristic of a floating kidney. Its post-peritoneal origin was demonstrated by colonic inflation. The right renal region showed a depression below the ribs posteriorly. The urine was normal. The left kidney was not palpable, and the rest of the examination was negative. On February 10 a dorsal oblique incision was made from the last rib to the iliac crest. The upper pole of the kidney presented in the depths of the wound, and was readily liberated, but the lower pole could not be isolated because of its projection inward beyond the reach of the finger. The peritoneum along the outer border of the kidney was then incised, and this exposed a perfectly characteristic, mobile horseshoe kidney. The kidney could not be delivered sufficiently to allow of the use of the author's capsular flap formation, and accordingly the Senn method of gauze packing was resorted to. This gave firm anchorage and complete relief to the patient, who had entirely recovered at the end of three weeks. The speaker remarked that this could not be properly classed as a floating horseshoe kidney, inasmuch as the right segment was movable to a marked degree independently of the left; it was more probably a congenitally displaced horseshoe kidney, the right half of which had become detached in some manner

**Hysterectomy for Subperitoneal and Submucous Fibroids.** Dr. AUGUSTIN H. GOELET presented specimens from a case of this kind.

**Hysterectomy for Chronic Metritis and Uncontrollable Hemorrhage.**—Dr. BROOKS H. WELLS reported this case.

**Large Polycystic Kidney; Operation.**—Dr. WELLS also showed a large polycystic kidney, removed by operation in June, 1902, from a young woman sent to him by Dr. Hetzel of Southport, Conn. She complained of general malaise, a dragging sensation, and a constant dull pain, increasing in severity. These symptoms represented the pressure effects of a slowly growing oval tumor occupying the right side of the abdomen and extending from under the ribs to two inches below the umbilicus. It was rounded, nodular, slightly movable, and sensitive. The kidney on the left side was apparently normal, as was also the urine. The patient's general condition was good. A diagnosis of tumor of the kidney, probably cystic, was made, and on June 10 the usual incision along the outer edge of the quadratus lumborum muscle was made in an attempt to remove the tumor. The tumor was enucleated and removed, and the wound was closed without drainage. The patient made a quick recovery, there being very little shock and no fever or urinary disturbance. The speaker said that he had waited ten months before reporting this case, because surgeons, as a rule, advised against removal of a large polycystic kidney on the ground that the disease was usually bilateral, and even if a fatal anuria did not rapidly supervene, the other kidney was liable rapidly to develop the same cystic condition. He believed, however, that in the rare instances, like the one just reported, in which there was good reason to believe that the disease was unilateral, and the tumor was causing distress, surgical intervention was justifiable, and that life was likely to be prolonged by the removal of the diseased kidney. At the present time his patient appeared to be perfectly well, and she had been completely relieved of her former symptoms.

**Surgical Kidney, Probably Tuberculous.**—Dr. WELLS also presented this specimen, which had been removed from a man of twenty-three. Six years ago he had suffered from gonorrhœa, and had been treated for it for one year. In April, 1901, he had been treated by a physician for gleet and stricture, sounds being passed frequently into the bladder. During this period he suffered repeatedly from what he called chills and fever, as well as from pain and stiffness in the right lumbar region. He then applied to Dr. Beyea of New Rochelle, who found fluctuation over the quadratus lumborum muscle on that side, and evacuated pus. The incision closed after three weeks, but the patient continuing to fail, he was referred to Dr. Wells in July. His appearance at that time was decidedly septic, and the urine contained blood, numerous granular and epithelial casts and a large quantity of albumin. There was no tenderness or tumor over the region of the right kidney, gall-bladder, or appendix, but there was pouting red area an inch above the ilium and about an inch and a half from the median line on the right side. Under ether this was incised, and the fistulous tract followed down to the kidney, resulting in the evacuation of about ten ounces of creamy pus. The wound was packed and drained. Convalescence was slow, and the wound did not heal completely for three months. The kidney felt rather hard to the touch, but because of the existing local and general conditions, it was not incised. The patient's general condition and the urine improved slowly after this operation, but last January the patient began again to complain of dull pain in the right loin and of general malaise, and there was a discharge of a few drops of watery pus from the upper angle of the old wound. An *x*-ray photograph of the right loin showed a faint opacity over the area of the kidney. On February 18 the kidney was removed through the usual loin incision, and the wound

was closed, except for a small cigarette drain. The patient made a rapid convalescence and improved in color and strength, and the urine became normal except for an occasional pus cell. On incision of the kidney the parenchyma was found to have entirely disappeared, the capsule being filled with a mass of inspissated pus resembling mortar.

**Abdominal Hysterectomy for Myofibromatous Uteri.**—Dr. H. J. BOLDT presented a number of specimens. The first specimen was one of pan-hysterectomy. The cervix was very short and one fibroid was of the intraligamentous variety. The patient, a nulliparous woman of thirty-two, had suffered several years from pressure symptoms in the left lower abdomen, associated with lancinating pains radiating down the entire lower extremity. At times there was œdema of the leg. There was menorrhagia but no metrorrhagia. The opeation presented the difficulties usually met with in this class of tumors, but recovery was uninterrupted.

The second case was one of supravaginal amputation, done in a virgin of thirty-six, who had suffered from numerous attacks of metrorrhagia, and had had menorrhagia for a number of years. At times there were present intense bearing down pain in the abdomen and severe backache. The large submucous tumor had a broad and inseparable base with the uterus proper, so that it formed a part of that organ. Because of the anæmic condition of the patient, 1500 c.c. of saline solution were injected into the median basilic vein before the operation was commenced, a procedure always to be recommended where there was extreme anæmia. Recovery was uneventful.

**Small Spindle-cell Sarcoma of the Ovary and Liver.**—The interesting feature here was that the enormous liver filled the abdomen so complet ly, and at one part was directly attached to the ovarian tumor, so that, on palpation, the tumor was thought to be entirely of ovarian origin, there being no space between the neoplasms. The tumor that filled the pelvis palpably contained fluid, whereas the abdominal part of the tumor was unquestionably solid, and the nodular condition of the solid tumor, associated with ascites and cachexia, led to the diagnosis of sarcoma of the ovary. It was thought that the liver was crowded up under the diaphragm. The specimens showed clearly that a differential diagnosis was impossible. The true condition did not become apparent until the hand was placed at the summit of the tumor to dislodge it, when it was found that the liver formed the tumor. The sarcoma of the ovary was removed because of hemorrhage from adhesions to the liver. Dr. H. T. Brooks, as the result of his examination, believed the ovarian sarcoma to be the primary tumor.

**Tubal Abortion; Profuse Intraperitoneal Hemorrhage, No Formation of a Hæmatocele.**—The patient had given birth to her last child nineteen months ago, and had been nursing the infant up to two months ago. Her menstruation had been regular for several months until the last period, when she went eight days overtime. For two weeks she had irregular spotting. On April 20 she had intense pain of a cramp-like character in the right iliac region, radiating over the entire lower abdomen. The physicians called in made a probable diagnosis of perityphlitis, or of appendicitis. At that time she began to bleed more profusely, but it was thought to be the regular menstrual flow. Examination the following day revealed a thickening of the right Fallopian tube near the abdominal extremity to about four times its normal dimensions, and a swelling sensitive to the slightest touch. There was an indefinite fulness in the cul-de-sac, as though fluid was present in it. There was no evidence of a formed hæmatocele. Appendicitis was excluded absolutely. The diagnosis of progressing tubal abortion was made, and in view of the fact that there was no apparent tendency of the blood to coagulate, operation was advised. The abdomen was found very full of blood at the time of operation, and the patient was almost pulseless, so that an intravenous infusion of 1,800 c.c. was given. Bleeding from the fimbria was still present. A large quantity of saline solution was left in the abdomen. Convalescence was now progressing satisfactorily.

**Ovarian Cystoma; Three Twists of the Pedicle from Left to Right.**—The patient had been aware of the presence of an ovarian tumor for about eighteen months, but had been informed by her physician that medicine would cure her. Two days before she was seen by Dr. Boldt she felt the pain, which had been present about two weeks in the lower abdomen increase, greatly in intensity, so that even ice-bags and opiates gave no relief. Examination showed diffuse peritonitis at the time when seen. The diagnosis of a right ovarian tumor with twisted pedicle was readily made, and, in view of the peritonitis, she was at once removed and operated upon. The tumor was found to be gangrenous; many adhesions were present, and a considerable quantity of blood-stained ascites. The right Fallopian tube was greatly distended with blood, and blood was oozing from the fimbriated extremity at the time. An acute appendicitis was associated with the condition, probably as a result of an extension of the inflammation. Recovery was progressing satisfactorily.

**Cancer of the Uterus; Vaginal Hysterectomy; Recovery.**—The patient, forty-two years old, had been bleeding irregularly for two months. Examination showed that a malignant neoplasm involved the entire cervix. Although she had consulted her family physician about the bleeding, no examination had been made, ergot and hydrastis seemingly having been relied upon to control the bleeding. Although gynecologists had often insisted that, in all instances of atypical bleeding, one must suspect malignant disease, and a positive exclusion of such change must be made before internal remedies were used to control the bleeding, this teaching did not seem to have found a general foothold.

**Surgical Kidney; Nephrectomy.**—The patient had been seen for the first time thirteen months ago, at which time a diagnosis of pyelitis had been recorded. She had not been seen again until a few days ago, when she entered the hospital for operation, the pain in the right loin having become constant. The kidney was large and, as a result of inflammatory changes all around it, was exposed with great difficulty. Two stones were felt in the organ, and an attempt was made to save the organ, but while endeavoring to dislodge the kidney one abscess was torn into, and the structure somewhat mutilated. It was then thought best to remove it. Several abscess cavities were found in the kidney, and four stones were imbedded in the pelvis. The ureter was thickened considerably, but was not much dilated. Convalescence was progressing satisfactorily.

**Abdominal Hystero-salpingo-oophorectomy.**—The patient had had a ventral suspension done by Dr. Boldt about six months previously, and the appendix, which was the seat of catarrhal inflammation, had been removed at the time. Several cysts in the ovaries were treated with a Paquelin cautery. An abdominal-wall abscess followed, and a sinus, which went into the pelvis, had been present since the operation. At times there had been metrorrhagia. To cure the sinus, the old abdominal scar was incised four weeks ago, and the sinus thoroughly curetted. The adnexa at that time were seemingly in good condition. A week later an examination showed the right adnexa to be the seat of an abscess, probably ovarian, and the left showed evidence of inflammation. The sinus itself proved to be incurable. In view of the existing tubo-ovarian inflammation, which on the right side was suppurative, the operation as done was determined upon by request of the patient. The vaginal operation was not sidered safe because of the dense intestinal adhesions supposed to be present, and the abdominal section proved the wisdom of the course pursued. The intestinal adhesions were very extensive, and so firm that in places it

was necessary to divide them with scissors. It was likely that the suppurative process was tuberculous, but the examination had not yet been completed. The woman was doing well.

**Possible Malignant Disease of the Colon and Stomach.**—Dr. L. J. LADINSKI exhibited the specimen removed from the patient presented by him to the section at the last meeting. It consisted of a portion of the colon and a portion of the anterior wall of the stomach and of the abdominal wall. So far as the microscopical examination had gone the results were not decisive as to the presence of malignant disease. On making the abdominal incision the indefinite tumor was found to consist of a matting together of the anterior wall of the stomach, the transverse colon, the greater omentum, and the abdominal wall. The incision of the abdominal wall entered the colon. This diseased portion of the colon was removed, and the tumor was separated from the abdominal wall. A button was inserted. The entire stomach appeared to be involved quite deeply. The colon had not healed thoroughly, and if the disease were not malignant he expected to do a lateral anastomosis.

Dr. BOLDT, referring to the uterus presented by Dr. Wells, said that the appearance was such as to indicate to him that there had been originally a septic infection.

Dr. STURMDORF said that the use of the curette in these cases of persistent uterine hemorrhage was going out of vogue because experience had shown that the curette often gave only temporary relief. Recent studies indicated that the hemorrhage was due to a degeneration of the musculature of the uterus, and that the uterine muscle was in constant action, not only in pregnancy, but at other times. These facts threw light on cases of what had in the past been considered to be inexplicable hemorrhage. The curette should be limited to the cases in which a cause for the hemorrhage could be distinctly found, as, for example, the presence of a fungous endometritis.

He had been deeply interested in the kidney presented by Dr. Wells. He understood that the infection was an ascending one from the passage of sounds, yet from the appearance of the specimen he was disposed to think that it was a tuberculous kidney. The deposits present were not those from the urine, but rather those found in connection with tuberculosis of the lungs.

Dr. WELLS replied that the pathologist, Dr. Jeffries, had reported that there were no tubercle bacilli present and that the material was gritty and crystalline.

**Secondary or Repeated Laparotomy.**—Dr. HENRY C. COE was the author of this paper. He said that secondary operations were doubtless less frequent than in the early days of imperfect aseptic technique, but there was still much room for improvement, as shown by the fact that a number of patients still required a secondary laparotomy before being restored to health. Exudates, fistulæ, newly-developed neoplasms, ectopic gestation were common conditions for which a secondary laparotomy was demanded. One experimenter had made the statement that adhesions followed whenever the abdominal cavity was opened, but clinical experience was opposed to this view. Nevertheless adhesions did occur in spite of the most painstaking efforts to prevent them. Secondary pus foci might be an evidence of imperfect technique, unwise conservatism, or secondary infection. It was a common experience with the abdominal surgeon to see an apparently insignificant cystoma of the ovary, left undisturbed at the first operation, grow to such an extent as to require subsequent removal. Personal experience led him to consider it necessary to remove both ovaries in cases in which only one appeared to be the seat of papilloma. The abdominal route was preferred by him for conservative work. He had invariably endeavored to preserve the function of menstruation whenever the ovary could be safely retained, but he was beginning to doubt the wisdom of the surgeon's allowing himself to be hampered by promises to preserve portions of these organs. He was strongly averse to resection of the tubes and ovaries in pus cases. The most promising cases often proved ultimately to be the most disappointing. In at least a dozen cases he had been obliged to remove the uterus for profuse hemorrhage which did not yield to curettement, and serial sections of these uteri appeared to indicate that the cause was situated outside of this organ, Not a few of the secondary laparotomies at the present day were performed upon patients in whom at first so-called conservative surgery had been practised. There was a strong argument in favor of removing the appendix whenever it became necessary to open the abdomen for other conditions. Dysmenorrhœa, menorrhagia, and gastrointestinal disturbances might be so severe as to require surgical relief, but pain was usually the cause which made the patient seek a second laparotomy. The pain might be general or localized, and might be entirely out of proportion to the lesion. Limitation of the peristaltic movement of the bowel was often responsible for this severe pain. Why this pain should exist in some apparently insignificant adhesions and be absent when the coils of intestine were extensively matted together was difficult to say, although no doubt the neurotic element played an important part. Hemorrhages so profuse as to eventually sap the vitality of the patient frequently called for the removal of the uterus. He had met with this phenomena in connection with atrophied ovaries and where no satisfactory explanation could be given. Attention had been called to the effect of traction on the stomach in causing obstinate vomiting of other gastrointestinal disturbance.

In order to draw a correct inference as to the nature of the lesion calling for a secondary laparotomy one should have an exact history of the case, including a good description of the former operation; yet this very essential element in the diagnosis was very frequently entirely lacking among hospital patients. The presence of intestinal lesions might be inferred from a history of more or less constant colicky pains in the lower part of the abdomen. Examination under anæsthesia was advisable in doubtful cases, especially neurotic subjects. When the probable cause of the trouble was more or less extensive adhesions, one should be careful not to promise relief, for the result was always extremely problematical. While all agreed that pus sacs were best treated through the vagina, he still felt that firm adhesions above the pelvis could hardly be satisfactorily treated except by the abdominal route.

**Gynecological Surgery and True Surgery.**—Dr. EGBERT H. GRANDIN opened the discussion. He said that he was beginning to reopen the abdominal cavity for the simple reason that some years ago he either had not done enough or had attempted to save too much; in other words, because he had practised what he believed was wrongly called "conservative surgery." The pus cases were the ones most frequently coming for secondary operation. The avoidance of injury to the parietal peritoneum at the time of the first abdominal section through the use of sharp retractors he would pass by, although admitting that it was a frequent source of adhesions and of subsequent pain. The same might be said about the use of silk and non-absorbable suture material. One of the chief causes of secondary operation was the fact that we did not yet know how to repair the damage done in the pelvis by an exceedingly difficult salpingo-oophorectomy with the leaving behind of a raw surface. It was not the surgeon's fault that such raw surfaces were left, but one should strive to improve the technique. He did not think that the leaving of saline solution in the abdominal cavity would be of much service. It was possible that Cargile membrane, recommended by Dr. Robert T. Morris, might prove useful, although he had not yet tried it. One excellent plan was the use of gauze to keep the intestines up in place until retained by plastic exudate. When, because of pelvic peritonitis, it became necessary

to remove both tubes and ovaries, this should be done most thoroughly, including the removal of the uterus. He believed that when gonorrhœal infection once passed the internal os the woman remained infected for the rest of her days. He wished to embrace this opportunity to protest once more against what had been miscalled conservative surgery on the tubes and ovaries. It had been claimed that 10 per cent. of the patients so treated had conceived, but he would like to ask what had become of the other 90 per cent. These women came for relief of pain, and would not be satisfied with anything short of this, for the chief function of a married woman was not the bearing of children. There had been a great deal of nonsensical and sentimental talk on this subject. There was a vast difference between the ovarian secretion emanating from a normal ovary and that from a deceased ovary; just as well might the surgeon leave a piece of the thyroid in because he thought it was well to maintain the influence of the thyroid secretion. His desire certainly was to be thoroughly conservative, but it was his desire, as well as that of his patients, to conduct the treatment in such a way as to secure the needed relief. He did not wish to be accused of not being in sympathy with every method which would retain to the woman one of the essential parts of her organism, but he was now getting tired of re-operating upon cases of his own, and on those of his colleagues, because of these attempts at gynecological surgery in contradistinction to true surgery. In his opinion, there was a vast difference between these two kinds of surgery.

**Motherhood Worth Preserving.**—Dr. J. RIDDLE GOFFE, said that the most serious of the secondary laparotomies, according to his experience, were those done for fecal fistula. Next to these came cases of ventral hernia following laparotomy, and of long standing and large size. He had formerly been inclined to postpone secondary operation because of pain, supposedly the result of adhesions, but growing experience had led him to believe that these patients were not hysterical, but were actually suffering from peritoneal adhesions between coils of intestine or diseased remains of organs. He believed that when these adhesions were serious they were almost invariably due to sepsis. Adhesions from the packing of iodoform or other gauze in the pelvis he found were reabsorbed. In his vaginal work it was his custom to keep the intestine out of the true pelvis by filling the latter full of gauze, yet no serious adhesions resulted from this practice. He thought the preceding speaker had presented some very broad generalizations, and had based them upon insufficient grounds. No figures had been quoted, and much had been left to the imagination. If there were so many patients demanding secondary operations as appeared from this gentleman's remark, then the most rational conclusion was that the attempts at conservative work had been ill judged. He had himself operated in a conservative manner in a large number of cases, and yet only one of these patients had demanded surgical interference subsequently. In that case no difficulty had been experienced in passing through the adhesions. He found one tube almost completely buried in adhesions, and it was necessary to remove this tube because it was injured during the manipulations incident to the separation of the adhesions. Both ovaries and one tube were left. Dr. Coe had made the statement that, in his experience, about 5 per cent. of the cases subjected to this conservative surgery came back for secondary operations. Personally he felt that if even 20 per cent. returned he would be justified in continuing earnestly to practise this conservative work. Dr. Grandin had spoken quite contemptuously about preserving motherhood, but it was a subject in which, the speaker said, he and many of his patients felt a deep interest. He believed that unless there was very positive disease of the ovary, it was better to leave it alone than to puncture and cauterize cysts.

Dr. E. E. TULL said that by conservative surgery he understood doing only what was necessary at the time. He thought if pain had a definite pathological basis, one would not hear so much of the wonderful achievements of Christian Science. Laparotomies were often done on patients who claimed to be suffering intense pain, and yet nothing could be found at the operation to explain this pain, which was, apparently, purely psychical. He was an ardent believer in conservative surgery, and he would favor the leaving in of the uterus in many cases, and adopting every possible method of saving parts not hopelessly diseased. When ther was pus on one side, of course, the adnexa on that side should be removed, but it had not been his habit to disturb the other side unless it was also diseased. It was not a matter of indifference to the woman whether or not the menopause be artificially induced. Two years ago he had a collection of twenty babies that had been born to women upon whom he had operated, removing one ovary, although there had been some doubt about the wisdom of removing the other one.

Dr. A. PALMER DUDLEY said he wished to avail himself of the friendly challenge that had been thrown down by one of the previous speakers. The time had gone by for the hysterectomy to be the only panacea for woman's ills. That was true of the nineteenth century, but we were now in the twentieth century, and advances were being constantly made. He believed there would be very few who would be willing to sacrifice the testicle, the seat of a gonorrhœal orchitis, and it seemed only right to give the woman the same consideration and choice. It was true that secondary laparotomies were sometimes demanded after conservative surgery, but he had not met with any woman who was sorry that this attempt at conservatism had been made, whereas he had met with many women who were deeply resentful, because everything had been ruthlessly removed at the first operation. The same influences which produced the disease in the first place often continued, and so explained the necessity for a subsequent operation. He purposed to publish in a short time statistics which, he thought, would thoroughly prove the correctness of his position with regard to this conservative surgery.

Dr. H. L. COLLYER said that it was only about ten years ago that healthy ovaries and tubes were presented to this section with the statement that the cases were examples of catarrhal salpingitis; but surgery was advancing and laparotomy, might be done repeatedly, each time for a different diseased condition. Even women who had had healthy ovaries and tubes removed by operation, suffered from pain after the operation In his opinion, this agitation of the subject did more harm than good, because the general profession gained the impression that when a woman suffered from abdominal pain everything must come out.

Dr. PHILANDER A. HARRIS said that when the tube became infected it was a sinus, and an infective inflammation therein must necessarily be very chronic. The ovary was entirely different in structure from the tube, and he believed it was an unwilling participant in inflammation; consequently 90 per cent. of all women upon whom he had operated in the past four years by suprapubic section for pus tubes continued to menstruate, and did this quite regularly. There had been no amputations of tubes; the latter had been taken out to the uterine mucosa. The ovary should certainly not come out because the tube was diseased, unless it was the seat of abscess.

Dr. L. J. LADINSKI said he desired to emphasize the treatment of the appendix in operating upon the pelvic organs, and he would like to hear Dr. Coe's opinion on this point. Some months ago he had presented to the section a woman upon whom two laparotomies had been done in two years for tumors of the ovary. She had come to him last year with pus in the urine and pain on the right side, and begging for a laparotomy. She was kept under observation for a month, during which time the urinary

symptoms disappeared. Being convinced that she had pain, he finally decided to do an exploratory laparotomy. Under anæsthesia he could feel the appendix very distinctly. Laparotomy disclosed the tip of the appendix adherent to the stump of the right pedicle of the tube and ovary, the appendix itself not being diseased, although it was kinked from lying over the brim of the pelvis. This had given rise to an appendicitis. The appendix was removed, and the patient made a good recovery.

Dr Cob, in closing the discussion, said he was sorry that Dr. Grandin was unfortunately not present, yet he wished to reply to some of his statements. In the first place, he would object to the way in which the term gynecological surgery had been employed, for, personally, he looked upon it, not as a term of reproach, but as one of honor. No doubt many of the poor results were due to imperfect technique. He certainly would not resort to a secondary laparotomy unless the patient had been for a considerable time under observation, and he was satisfied that there was real ground for the patient's complaints. He could not agree with Dr. Harris regarding the advisability of practising conservative surgery after the plan he had described. The main object of conservatism in this field was to conserve the function of menstruation. He could recall eight or ten cases in which the appendix had been thickened, diseased or adherent, and his own practice was to remove the appendix in every case in which the abdomen was opened for other causes.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION ON PEDIATRICS.

*Stated Meeting, Held May 14, 1903.*

HENRY HEINMAN, M.D., CHAIRMAN.

**Case of Mongolian Idiocy.** — Dr. HENRY HEINMAN presented a child of ten months with Mongolian idiocy. This type, he said, was between the cretin and the true idiot, and was called cretinoid. The posterior fontanelle was still open, there was a lateral nystagmus, and the eyes were almond-shaped. The liver was enlarged, extending half a finger's breadth below the free border of the ribs. The spleen was not enlarged. The child weighed ten pounds and ten ounces, and showed marked impairment in psychical development. There was also lateral displacement of the digits. A great many cases of Mongolian idiocy had the little finger curved toward the middle finger. The oblique eye differed from that of true cretinism. The skull was of the brachiocephalic type. The tips of the fingers were pointed, and the ears presented the type of degeneracy. The mother said that this was her sixth child, and that it was different from any of the previous children.

Dr. L. E. LA FETRA remarked that many children had the Mongolian type of face without the other symptoms being present.

Dr. H. W. BERG asked on what the diagnosis of psychical defect rested.

Dr. HEIMAN replied that if one tried to play with the baby and attract its attention by a watch, it would be found not to notice as soon as would a normal infant in seven months. When a number of children were asked the nationality of this child they said it was a Chinese baby. The treatment had consisted in the administration of thyroid extract, half a grain, three times a day. Experience had shown that this drug gave little if any result, yet it was our duty to try it. In the event of failure, anti-syphilitic treatment should be employed, and the accompanying rachitis should also be treated.

**Pyloric Stenosis in Infants.**—Dr. J. G. WILLIAM GREEFF read this paper. He said that pyloric stenosis was a rare disease. Some writers regarded it as congenital, but out of thirty cases in infants, which he had found, the conclusion had been reached that the disease was an acquired condition. Myer had reported thirty-one cases in the adult, but, as a matter of fact, nothing was definitely known concerning the origin of this condition. It was probable that in pyloric stenosis some family tendency was the cause of the hypertrophy. The symptoms were very similar to those of chronic gastric catarrh, or gastritis, vomiting being the most constant. Tuberculosis and syphilis might have something to do with it, but of this nothing was definitely known. The macroscopical findings were always an increase in the circular muscle of the stomach.

After reviewing the literature, Dr. Greeff reported the following case: The subject was a male child, born last November, after a normal labor. For about two weeks the child did well. After the fourth day he was put on the bottle, receiving one part milk and two parts water. The case had first come under the speaker's observation when the child was twenty-three days old. The stools and urine were scanty, but the vomiting was almost constant. The child was poorly nourished. The lungs and heart were normal. The stomach was enlarged, extending three fingers' breadth below the umbilicus. The bowels were flushed out by calomel, the stomach was washed out, and the bowel was irrigated. The stomach washings were very sour, and contained no bile or free hydrochloric acid. The body temperature was about 102° F., but this was reduced by the irrigations. A wet nurse was procured, and the child took the breast eagerly, but vomited soon afterward. It weighed at birth eight and one-half pounds, and kept this weight for two weeks, after which it slowly lost weight. The diagnosis of pyloric stenosis was confirmed by Dr. Holt, who advised operation. Dr. Bull operated, doing a gastroenterostomy, but the child died. The stomach measured 12 cm. in length by 7.5 cm. between the greater and lesser curvatures. The stomach wall was hypertrophied, and the mucous membrane was much thickened at the pylorus. The epithelium showed a cloudy swelling, and the fibrous connective tissue contained inflammatory corpuscles, together with a general œdematous condition. When this case was first seen, all the symptoms pointed to a severe gastroenteritis. All of the reported cases of pyloric stenosis showed an absence of free hydrochloric acid. The prognosis was grave. If they did not respond to palliative treatment after a week or ten days, an operation was imperative. As to the question of what operation was an important one, Dr. Greeff said that pyloroplasty gave very good results, better than the operation of gastroenterostomy. The treatment consisted in leaving off all food by mouth for two or three days, and giving antifermentatives. The fact that this child had been able to take food at first tended to show that this condition was not congenital, but resulted from some condition developing during the last weeks of its life. The speaker suggested that some chemical influence, partly from the stomach and partly from the food, might play an important part in the causation of this disease.

Dr. A. ERNEST GALLANT showed a specimen of a child's stomach exhibiting the same characters, and taken from a case having a very similar history to the one just reported. That child had done well for two weeks, and then had begun to vomit. In the course of a week or ten days, when first seen by him, vomiting was the chief symptom. When the stomach was well emptied, the child would go to sleep for eight or ten hours. When thirty-three days old it was doing well, but, suddenly becoming worse, an operation was done. He found a contraction at the caput coli, which he thought was due to the enemas given. The stomach showed a marked thickening of the pylorus, together with a hypertrophy and puckering of the gastric mucous membrane. He was able to pass a small probe through the pylorus. The child died six hours after the operation. The speaker objected to the term "stenosis," believing that "contraction" was more nearly correct. With regard to the question of this condition being a congenital one, he said that

two weeks seemed a very short time for such an amount of thickening to take place; it was more probable that it had begun during intrauterine life.

Dr. Sara Welt-Kakels said that the disease under discussion was a very rare one. Two such cases, however, had recently been reported in the *Lancet*. It was a simple operation to cut through the sphincter in a longitudinal direction and remove the reduplication of the gastric mucous membrane.

Dr. Greefe, in closing the discussion, said that he believed this disease was not congenital, and that it was perfectly possible for the stomach to acquire that degree of hypertrophy in a short time. As to operative treatment, two cases had been successful, but usually this treatment failed. Personally, he believed a number of these cases could be cured without operation.

**Chronic Post-diphtheritic Laryngeal Stenosis as a Cause of Persistent Intubation of the Larynx.**—Dr. Henry W. Berg read this paper. (See p. 161.)

Dr. John Rogers, Jr., opened the discussion. He said that he had treated altogether fifteen cases of chronic intubation, and he differed with the writer of the paper in regard to operation. He had tried laryngotomy several times, but had given it up. One case was cited in which there was sloughing of the cricoid cartilage. By inserting a longer tube, the child got well. He believed every one of these cases was curable, but all of them required a little perseverance. In chronic stenosis of the larynx a metallic tube should never be used. In cases of autoextubation, tracheotomy should be immediately performed, and then, after two or three weeks, a tube could be introduced.

Dr. Stanton said that he had treated a number of these cases and had not lost one, but the longest time a tube had been worn was three months. That case had been intubated twelve times in this period. Perseverance was certainly essential to the successful treatment of such cases.

Dr. A. A. Berg said that stenosis of the larynx, due to cicatricial tissue, required dilatation, and when this firm, hard tissue closed down, it must be excised and the lost tissue replaced by mucous membrane of skin. When suppuration occurred, incision and drainage were demanded.

Dr H W. Berg closed the discussion. He said that he was surprised to hear Dr. Rogers advise tracheotomy in cases of autoextubation. Such cases were quite frequent in the Willard Parker Hospital, yet he would not recommend tracheotomy except as a last resort.

**Vulvovaginitis in Little Girls: A Clinical Study of 190 Cases.**—Dr. Sara Welt-Kakels read this paper. The cases were collected from the children's clinic of the Mount Sinai Hospital, where she had treated 11,000 cases. Of this number, 1.6 per cent. were gonorrhœal. The greater number of cases were between two and ten years of age A small number had a simple catarrhal vaginitis, but the majority were gonorrhœal In a few instances there were erosions of the vagina with excoriations of the perineum and inner sides of the thighs. The vagina was invariably inflamed, and the inguinal glands were enlarged and painful, but in not a single instance did these glands suppurate Most of the little patients had pain on walking and painful urination She believed most of these cases were the result of an indirect infection, as, for example by sleeping with a mother who had a "discharge" or by handling soiled bed linen and towels. Mention was made of one family in which the mother and two daughters had gonorrhœa One child contracted gonorrhœa while in the kindergarten In three cases the mucous membrane was adherent to the labia Another child of eight years had acquired syphilis One case of pediculosis of the vulva had been encountered The incubation period of gonorrhœa in children was thought by the speaker to be three or four days a much shorter period than in adults Cultures should be taken from all cases having a vaginal discharge and these should be examined by the Gram method but a negative result did not prove that gonorrhœa was not present. Repeated cultures should be taken. Formerly gonorrhœa was supposed to be a superficial infection, but it was now known to be more deeply seated, the gonococci even being found in the blood. The speaker said that she had seen one case of ophthalmia, apparently of a most benign character. This one case was cured. One case of acute gonorrhœal peritonitis was reported in which there were rigidity of the abdominal wall and general pain. An operation was performed, but the child died. Cultures from the peritoneal exudate showed the presence of gonococci. The discharge of vulvovaginitis was serous at first, and then became thick, greenish, and purulent. Holt gave the duration of this condition as from one to six months; other writers gave it as from three to six weeks. Judging from her own cases, the duration was much longer. The treatment consisted in washing the parts with a solution of potassium permanganate, 1 to 2,000, or with weak solutions of lysol, or in irrigations with silver nitrate solutions varying in strength from 1 to 2,000 to 1 to 500. The child should be placed in the dorsal position with the knees apart. The patient should sleep alone. New-born children, whose mothers had the disease, should have the vagina washed with a solution of silver nitrate.

Dr. H. W. Berg opened the discussion. He said that some time ago, in the scarlet-fever ward of the Willard Parker Hospital, a number of children were found to have vaginitis. The discharge was examined repeatedly, but no gonococci were found, and the conclusion was reached, that it was a scarlatinal vaginitis. However, a little later a number of cases of ophthalmia developed, and the patients were isolated. The absence of the gonococci did not prove anything.

Dr. A. Ernest Gallant said that he thought masturbation was an important factor in causing vaginitis in children, either by infecting themselves or their playmates. He told of a boy, fourteen years old, who had had connection with a woman and had contracted gonorrhœa. He then "played" with a girl of ten years, and she, in turn, with another girl of fourteen years. Children who masturbated would spread the legs widely when put upon the table for examination, and, in female children, there would be enlargement of the clitoris.

Dr. Welt-Kakels, in closing the discussion, advocated thorough examinations of the vulva in children, adding that, if this were done systematically, this disease would not be so often overlooked.

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**An Experimental Study on the Effect of the Blood Serum of Normal and Immunized Goats in Modifying the Process of Tuberculous Infection.**—Albert George Nicholls concludes that, as a result of his experimentation as well as those of others reported in his paper, we are justified in holding that it is possible to prepare a serum that possesses in a notable degree antitoxic properties against tuberculosis. Whether the various sera prepared are of much clinical value is, to his mind, doubtful. The results claimed even for the Maragliano serum are not so good that we ought to pause in our efforts to obtain a yet more powerful serum. It may be that we have almost reached the limit of potency in the sera prepared by the methods described, and Koch is, perhaps, right when he says that immunity to the toxic products of the tubercle bacillus does not necessarily mean immunity to tuberculosis. We probably need some serum powerful enough to destroy the tubercle bacillus in the tissues, or one which will stimulate the body cells to elaborate a germicidal substance Further advances in this direction will have to be made on the line of Behring's recent work, who has succeeded in producing immunity in calves by injecting them previously with attenuated germs of human origin Possibly by a modification of his methods we may be able to elaborate a serum of the potency required. If not the problem will have to be attacked on quite different lines.—*The Montreal Medical Journal.*

## BRITISH MEDICAL ASSOCIATION.

*Seventy-first Annual Meeting, Held at Swansea, July 28, 29, 30, and 31, 1903.*

**Special Cable Report to the Medical Record.**

GENERAL SESSIONS.

(Continued from page 193.)

THURSDAY, JULY 30—THIRD DAY.

THE third general session was held in the afternoon of Thursday, as is customary in order not to interfere with the annual dinner of the association which is always set for the evening of the third day of the meeting.

**Address on Surgery.**—Mr. A. W. MAYO ROBSON, F.R.C.S., of Leeds, the orator of the day, took as his subject the reminiscences of a third of a century of surgical work. He began with the year 1870, antedating the Listerian period, and described the state of surgical practice at a time when antisepsis in the operating room was not thought of, even ordinary cleanliness being regarded practically as of secondary importance. The changes consequent upon Lord Lister's epoch-making discovery were great, indeed, and revolutionary in their effect upon the art of surgery.

**Abdominal Surgery.**—The speaker then reviewed the progress which had been made in various directions, in the management of cases of rupture of the bladder, in the diagnosis and treatment of appendicitis, etc. In illustration of how the surgeon of the present day undertook fearlessly and with happy results operations which it would have been little short of foolhardy to perform in the early part of the period under review. Mr. Robson reported a case of panhysterectomy which he had recently performed upon a woman, seventy-two years of age. The operation had been eminently successful in its results, and the elderly patient made an excellent recovery, having suffered but little from shock. Up to within a comparatively very short time the mortality following excision of the gall-bladder was 23 per cent., but there had been no death in the last fifty operations of this nature in the speaker's practice. The results following hepatotomy were also steadily improving. The operation of gastroenterostomy was often successful in relieving the symptoms even when the diagnosis of cancer for which it was performed had been erroneous. Surgery was constantly winning new triumphs in the treatment of diseases of the pancreas and of the intestine as well as in ectopic gestation. Much of the advance in abdominal surgery was due to the wonderful genius of Lawson Tait, who had demonstrated the tolerance of the peritoneum to operative interference under proper conditions of cleanliness. In operations on the kidney also the wonderful progress of modern surgery was most evident. Mr. Robson reported from his own practice 130 kidney operations with 122 recoveries, or nearly 94 per cent. These cases included simple incision into the kidney, the removal of calculi from the renal pelvis, and the fixation of the floating kidney. Abdominal surgery had, indeed, sprung into being during the third of a century under review, and in that brief time had made startling advances, but it had by no means yet reached the limit of its possibilities, and no doubt many more triumphs awaited it.

**Cancer.**—Mr. Robson then referred to the great activity at present displayed in the study of malignant neoplasms. Research regarding the nature and pathogenesis of cancer was being prosecuted throughout the world, and we might reasonably hope that within, at most, another decade the disease would be traced to its source. When this had been done we might confidently look forward to the discovery of some means of cure other than by excision. In the meantime, the pathogeny being unknown, surgical measures were able to grant temporary relief from pain and other distressing symptoms and respite from death, and sometimes they even effected a cure, that is to say, the new growth did not recur after removal by the knife. But medical men were looking forward to better results after the discovery of the cause of cancer, and then it might be possible to prevent or cure the disease by means, perhaps, of an antitoxin or by some other form of serum therapy. When that time came the sufferers would no longer look to the surgeon for an amelioration of their lot, but might turn with confidence of cure to the pathologist and the physician.

**Antistreptococcus Serum.**—The discovery of an antiserum for use in the prevention and treatment of streptococcic infection marked a great advance in surgical practice. Probably all his hearers, the speaker said, were cognizant of cases in which most excellent results had followed the use of this serum, and probably also of other cases in which its employment had failed to benefit the patient. This uncertainty in results might be due to any of several causes. Improvements in the mode of preparation of the serum would doubtless be effected, and further experience in its use, whereby we should be in a position to say with greater precision when and how to employ it, would enable us to calculate on better results, for we should then know what cases were amenable to relief by serum injections and what were unsuitable for this mode of treatment. Already, Mr. Robson said, surgeons were coming to resort more and more to immunizing injections of antistreptrococcus serum before undertaking operations in certain regions, as on the tongue and in other parts of the mouth and throat, in the rectum, etc., where an aseptic field could not be counted upon with any approach to certainty.

A vote of thanks to Mr. Robson for his interesting and scholarly address was moved and unanimously carried, and the session was then adjourned, to meet at the annual dinner in the evening.

FRIDAY, JULY 31—FOURTH DAY.

At the closing session, at which there was but a slight attendance, no business of general interest was transacted, the time being chiefly occupied with votes of thanks to the authorities of Swansea and to others who had extended courtesies to the members of the association, and with formal business. For the afternoon and evening of this day and for Saturday many excursions and receptions in honor of the members were planned. The greater number of those present, however, returned home on Friday.

WORK IN THE SECTIONS.

The following were the subjects announced for discussion in the several sections, reports of which will be forwarded by post:

*Section on Medicine:* (1) The Medical Treatment of Inflammation in the Cæcal Region; (2) Susceptibility and Infection; (3) The Treatment of Gastric Ulcer.

*Section on Surgery:* (1) Practical Experience Regarding the Most Satisfactory Methods of Performing Intra-abdominal Anastomosis; (2) The Treatment of Advanced Tuberculous Disease of the Knee-joint.

*Section on Obstetrics and Gynecology:* (1) The Management of Pregnancy Complicated with Uterine Fibroids; (2) The Diagnosis and Treatment of Tuberculosis of the Uterus and Adnexa.

*Section on Tropical Diseases.* (1) The Disposal of Excreta in the Tropics; (2) Trypanosomiasis; (3) Leprosy, Its Etiology, Histology, and Treatment.

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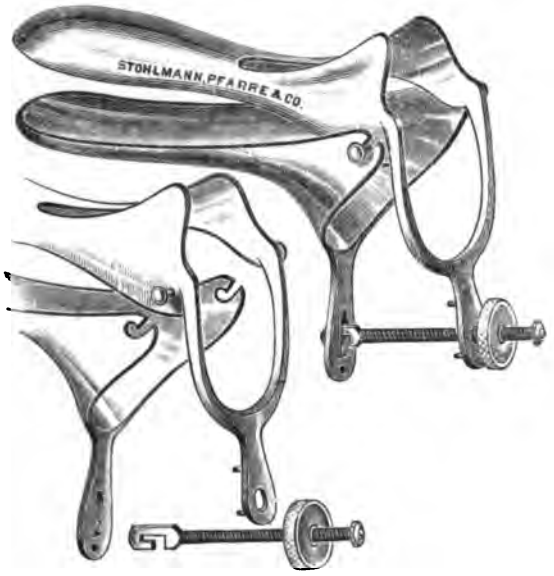
**The Prevention or Amelioration of Vomiting During the Administration of Chloroform.**—E. Stuver has applied a solution of cocaine to the nasal mucosa in about twenty cases of chloroform administration, and the results in quieting gastric irritability have been most satisfactory. He uses a two-per-cent. solution of the drug, and applies it about ten minutes before commencing the anæsthetic. It is a well-known fact that cocaine in the nose inhibits reflex gastric irritation.—*Denver Medical Times.*

# New Instruments.

## MODIFICATIONS OF BREWER'S SPECULUM AND BOLDT'S SCISSORS.

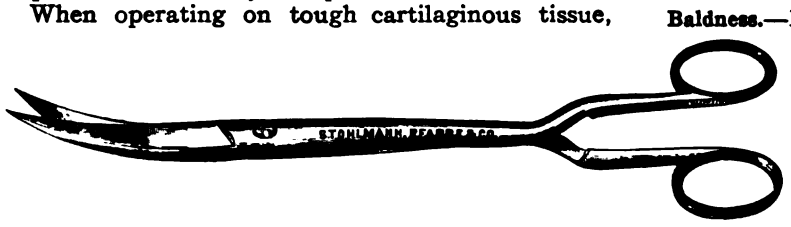
By C. J. KANE, M.D.,
PATERSON, N. J.

One of the chief objections against the complicated vaginal specula of to-day is the difficulty with which the blades are separated for cleansing. Most of them are locked by screws, which gather




dirt and rust and become so tight *in situ*. that their removal is difficult without disfigurement or breakage. The Brewer speculum is the one which is in most general use, as it gives so clear a view, unobscured by any part of the instrument. The objection to it is, as stated above, the difficulty in cleansing. In my modification of the instrument, the shape and size remain the same, but the two binding screws have been removed and two heavy pins and curved slots substituted. The clamp-screw, bar in the old instrument was fastened by a pin in the lower blade, and was therefore locked in place, so that the blades could not be separated from the bar. This has been changed to a screw-bar having a bayonet-lock opening, which hooks on a heavy pin. The clamp-screw is removable from the bar. The complete instrument consists of only four pieces, viz., two blades, clamp-screw, and bar. The parts can be separated instantly, and replaced in a second or two. When in use, the wider the blades are separated the more tightly are they locked. The changes made do not impair its use as a Syms' speculum.

When operating on tough cartilaginous tissue,




as in the uterine cervix, a pair of strong scissors is a necessary prerequisite. The Boldt scissors are much used for this work, but they seem to me to be rather light and weak, and the blades to be too long. Three years ago I had made an instrument of the Boldt type, but with the blades one-half inch shorter, and slightly more curved, with a heavier lock, and with the shank one-quarter inch longer. The scissors are almost as heavy again as the Boldt, and somewhat broader. They are very powerful, and can be used wherever curved scissors are required. They also remain sharp for a long time, even after repeated boilings. The above instruments were made by Stohlmann, Pfarre & Co., New York.

# Therapeutic Hints.

**Calomel.**—C. W. Kellogg (*Occidental Medical Times*) says that calomel primarily stimulates the lymphatic system, and therefore is the best remedy when the organism is overladen with waste and toxic products. It is to be used only at the outset, for its continuance would cause depression and paralysis instead of stimulation.

**Lumbago.**—

| | | |
|---|---|---|
| ℞ | Acidi salicylatis | gr. x |
| | Potassii iodidi | gr. v |
| | Ext. sarsaparillæ | ʒii |
| | Aquæ. q.s. | ʒss |

M. Sig.: One dose in water, t. i. d.

—*Medical Times and Hospital Gazette*, May 24, 1902.

**Gonorrhœa.**—

| | | |
|---|---|---|
| ℞ | Zinc sulphates | gr. x-xii |
| | Bism. subgallat. | ʒii |
| | Ext. hydrastis fl. | ʒss-ʒi |
| | Aq. calcis | ʒvi |

M. Sig.: Inject t. i. d.

—*Medical Fortnightly*, May 26, 1902.

**Cholera Morbus.**—

| | | |
|---|---|---|
| ℞ | Acidi sulph. aromat. | |
| | Ext. hæmatoxyli | ää ʒii |
| | Spir. chloroformi | ʒss |
| | Syr. zingiberi | ʒiii |

M. Sig.: ʒi q. 4 h.

—H. A. Harb.

**Rhinitis.**—

| | | |
|---|---|---|
| ℞ | Olei caryophylli | ♏viii |
| | Terebini | ♏xx |
| | Liq. petrolati | ʒi |

M. Sig.: Use as a spray.

—*Maryland Medical Journal*, June, 1902.

**Round Worms.**—

| | | |
|---|---|---|
| ℞ | Olei Chenop. anthel | ʒi |
| | Ext. spigeliæ et sennæ, fl. | ʒss |
| | Santonini | gr. viii |
| | Pulv. acaciæ | ʒi |
| | Syr. rhei aromat. | ʒi |

M. S.: Shake. Teaspoonful an hour before each meal. After the last dose, castor oil, ʒss, with turpentine, gtt. x.

—Pollard.

**Massage for the Gums.**—

| | | |
|---|---|---|
| ℞ | Vaselin | ʒi |
| | White wax | ʒss |
| | Hydronaphthol | gr. xv |
| | Oil cinnamon. gtt. | ii |

—Eames.

**Impaired Digestion.**—

| | | |
|---|---|---|
| ℞ | Petrolei | ʒi-ʒii |

4 t. d.

—Robinson.

**Baldness.**—Expose parts affected to pure oxygen gas. Case of skin disease recently so treated in London developed a luxuriant growth of hair.

**Urinary Antiseptics.**—Oil of sandalwood, methylene-blue, salicylic acid, salol, balsam of copaiba, camphoric acid, and oil of turpentine, possess antiseptic properties upon the kidney secretions.

**Ivy Poisoning.**—Icthyol, used in a one to three solution will be found to reduce the swelling, lessen the heat and itching, and prevent the spread of ivy poisoning.

—*Clinical Review.*

**Ulcer of Stomach.**—Food should be stopped by mouth and patient nourished rectally. Absolute rest in the recumbent position, and rest to stomach, subgallate of bismuth, ten grains suspended in oil, three times daily, are the indications in gastric ulcer.

—*Clinical Review.*

**Chlorosis and Amenorrhœa.—**

℞ Acidi arsnosi ..... gr. i
Ferri sulphatis exsiccati ..... ʒss
Pulvis piperis nigri ..... ʒi
Pilulæ aloe et myrrhæ ..... ʒi
M. for 40 pills.
S.: One twice a day, after meals.
—FOTHERGILL.

**Chlorosis with Neurasthenia.—**

℞ Tr. ferri chloridi ..... ʒiiss
Hydrarg. chlor. con ..... gr. ii
Liq. arscen. chloridi ..... ʒiiss
Acidi hydrochlorici dil ..... ʒv
Syr. simplicis ..... q. s. od. ʒiv
S.: Teaspoonful in water, three times a day.
—GOODELL.

**Low-tension Lividity.**—A permanent flushed condition of the skin is sometimes met with in persons who have no definite heart lesions These patients suffer from ulceration upon slightest injury. There is passive localized congestion and subcutaneous infiltration.

General tonic treatment and ergot are indicated.
—*The Hospital.*

**Ringworm.—**

℞ Iodine ..... ʒi
Goose oil ..... ʒi
M. S.: Rub into scalp twice daily till irritation is produced. The patch of hair falls off, and the place looks like alopecia. A new growth soon appears. A cure usually takes place in three weeks. No epilation is necessary. —JACKSON.

**Thrombosis of Femoral Vein in Typhoid Fever.**—The part should be elevated and maintained at rest. Apply the following along the course of vessel thrice daily:

℞ Ung. icthyol .....
Adeps lanæ hydros. .....ää ʒii
Ung. belladonæ. ..... ʒss
—ANDERS' "Practice of Medicine."

**Herpes Genitalis.**—Caustics should never be used, as grave ulceration may follow their use. Employ the simplest antiseptic washes and observe cleanliness by immersing the parts in a warm boric-acid solution or bathing with the same twice daily and dusting afterward with the following:

℞ Europhen, .....
Acidi borici .....ää ʒj
M. W. F. ROBINSON.

℞ Zinci sulphatis .....
Potassii sulphidi. .....ää ʒss
Spir. viin rectificati ..... ʒj
Aquæ ..... ʒvij
M. S. Shake and apply frequently.
DUHRING.

**Lichen Pilaris.—**

℞ Sulph precipitat ..... 05.0
Sapo. potassi. .....
Adepis .....ää 15.0
Ponce pulv ..... 16.0
Or,
℞ Lanolinæ .....
Adepis .....
Sapo. potassi. .....ää 50.0
Napthol. ..... 15.0
Cutæ ..... 10.0
—SAALFELD.

**Fetid Breath.—**

℞ Inf. sage ..... 250.0
Glycerin pure .....
Tct. myrrh ..... 30.0
Tct. lavender .....ää 12.0
Lavaraque sul ..... 30.0
M. S. Wash out mouth as required.

**Use of Menthol in Gastritis.—**

℞ Menthol ..... gr. ½ to 2.
Sodii bicarb. ..... gr. 10–15
M. Ft. chart. No. 1. S. To be given one-half hour before meals. —CAMPBELL.

**Dipsomania.—**

℞ Quininæ sulph .....
Zinci oxid ..... gr. 2
Strychninæ sulph ..... gr. 1–40
Acid. arsenosi ..... gr. 1–100
Pulv. capsici ..... gr. ij
M. et. ft. pil. No. j. S. One pill t. i. d.
—MANN.

**To Check the Diarrhœa in Typhoid Fever.—**

℞ Acidi carbolici .....
Ext. opii ..... gr. j
Bismuthi subnit .....ää gr. xviij
M. Ft. pil. No. vj. S. One pill t. i. d.

**Flatulent Dyspepsia.—**

℞ Bismuth salicylat .....
Magnesiæ calcin .....ää parts 2
Pulv. carbonis salicis. ..... parts 3
Ol. anisi ..... part 1
M. S. One teaspoonful half an hour or an hour before each meal.

*If there is gastralgia:*

℞ Syr. menth. pip. ..... parts 250
Acid hydrochlorici. ..... part 1
Cocaine hydrochlorate ..... part 1-10
M. S. A wineglassful before each meal.
—HUCHARD.

**Sweating Feet.—**

℞ Potassii permanganat ..... 0.5
Aquæ gaultheriæ ..... 50.
M. S. Use as wash at night.

**Sepsis,** in erysipilis, parotitis, variola, etc., give fifteen drops of turpentine in milk thrice daily.
—*Medical Summary.*

**Thrush Complicating Dentition.—**

℞ Tinc. moschi ..... gtt. iv
Aquæ calcis. .....
Aquæ lactucarii .....ää ʒij
Syr. simp ..... ʒj
M. S. Two teaspoonfuls every three hours.

**Piles.—**

℞ Acid tannic ..... gr. v
Cocainæ mur ..... gr. ij
Petrolati ..... ʒiij
M. bene et ft. ungt. S. Apply as often as needed.
—LANPHEAR.

**Hæmoptysis.—**

℞ Potassi bromidi ..... ʒ ij
Chloralis ..... ʒj
Syr. acaciæ. ..... ʒiv
Aquæ ..... q. s. ad. ʒij
M. S. Two teaspoonfuls in water at once, and then one teaspoonful every hour until the patient becomes quiet.

Indications.—To be used if heart is rapid, strong, and patient is excited. Ice-bag or coil on chest.

℞ Tinct. aconiti ..... miv
Aquæ ..... fl. ʒj
M. Teaspoonful every hour until pulse becomes quiet and compressible.

Indications.—Used to quiet excited, overacting heart.

**Administration of Oleum Morrhuæ to Children.—**

℞ Ol. morrhuæ ..... ʒij
Ext. malt .....
Syr. calcii hypophos .....ää ʒss
Pulv. acaciæ .....ää ʒij
Aquæ cinnamomi ..... q. s. ad. ʒiv
M. S. One to two teaspoonfuls after each meal.

**Articular Rheumatism'** is largely a streptococcic infection. Chronic rheumatic inflammation is transformed into an acute process by injecting the blood serum of animals immunized to streptococci obtained from the tonsils of rheumatic patients and grown on ascitic bouillon. —MENZER, *Therapie der Gegenwart.*

**Mercurial injection** made with bidistilled mercury such as dentists use in amalgams.

℞ Lanolini ..... gm. 2
Hydrarg. bidestillat ..... gm. 6
Rub together until the mercury is perfectly extinguished.
Liq. abolene ..... gm. 2
M. S. Inject 0.06 gm. (gr. i) every 3 or 4 days.
—M. L. HEIDINGSFELD.

**Opium habit** may be cured by giving after a cathartic and hot bath ten to thirty drops of

℞ Hyoscin hydrobromat ..... gr. i
Spir vini rect ..... ʒi
Aquæ destil ..... ʒiv
and a second dose of ten drops within from thirty minutes to two hours. This, or a smaller dose, may be repeated every half hour till the patient falls asleep.
—F. W. MILES.

**Scarlatina.**—To prevent or cure nephritis, inject 1 c.c. of oil of turpentine into the outer aspect of the thigh and two days later give twenty-five drops by the mouth in capsule or emulsion. In severe instances repeat on opposite thighs on successive days. —Tobeitz.

**Ethyl Chloride and Nitrous Oxide.**—Ethyl chloride compares favorably with nitrous oxide, in that the period of anæsthesia is longer, and that the condition of analgesia is more marked. An insufficient dose of nitrous oxide allows a patient to feel the pain of an operation, although he may be unable to complain; whereas with ethyl chloride a patient apparently is conscious of no pain, though he may struggle and phonate. With an improved mask, and an increased knowledge of the drug and its administration, combined with the portability of the apparatus, etc., I think we have in ethyl chloride an ex- extremely safe and useful anæsthetic.

—Frank H. Rose, *Bristol Medico-Chirurgical Journal*, March, 1902.

**Gastric Hyperacidity.**—Silver, belladonna, or extract of cocoa, two grains before meals, or 10 to 20, or even 30, grains of bismuth subnitrate before eating, proves a great relief. —Wm. Wormley.

**Gastric Ulcer.**—In gastric ulcer (acute or chronic) the patient should drink before meals a tumblerful of ozonized water (made of one ounce of hydrozone and two quarts of water), and after meals he should take at least two teaspoonfuls of glycozone in a wine glass of water. This is the plan of treatment, and it should be persisted in for such a length of time as is necessary to heal the gastric ulcer.

—R. C. Kenner, *St. Louis Medical and Surgical Journal*, May, 1902.

**Cerebral Hemorrhage.**—Wm. Browning (*N. Y. Medical Journal*, February 15, 1902) cautions against the use of stimulants, saline injections, depressant diaphoretics, opiates, digitalis, nitrites, and muscular exertion.

**Apomorphine as an Hypnotic.**—Coleman and Park state that the drug should be given hypodermatically, beginning with gr. ⅛, and to increase slightly in a short time.

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**The Principles of Rhinological Practice.**—The views of [illegible] Prenchen are summarized in the following propositions:

1. In the normal nose the nostrils should be of equal calibre and should jointly have a sufficient capacity to at all times supply the requirements of easy nasal respiration.
2. In the ideal nose the walls of the septum are practically plane, and are at no time or place touched by the tissues of the outer wall, in either passage, and, furthermore, no points of contact exist elsewhere therein, so as to interfere with either ventilation or drainage, or prevent the normal evaporation of nasal moisture. (3) While in an ideal nose the septum is vertical and nearly plane, a moderate irregularity thereof will not impair the nasal respiratory functions, provided there are no points of contact or abrupt elevations therein, and the lumen at all points is sufficient. (4) Abnormal redness of the nasal mucous membrane is an unfailing sign of irritation, the cause of which is generally of a structural nature, and, therefore, amenable to surgical treatment. (5) The indications for operative interference depend upon both the subjective and objective symptoms. A noticeable inadequacy of either nasal passage, the presence of excessive or retained secretions, or an abnormal redness of the mucous membrane at any point, are all evidences of abnormality in which, if coupled with inconvenience to the patient, merit corrective attention. (6) In the treatment of chronic hypertrophic nasal troubles, the indication is to remove all abnormal or redundant, or pathological tissues, and, as a rule, the chief indication is to cause the detected tissue to so shrink as nearly as possible to the contour of the bony [illegible]

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending August 1, 1903:

| | Cases. | Deaths |
|---|---|---|
| Measles | 239 | 14 |
| Diphtheria and croup | 275 | 38 |
| Scarlet fever | 104 | 8 |
| Smallpox | ... | ... |
| Varicella | 21 | ... |
| Tuberculosis | 316 | 148 |
| Typhoid fever | 66 | 12 |
| Cerebrospinal meningitis | ... | ... |

**Health Report.**—The following cases of smallpox yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service during the week ended August 1, 1903:

| SMALLPOX—UNITED STATES. | | CASES. | DEATHS |
|---|---|---|---|
| Alabama, Mobile | June 18–25 | 4 | .. |
| California, Los Angeles | July 11–18 | 1 | .. |
| San Francisco | July 12–19 | 5 | .. |
| Illinois, Belleville | July 11–25 | 3 | .. |
| Chicago | July 15–25 | 1 | 1 |
| Indiana, Indianapolis | July 18–25 | .. | 1 |
| South Bend | July 18–25 | 1 | .. |
| Louisiana, New Orleans | July 18–25 | 3 | .. |
| Massachusetts, Fall River | July 18–25 | 7 | .. |
| Michigan, Detroit | July 18–25 | 6 | 3 |
| Grand Rapids | July 18–25 | 1 | .. |
| Port Huron | July 18–25 | 2 | .. |
| Mississippi, Natchez | July 11–18 | 1 | .. |
| Missouri, St. Louis | July 18–25 | 2 | .. |
| New Hampshire, Manchester | July 18–25 | 5 | .. |
| New York, Rochester | July 14–21 | 1 | .. |
| Ohio, Cincinnati | July 17–24 | 3 | .. |
| Dayton | July 18–25 | 5 | .. |
| Toledo | July 18–25 | 2 | .. |
| Pennsylvania, Norristown | July 18–25 | 3 | .. |
| | (Imported from Philadelphia) | | |
| Pittsburg | July 18–25 | 14 | 0 |
| Scranton | July 18–25 | 2 | 1 |
| South Carolina, Charleston | July 18–25 | 1 | .. |
| Greenville | July 11–18 | 4 | .. |
| Utah, Salt Lake City | July 18–25 | 2 | .. |
| Washington, Tacoma | July 13–20 | 1 | .. |
| **SMALLPOX—FOREIGN.** | | | |
| Argentina, Buenos Ayres | May 1–31 | .. | 11 |
| Austria, Prague | July 4–11 | 5 | .. |
| Belgium, Antwerp | July 4–11 | 3 | 3 |
| Brussels | July 4–11 | .. | 3 |
| Brazil, Rio de Janeiro | June 14–28 | .. | 12 |
| China, Hongkong | May 31–June 13 | 3 | 1 |
| Colombia, Bocas del Toro | July 7–14 | 5 | 1 |
| France, Paris | June 27–July 4 | .. | 1 |
| Great Britain, Dublin | July 4–11 | 5 | .. |
| Dundee | July 6–13 | 3 | .. |
| Edinburgh | July 4–11 | 1 | .. |
| Leeds | July 11–18 | 6 | .. |
| Liverpool | To July 18 | 13 | 3 |
| London | June 20–27 | 7 | .. |
| | June 27–July 4 | 4 | .. |
| | July 4–1 | 31 | .. |
| Manchester | July 4–11 | 2 | .. |
| Newcastle-on-Tyne | July 4–11 | 1 | .. |
| Nottingham | July 4–11 | 10 | .. |
| Sheffield | July 11–18 | 1 | .. |
| Japan, Kobe | June 13–20 | .. | 1 |
| Nagasaki | June 11–20 | 1 | .. |
| Mexico, City of Mexico | July 5–12 | 16 | 11 |
| | July 12–19 | 15 | 14 |
| Tampico | July 11–18 | .. | 2 |
| Vera Cruz | July 4–11 | 1 | (imported) |
| Russia, Moscow | June 27–July 4 | 5 | 4 |
| Turkey, Constantinople | July 5–12 | .. | 2 |
| Uruguay, Montevideo | May 31–June 20 | 4 | .. |
| **YELLOW FEVER.** | | | |
| Brazil, Rio de Janeiro | June 14–28 | .. | 4 |
| Costa Rica, Limon | July 8–16 | 2 | 1 |
| Mexico, Altamira | July 14 | Present | .. |
| Matamoros | July 13 | Present | .. |
| Progreso | July 12–19 | 3 | 1 |
| Tampico | July 11–18 | .. | 45 |
| Tierra Blanca | July 13 | Present | .. |
| Vera Cruz | July 11–18 | 43 | 13 |
| Zongolica | July 13 | 5 | .. |
| **CHOLERA.** | | | |
| China, Amoy | July 22 | Present | .. |
| Hongkong | June 6–13 | .. | 1 |
| India, Calcutta | June 20–27 | .. | 30 |
| Straits Settlements, Singapore | June 6–13 | 8 | .. |
| Turkey in Asia, Caiffa | May 24–June 6 | .. | 10 |
| Damascus | June 6–20 | .. | 9 |
| Derna | June 2 | .. | 2 |
| Jeddah | May 31 | .. | 1 |
| **PLAGUE—UNITED STATES.** | | | |
| California, San Francisco | June 15 | .. | 1 |
| **PLAGUE—FOREIGN.** | | | |
| Africa, Cape Colony | May 31–June 6 | 15 | 4 |
| Natal | May 17–23 | 2 | .. |
| Australia, Sydney | June 15 | 1 | .. |
| [illegible] | June 18–27 | .. | 5 |
| [illegible] | May 31–June 13 | 256 | 172 |
| [illegible] | June 20–27 | 5 | 4 |
| [illegible] | June 20–27 | 2 | 1 |

# Medical Record

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## Original Articles.

### CONSIDERATION OF MAMMARY CYSTS IN THE DIFFERENTIATION OF BREAST TUMORS.

BY ROBERT ABBE, M.D.,
NEW YORK CITY.

To the lay mind every tumor of the breast is a malignant one. To the physician there are several varieties, the differentiation of which is as important to him as to his patient. There are gross appearances by which one may readily diagnose advanced malignant tumors, but in their incipiency there is so close a resemblance between various kinds that an innocent growth may be readily mistaken for a malignant one.

There are several reasons why I speak of mammary cysts with emphasis:

1. Because they are much more common than is generally thought.

2. Because in every instance in which these cases were referred to me, they were sent by the physician believing the tumor to be a malignant one, and in each instance the patient expected to lose the breast.

3. Because many physicians and surgeons advise removal of the entire breast even when recognizing the nature of the cystic disease, arguing that if left the gland is liable to undergo malignant degeneration.

As regards the relative frequency of cysts and other mammary tumors, I have been impressed by the records of my own private office work. In former years it was my own custom to regard mammary cysts as degenerative and frequently to remove the gland, but during the last eight or ten years I have invariably tested the nature of the tumor by aspiration before allowing myself to make an absolute diagnosis, because of the great similarity in the feel between deep cysts and deep solid tumors on palpation.

In recounting, therefore, my private office notes, disregarding all hospital work, I find that during eight years I have seen forty-one cases of mammary cysts, and fifty-six cases of scirrhous tumors, besides a number of innocent inflammatory adenomas. This should represent not far from the average experience of surgeons in a corresponding number of cases, inasmuch as the patients were referred to me, or came voluntarily without the slightest chance of selection.

On observation based on this series of cases I call attention to two points that have impressed me:

1. The differential diagnosis, which can be said to be easy and absolute.

2. The cure, which can also be said to be easy and absolute.

I have habitually made diagrams of the localization of the cysts and solid tumors of the breast, from which I have made the charts shown on p. 242.

It is of great interest to note from these that while cysts may be localized in any part of the gland, with a slight predominance only in the upper and outer segment, the scirrhous tumors are almost universally distributed between the nipple and the axilla.

In speaking of the hard tumors, I have excluded adenomas and small sarcomata, as well as mammary induration following old abscess change. Relatively in two breasts both the cysts and the scirrhous tumors appear in almost exactly equal number in the right and left, so that one can say that there is no greater probability of causation from injury to the right or left; but incidentally the localization of the scirrhous tumor on the axillary side of the nipple implies a progressive advancing absorption of some infective cause having entrance at the nipple and advancing along the line of main lymphatic currents.

Cysts, on the other hand, are localized in any part of the gland, and being due to the well recognized cause of fibroid thickening of the galactiferous ducts, with stenosis and retention of duct secretion, they are found in the lower as well as the upper segments, the inner as well as the outer. A tumor in the lower half, therefore, has the greater probability of being a cyst.

Of the forty-one cases of mammary cysts, three-fourths were single cysts, and in one-fourth, two or three, or even four were found. Thirty-three out of forty-one patients were between forty and fifty years of age, the others were over thirty-five years, excepting in two instances. This tendency to fibroid changes occurring during the atrophy of the climacteric has been noted by other observers.

The contents of the cysts varied in quantity from one drachm to one ounce, and the fluid drawn was usually opalescent, whitish and turbid, the deposit on standing, showing a considerable amount of granular fat, a few leucocytes and many small and large round mononuclear cells, whose protoplasm has undergone fatty degeneration.

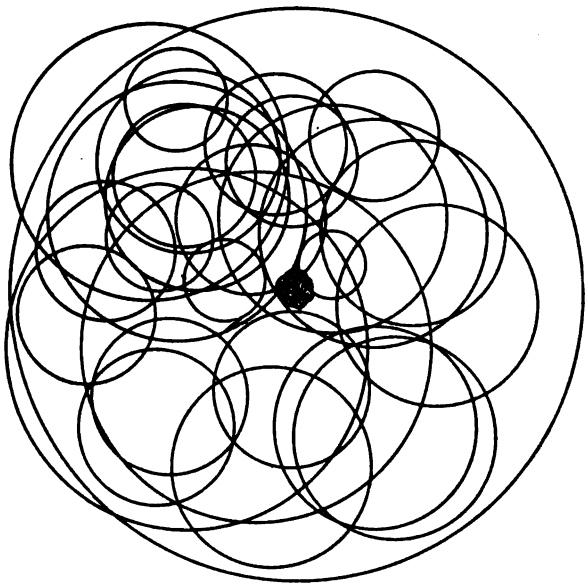
The cyst wall is usually so attenuated as to be imperceptible on palpation when the cyst is emptied. In two instances one or two papillomatous ingrowths were found. In one case, a woman of twenty-one, four such cysts contained more characteristic milk products; the typical galactocele showed activity of the mammary glands; this cannot, however, be regarded in any sense as different from the type appearing in later life, and proved equally curable by aspiration; several years having gone by and the patient is known to have had no return.

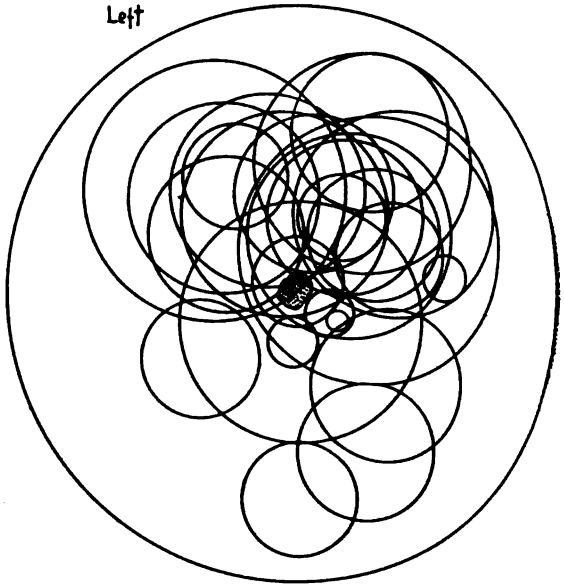
The gross characteristics of these tumors, then, for diagnosis may be said to be a hard tumor of any section of the gland, usually placed rather deeply, never dimpling the skin like a scirrhous one or drawing on the nipple; sometimes quite a flat ovoid; and in the majority of cases not giving a distinct sense of fluctuation on palpation.

It is this deceptive hardness to which I draw special attention because in many cases it is impossible to detect the cystic nature without the use of the aspirator needle; hence the physician should always be ready to pierce every doubtful tumor with a small, sharp aspirating needle, attached to a syringe holding perhaps two drachms, in order to

make his diagnosis certain and to cure the case by complete aspiration if he finds fluid.

There is probably no experience of the surgeon that yields him greater pleasure than to see the profound gratitude of patients who have come to him expecting no less than mammary amputation and to be told when the mammary cyst is aspirated that they are well. That this may be safely said,

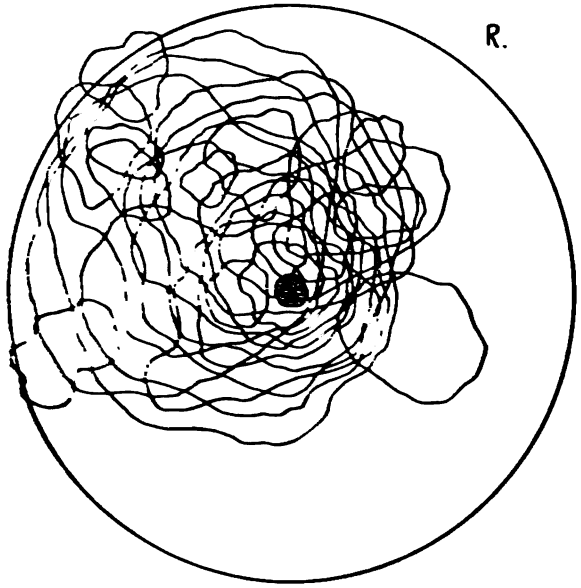


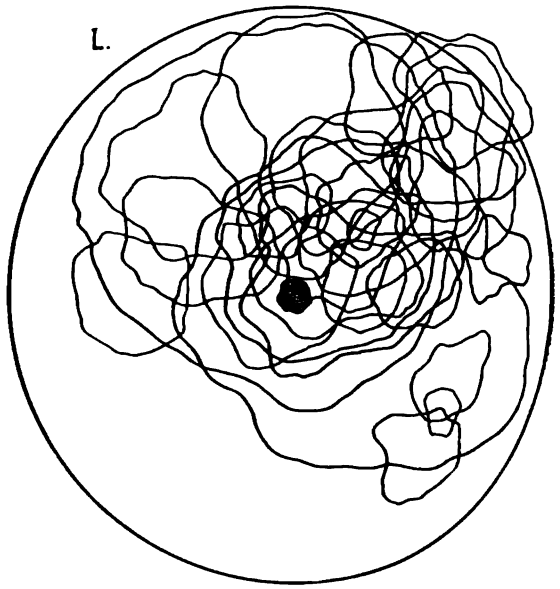



the statistics of the forty-one cases which I have recorded fairly show.

I have corresponded recently with all of these patients, and have knowledge of practically all of them. In only two instances has the cyst refilled, and in these a secondary aspiration cured.

The severe treatment of mammary amputation, at one time widely advised, and still advocated by some, has been much modified in recent discussion,




as the greater innocence of these tumors is recognized.

Quenu has recently advised incision into the cyst with the application of the actual cautery. Others advise injection after the evacuation, carbolic acid and iodine being favorites. Others advise excision of the cyst itself, but not the breast. Paul Segond reports a cure by simple puncture in one case. Thus English and French literature during the past three years is emphatically on the side of severe surgical work in these cases—which I believe to be unjustified.

While one may occasionally encounter a dilated sac or a mammary duct discharging coffee-like fluid from the nipple, or find a cyst which when emptied presents a papillary ingrowth, either of which may require excision of the sac but not of the breast, it stands proved that no case of mammary cyst capable of careful and complete aspiration should ever be subject to any further treatment. It will be cured by that method permanently.

It becomes the duty, then, of every surgeon to test the nature of each doubtful hard tumor by an aspirating needle thrust quickly into its very center, sterilizing the skin by a moment's friction with alcohol.

It is with no little pleasure and satisfaction that surgery presents to the medical practitioner this simple and valuable method with full knowledge that while it will lose to the surgeon many good fees, it saves his fellow practitioner the mortification of mistaken diagnosis (for I have many times returned to the family physician these happy patients), and it gives him a just opportunity to share the glory of applying an exact and finished method to the instant relief of the patient's burdened and distracted mind.

13 West 50th Street.

# PROSTATIC HYPERTROPHY AND ITS RADICAL CURE.

By WILLIAM POST HERRICK,
NEW YORK.

In no branch of surgery has recent progress been so great. From hazardous operations of doubtful efficacy, or palliative measures of still more dubious worth, we are emerging into more uniform methods, and an operation which is serious, but when undertaken at a *proper time*, is giving very definite results. Our responsibility is thus enhanced, and the commonness of the affection, every third man having, when aged, an enlarged prostate, and every eighth one which gives symptoms, lends it an almost personal interest. (Sir H. Thompson.) Moreover, the very wealth of our literature makes it confusing and a review of salient facts of value.

The disease is one of obstruction, and as mechanical and surgical means must be used for its relief, first briefly to recall its surgical anatomy may not be amiss.

1. The prostate is comparable in size and shape to a French chestnut, measuring transversely about one and one-half inches (or 36 mm.) near the base, about one and one-quarter inches (or 30 mm.) in length, about three-quarters of an inch (or 18 mm.) in thickness, and weighs from four and one-half to four and three-quarters drachms (16 to 20 gms.) It is a firm glandular and muscular body. The glandular substance is spongy and yielding, its color reddish gray; it consists of numerous tubular alveoli which unite into a similar number of excretory ducts, emptying into the prostatic urethra. It is associated with a large quantity of plain muscular tissue which forms the principle stroma of the organ. The different portions of the gland are united by areolar tissue and supported by processes of the deep layer of the fibrous capsule and by the muscular stroma. (Quain and Grey.) This normal size, consistency, and structure of the prostate are important in estimating the amount and character of the hypertrophy.

2. "The fibrous capsule, which includes much plain muscular tissue, is divided into two layers, between which the prostatic plexus of veins is inclosed." (Adams.) A true capsule has been described and is often seen as a glistening membrane surrounding the gland in hypertrophy. This is important, as the fibrous capsule also is generally much more distinct and the veins between its layers larger in hypertrophy. In operation it should therefore be respected and the gland shelled out of its fibrous capsule (following the line of cleavage between it and the true capsule), leaving if necessary some of the muscular tissue, as tearing the fibrous capsule gives more hemorrhage and extracapsular dissection is much more difficult.

3. "The prostate is usually described as consisting of three lobes. The lateral lobes form the great mass of the gland and are united with one another in front of the urethra and also behind the urethra below the ejaculatory ducts. The middle lobe, claimed by some to be merely pathological, lies behind the upper portion of the urethra, below the apical portion of the trigone of the bladder and above the common ejaculatory ducts; at the sides it passes without any line of demarcation into the lateral lobes." (Quain.) J. Griffiths finds the middle lobe with its own glandular tissue and ducts distinct in about one in ten cases of the young, an interesting coincidence in proportion to those giving pathological symptoms. "The urethra passes through the prostate from its base to its apex in the median plane about one-quarter of an inch from the anterior surface and nearly one-half inch from the posterior. The two *common ejaculatory ducts* enter at a median depression situated at the upper part of the posterior surface, and passing downward and forward in close contact with one another, open on the posterior wall of the prostatic portion of the urethra." (Quain.)

A regard for the lobular arrangement helps us in estimating the real amount of obstruction present, as there may be severe obstruction with little hypertrophy where we may know that the middle lobe is mainly involved. Also in intracapsular excision it aids in respecting the urethra and some claim the ejaculatory ducts, and in some cases the prostate has been removed without opening the urethra.

4. *The Relations of the Prostate.*—"The base of the prostate is situated immediately below the neck of the bladder, the apex above the superior layer of the triangular ligament. Its posterior surface, which is flat and larger than the anterior, lies against the second part of the rectum, so that it can readily be felt by passing the finger in that organ. The anterior surface is convex and is placed about one-half inch behind the pubic symphysis. (Quain.) Its *base is beneath* and its *apex beyond* the neck of the bladder. To reach it from above, then, we must pass through the summit and base, tearing the prostate up from beneath the neck of the bladder, whose circular fibers largely maintain urinary control, and when torn or greatly stretched generally result in incontinence. We must work at a great depth, where it is often hard to see, with hemorrhage hard to prevent by resecting the capsule, difficult to control, and we leave a raw dead space communicating with the bladder and urine, which is often infected, and drain this up hill unless the patient is subjected to the additional operation of perineal drainage. "On the other hand, the prostate is readily felt from the rectum," one of the greatest aids in diagnosis and showing its accessibility from the perineum. The perineal, then, is the direct route to the prostate.

5. "The prostate is held in position by the posterior ligaments of the bladder, by the fascial continuation of its fibrous capsule and the anterior portion of the levator ani muscle. It has been noted that pressure from a full bladder diminishes the antero-posterior diameter of the prostate and increases the lateral." (Grey.) When in its capsule, then, diffused pressure from the bladder will tend to fix the prostate, and the capsule being opened to depress it and aid in separating it from the capsule while compressing the prostatic sinuses.

6. It is now agreed that the physiological function of the prostate is almost entirely genital, secreting a fluid to mix with the spermatozoa and fluid excreted by the vasa deferentia and seminal vesicles, in the prostatic urethra; in opening the ejaculatory ducts and ejaculating the semen and possibly simultaneously blocking the entrance to the bladder. The former idea that the prostate greatly aided in control of the bladder is given up, as in eunuchs with atrophied prostates, or in children in whom they are not developed, and in women in whom they are absent, urinary control is not interfered with, and now this is borne out, as with many cases of complete prostatectomy incontinence is the rare exception (*e.g.* Syms twenty-three cases, only one partial loss of control of the bladder).

II. A few words concerning the cause and character of prostatic hypertrophy.

(1) The *etiology* has not been demonstrated.

(*a*) Of the *predisposing causes* age is the most important; it is rarely developed before forty-five

or after seventy, generally between sixty and seventy. It is frequent in Europeans, rare in Asiatics or Africans. Conditions causing general sclerosis, as rheumatic, gouty or syphilitic, with over-feeding and lack of exercise, have been cited. We might add that when Griffith's distinct middle lobe was present in children, it would predispose to obstruction later.

(*b*) Of the *exciting causes* most important are chronic inflammations of the deep urethra, as chronic posterior urethritis and prostatitis, which usually precede the vast majority of cases. Frequent sexual excitement without gratification, sexual excess, with the sexual abuses coming under these heads are given, so that the continent and libertine are both liable. All may be summed up in, *avoid chronic congestion of the prostate.*

(*2*) Its *pathology*. Hypertrophy of the prostate is a simple hyperplasia, and may involve chiefly any or all of its constituent elements, glandular, fibrous, or possibly muscular. The epithelial cells are said at first mainly to proliferate, and the gland tissue pressing on the fibrous, from congestion, it also increases. "There are three types: (*a*) diffuse hard scirrhous, (*b*) diffuse adenomatous, and (*c*) encapsulated adenomatous. The obstructions in order of frequency are (*a*) bar, (*b*) middle lobe, and (*c*) lateral lobes." (Keyes).

The pathological conditions caused by hypertrophied prostate have been well divided into: (*a*) Those from obstruction. (*b*) Those from infection. The lateral lobes may enlarge considerably and project only into the rectum, causing no further symptoms.

(*a*) In *obstruction*, however, we have a raising of the trigone, usually near the apex, a pouch forming back of this holding residual urine, and the prostatic urethra passing more sharply upward. If the middle lobe is chiefly involved we may have a bar or more or less ball-and-socket obstruction, if the lateral lobes, some lateral compression, or if the lateral lobes unevenly, a tortuous channel may be formed. With increased expulsive efforts the muscular fibers of the bladder hypertrophy, while later, when unable to compensate, and with distension, an irregular pouching of the bladder. Now, or earlier, the catheter plays its part and is generally the cause of

(*b*) *Infection*, and we have added the lesions of urethritis, orchitis or cystitis, often with a formation of phosphatic calculi in the pouch or pouches of the bladder; the infection traveling upward, those of pyelitis and suppurative nephritis occur, and unless some intercurrent affection has previously carried off the weakened sufferer, exhaustion or sepsis complete the picture.

3. The *symptoms* of these sequent conditions are too well known to us. The *diagnosis* of hypertrophied prostate is, however, of growing importance, as the responsibility of a correct early decision increases with the efficacy of relief. Therefore, when a man past middle age, with a full-sized, but feeble stream, dribbling on completion of urination, complains of frequent micturition, especially at night, and a feeling as though the bladder were not completely emptied, or of retention at times, we must think of prostatic hypertrophy and proceed to *examination*. This is: (*a*) rectal, and (*b*) urethral.

(*a*) *Rectal examination* is conducted as usual except as regards its special object. "The prostate is normally discernible by rectum, but when prominent, is diseased." (Lydston). "The tip of the prostate is felt and we can often pass above the prostate and feel the soft bladder tissue; here bimanual palpation is often serviceable." (White and Martin). Thus we gain a very good idea of the size and conformation of the prostate, whether the enlargement is regular, irregular, or nodular; if it is hard or tender; if pulsation or fluctuation are present; and the condition of the perivesicular tissues. Rarely we combine this examination with a metal catheter, Thompson searcher or sound in the bladder, when the thickness of the tissues between may be noted and a clearer idea gained. About 85 per cent. of obstruction due to prostatic enlargement may be made out by rectum. (Keyes).

(*b*) *Urethral examination.*—The patient having just urinated, lies on his back, the thighs and knees flexed and separated, when, with antiseptic precautions and avoidance of any roughness, we endeavor to pass a No. 18 F. rubber catheter. Failing this, an elbowed, double-elbowed, or olivary-tipped silk-woven catheter may be passed. If neither pass, the examination may be deferred or an attempt made to pass a metal instrument. Note the point on the instrument when the urine first flows, and also when urine stops flowing in withdrawing catheter, if residual urine is present, and the amount of the residual urine. If the metal instrument was used, 4–6 oz. of a mildly antiseptic solution, as one-half strength Thiersch, is introduced into the bladder and the catheter or searcher closed and, being deeply inserted, the tip is turned downward, and we may gain some idea of the depth of the pouch, and drawing it outward as it comes in contact with the posterior border of the prostatic enlargement, note the depth of the insertion of the instrument; then by passing about in several directions, we may gain considerable knowledge as to the shape, size, and character of the obstruction, and may feel a calculus if one is present. Unless there is evidence of stone or other obstruction, soft catheters will not pass and a metal instrument will pass; but this is generally not used. The fluid may be then evacuated and the tonicity of the bladder gauged by the force of the stream through the instrument, and the instrument withdrawn. Now, if the metal instrument has passed easily, without having to be depressed much, and only a small amount of urine obtained, first flowing when the instrument was inserted not over eight inches, there is little or no median prostatic enlargement. Lateral deflections on inserting the instrument show enlargement on the side to which the handle is deflected. As to the depth at which the urine first flowed, allowing about six inches for the anterior urethra and three-quarter inch for the membranous, if the remainder or prostatic urethra is over one and three-quarter inches long, there is median enlargement, and we gain an idea of the length of the prostatic urethra. Special measuring instruments are of little value. The residual urine may have been from 1 to 16 oz.—if of large amount (16 oz.), we should have felt the hypogastric tumor and should remove only a portion at a time, substituting fluid and leaving a proportionate amount in the bladder. The cystoscope cannot be introduced in many of these cases, and generally its information is of little value and sometimes misleading.

The differential diagnosis is:

1. *From genito-urinary inflammations and their results.*—(*a*) Urethral stricture occurs in younger patients, has a small, often forcibly projected stream, is located at less than seven inches depth, and rectal examination shows the prostate not enlarged. (*b*) Seminal vesiculitis and perivesicular inflammation are differentiated by the feeling of the tissues to the rectal touch. (*c*) In acute prostatitis the tenderness, heat and throbbing of fluctuation differentiate. (*d*) Subacute or chronic prostatitis

with deep urethritis are sometimes confusing with a beginning hypertrophy, and it is here that palliative measures achieve brilliant results. (*e*) In cystitis and posterior urethritis the prostate is not enlarged, while vesical spasm, when present, is only temporary, and in contracture of the neck of the bladder the prostate is not enlarged.

2. *Vesical calculus*, which is often associated with prostatic hypertrophy, has more pain, especially on jolting, more frequent and severe hemorrhage, and may be demonstrated by the click of the searcher.

3. *Vesical tumors.*—(*a*) The benign, always rare, especially in the old, are generally sharply localized and mapped out by the finger in the rectum or the instrument in the bladder. (*b*) Malignant, especially carcinoma, are hard and irregularly shaped on rectal examination, with more pain and hemorrhage. Microscopic examination of the urine may show pieces of the tumor and enlarged inguinal glands may be found. The cystoscope may be a real aid here, but unfortunately rapid growth only, may make the diagnosis. (*c*) Cysts lie back of the prostate.

4. *Anatomy and paralysis of the bladder*, by the history of the case, the easy passage of the catheter, the absence of prostatic enlargement and the special tests of the spinal nerves, will be shown. When the diagnosis of prostatic hypertrophy has been established, we should make a complete physical examination, especially in regard to the kidneys, arteries, and general condition of the patient.

III. *The treatment* is best divided into palliative and radical. Palliative, designed to alleviate the patient and delay the course of the disease; radical, for its cure.

Palliative measures here may be operative or non-operative. Radical are alone operative. As in progressive diseases (cancer, for example) radical or curative treatment is often most conservative. We should not here necessarily associate the idea of risk to the patient, with either palliative or radical, as either may be most conservative treatment. Prostatic hypertrophy is not a self-limited disease. Occurring in the old, age may terminate the life before the disease has run its course, but as its termination is fatal, it is best to balance palliative against radical in regard to any case.

(1) To better understand this, we mention some of the palliative measures. These may be classified as Hygienic, Medicinal, Mechanical, and Operative.

(*a*) *Hygienic* has been well summed up in "beware of congestion of the prostate." Avoidance of exposure and wet feet, excesses physical, mental, sexual, or alcoholic. Proper clothing and a diet light and laxative, avoiding meats and rich or fried foods, strawberries, asparagus, grape fruit, and with no beer or champagne, and eating mainly vegetables or cereals, and drinking milk or water.

(*b*) *Medicinal: Internally*, bladder antiseptics as urotropin and alkalies as sod. bicarb., with water to keep the urine below a specific gravity of 1,015, and regulation of the stomach and bowels. The routine use of opiates we but mention to condemn. *Locally:* The appropriate treatment of cystitis, orchitis, prostatitis, and urethritis. As the two latter, with swelling of the porstate and surrounding tissues, may simulate and often precede hypertrophy, it is here that the local treatment, with the withdrawing of any residual urine, achieves much.

Cold rectal douches have also sometimes aided in reducing congestion of the prostate.

(*c*) *Mechanical:* Mainly directed against residual urine and retention by use of the catheter. The aseptic technique for surgeon and patient, the kinds of catheters, etc., the special methods in uninfected, infected, irritable, or obstructive cases are foreign to this paper.

The general rules are well given as follows:

Less than two ounces does not require catheter treatment. Two to four ounces catheterization morning and evening. Larger amounts, three or more catheterizations at regular intervals. Catheterization should be aseptic, gentle, infrequent as above and systematic. (Keyes.) The average catheter life is variously computed at two to six years. We hear of occasional wonderful cases which seem to defy infection—we rarely see them. With wealth and intelligence, supplying the best care, we hear of cases living a dozen years or more, with occasional attacks of cystitis. In the last three years Dr. Syms, in about sixty cases, has operated on twenty-four with one death; many of the remainder, declining operation, are now dead. Let us think of these facts in deciding our course of treatment. Even an infected bladder alone increases the risk of radical cure. The inconvenience to the patient of hygienic and medicinal measures or frequent catheterization, should not weigh heavily, but with a known course of disease, the risks carefully balanced.

(*d*) *Operative:* We class as palliative operations those which do not immediately remove all prostatic obstruction. When trust is placed in subsequent diminished prostatic congestion, or cicatricial contraction, to lessen the obstruction sufficiently, to abolish or mitigate the symptoms, we claim this is a palliative and not a radical procedure, and must essentially have the uncertainty of such. There are three classes of these: (1) Those on the bladder. (2) Indirect operations to affect the nutrition of the prostate. (3) Partial operations on the prostate.

1. Of the bladder operations, we have: (*a*) Aspiration of the bladder: suprapubic, perineal, rectal. (*b*) Cystostomy: suprapubic, puncture incision, perineal incision, prostatic puncture.

*Aspiration:* Suprapubically is alone used, and as an emergency palliative operation dangerous if often repeated.

*Cystostomy* is best perineally, but is only rarely done, generally to improve the patient's condition for radical operation.

2. Indirect operations are: (*a*) Ligation of the internal iliacs, abandoned on account of its great danger and inefficiency. (*b*) Castration, including complete castration, vasectomy, ligation of the vaso deferentia, angioneurectomy, venesection, and injections into the testes.

Their mortality is 8-18 per cent., and in the words of Keyes, "No one has yet brought forward a single proved example of atrophy of the prostate after castration. It may relieve congestion temporarily, but it is not a radical cure." We may add that their great mortality and inefficiency do not recommend them.

3. Partial operations on the prostate: (*a*) Injections of iodine, ergot, etc. (*b*) Puncture: through the urethra by Mercier's prostatome; through the perineum, as by Harrison; electropuncture. (*c*) Perineal section and incision through obstruction. (*d*) Curved transverse perineal section and removal of wedge of middle lobes. (Dittel.) (*e*) Galvano-cautery through urethra: Bottini instrument modified by Friedenberg. (*f*) Galvano-cautery through perineum with or without partial enucleation. (Chetwood.)

All except the last two may be dismissed as abandoned from their uselessness or danger.

*Bottini's operation* has the advantages that with more or less pain it may often be done under cocaine, and is attractive to patients as not being a cutting operation. Almost completely in the dark, it burns

a groove in the prostatic obstruction; if the surgeon burns too much he gets urinary infiltration, and if too little it must be repeated. It leaves a sloughing wound, bathed with urine, in an often infected cavity, with most imperfect drainage, as it is almost always followed by retention of urine requiring a permanent catheter for from three to seven days, and is commonly followed by temperature to 101° or even 104° F. Embolism is not an uncommon cause of death, and secondary obstruction, cicatricial or otherwise, is not infrequent. Its mortality, according to Keyes, is 6½ to 16⅔ per cent., and we may add that it is rapidly losing its adherents. Worse than deep internal urethrotomy, it must share its fate.

*Chetwood's* operation through a perineal cystotomy wound, explores the obstruction with the finger, then incises it with the cautery knife and enucleates portions of the gland with the finger, if it is deemed necessary, and gives perineal drainage. It is then a galvano-cautery, perineal prostatomy and often partial prostatectomy, but it is not truly radical, as in the sixteen cases quoted by Keyes it had to be repeated in two instances, 12½ per cent. In almost one-third of the cases a partial prostatectomy had to be done, and in the eleven cases reported cured, the time of observation is not given, and as in cautery operations secondary obstruction is not infrequent, this is important. Only one case died five weeks after operation—a good showing as regards mortality.

2. *Radical treatment or prostatectomy.*—The term prostatectomy should be reserved, and now largely is, for practical excision of the prostate. The older literature termed a punching out, or removal of a portion of prostatic tissue, prostatectomy. This is confusing, and we should include it under prostotomy.

Prostatectomy may be done by two routes: (*a*) suprapubic; (*b*) perineal.

A brief outline of the main modifications of operative methods may make the matter clearer.

(*a*) In the first suprapubic cystotomy is done and the bladder explored. Early operations merely removed the obstructing mass at the base of the bladder, by cutting, a snare, rongeur or cautery. McGill later, recognizing the great hemorrhage and destruction, cut through the capsule and obstructing mass with serrated scissors from the urethra to the trigone, and enucleated the masses on either side, a fist in the perineum being used to fix and elevate the prostate; afterward an assistant's finger in the rectum was suggested for the same purpose. Belfield later did the same by a finger introduced into the prostatic urethra through a perineal incision. Of this enucleation Keyes graphically states: "The hemorrhage all this while is profuse, so that the operation is performed at the bottom of a pool of blood." And Watson states that the sinuses are larger in the superior than inferior portion of the capsule. Hot saline followed by an irrigation of 1-4000 silver nitrate modifies the oozing, but at times it was necessary to pack the cavity. Post-operative drainage was usually by the double suprapubic tube, at times through the perineum—the large blood-clots forming in the bladder rendering this often difficult and inefficient.

(*b*) *Perineal prostatectomy.*—This severe hemorrhage and the blood-clots, infection of the raw space left by the base of the bladder with imperfect drainage, and the difficulty of the operation, both anatomically and practically, rendering it often incomplete, led Nicoll and Alexander to advocate the pushing down of the gland from above and its enucleation through the perineum, thus sparing the floor of the bladder—the main difference between them being that Nicoll used only suprapubic drainage, while Alexander used both suprapubic and perineal. Later laparotomy instead of suprapubic cystotomy, and pushing down the bladder wall and prostate, was used a few times. (Syms.) Afterward the space of Retzi's was entered and the peritoneum pushed up and the bladder down for the same purpose. This avoided the danger of suprapubic urinary infection and bladder wound, but did not give the bladder exploration, and they were never popular. In some few thin subjects the prostate could be steadied and pushed down without an abdominal wound. About this time, to have reliable pressure from above without an additional operation, Syms devised his retractor, a dilatable bulb on a tube, to be inserted into the bladder through an external urethrotomy, wound dilated with water and the tube clamped; when by moderate traction on the tube, a diffused pressure at the apex of the trigone is obtained, steadying and drawing down the prostate into such reach of the index-finger, that the dissection is done more easily and quickly, making the median urethrotomy wound, the old preferable line of safety, sufficient, and by exerting pressure on the prostatic sinuses, diminished hemorrhage, while the tube, being reflected over the pubes, is out of the way. The diminished hemorrhage we believe to be especially important on account of the age and debility of the patients. The subsequently devised intravesical metal retractors are liable to abrade the bladder mucous membrane and open avenues for infection, do not give the diffused elastic pressure to close the sinuses, need more often to be re-adjusted, and are more liable to be in the way. Hence, we think the rubber one preferable. As confidence and technique have increased, numbers of prostates have been removed by only being steadied and drawn down by a Volsellum forceps or sponge holder, and Murphy of Chicago has devised a pair of retractors to hold aside the capsule and steady the prostate during enucleation, which may be useful. Indeed, some prostates have been dissected from about the urethra without opening it or the bladder, but as perineal drainage is now almost a cardinal principle and the operation must be longer and more difficult, it cannot often be of value. Thus perineal enucleation has been found to be rarely or never as difficult as was supposed. The same reasons which appealed to Nicoll and Alexander are appealing generally, except the necessity of the suprapubic wound, and we now hear comparatively little in literature of the suprapubic and much of the perineal route, which is rapidly being adopted by many of our leading surgeons. (Murphy, Hayden, Squier.) Keyes gives twenty-two cases of suprapubic operation with a mortality of 31.81 per cent. and eight cases of perineal with no death, well illustrating the comparative danger. To subject a weak patient to two coincident operations instead of one, enormously more than doubles his risk, and if it is unnecessary, should certainly be avoided. To illustrate this, Alexander had 25 per cent. mortality in his report of eight cases. Syms twenty-three consecutive successful cases of simple perineal prostatectomy, the twenty-fourth dying. These were average cases, their ages varying from fifty to seventy-eight years. We, therefore, believe in simple perineal prostatectomy in the following manner: With antiseptic precautions, and usually under chloroform anæsthesia, an external urethrotomy is done by dividing the whole length of the membranous urethra on the staff and the incision deepened to the apex of the prostate, which is exposed by blunt dissection. The prostate urethra is dilated with a divulsor. The finger may then be inserted and an exploration made, and should it be

desirable, a cystoscope may be used. The Syms retractor may be now introduced, dilated and traction made. With scissors the fibrous sheath of the prostate is opened and lobe by lobe the prostate is separated from its capsule and removed intact or piece-meal; and thus a large prostate is often removed more easily than a small one, contrary to the ideas of those who, in large prostates, would prefer the suprapubic route. The prostatic urethra is usually opened during this procedure, but rarely suffers any loss of tissue; a large perineal drainage tube is inserted (35) through the prostatic urethra, and the space posteriorly packed with a Mikulicz's tampon, thus preventing largely or entirely the contact of urine with the raw surface; and an external dressing and T-binder are applied. Park uses rubber tissue, somewhat after the method of a catheter en chemise, for a similar purpose. The subsequent care of the patient is practically that of an external urethrotomy. Shock is generally not severe, and if present is treated in the usual manner. The packing of the wound is diminished on the second day, and the wound thereafter treated on general surgical principles. The drainage tube is removed on the fifth day, when the patient is allowed up. During these five days the patient is allowed any position which will not interfere with the bladder drainage. The perineal wound is usually healed in three to five weeks, when the patient is discharged cured, returning at proper intervals for the passage of sounds.

*The causes of death* from prostatectomy have been given as shock, suppression, heart failure, sepsis, embolism and hemorrhage.

*Hemorrhage* is rarely severe when the capsule is opened below, with pressure on the prostatic sinuses and respect of the capsule, where vessels may be caught and ligated, and safe packing controls oozing. In only one case of Syms out of twenty-four was hemorrhage considerable, and then it was comparatively easily controlled.

*Embolism* we believe will be rare when the cautery is given up.

*Sepsis* with a pyramidal wound, its base to the surface, packed separately from the bladder, and contact with the urine, where if necessary, packing is easily changed, will be largely diminished.

*Suppression.*—As earlier cases are operated on and chloroform anæsthesia preferred, will certainly be rarer.

*Shock and heart failure.*—When the technique is merely an external urethrotomy with controlled perineal enucleation of the gland and operation is not the last resort, these should not be an imminent danger. The age and condition of the patient must always be reckoned with however. Patients are often better the day after than the day before the operation, but one patient, seventeen years old, was seen, who died seventeen hours after the operation of heart failure, and considerable shock was present in the case of hemorrhage.

*Of late complications.*—Incontinence is the most important. With no injury to the base of the bladder or stretching of its circular fibers it must be rare. We believe this to be one of the advantages of the perineal operation. Partial loss of control occurred in only one of Syms' cases. Keyes states of radical operation "where atony contraction of renal involvement is not extreme, the result will be perfect," and again "recurrence of the obstruction is, I believe, always due to inadequate operation." Post-operative insanity or cancerous degeneration are possible.

Such are the salient facts of prostatic hypertrophy and its radical cure. It has been impossible in the limits to deal exhaustively with any part, but it is hoped that the sacrifice of completeness may have been gained in clearness.

In conclusion it may be added:

1. That we have not attempted to give the indications for operation. As the statistics of simple perineal prostatectomy accumulate, they will be more definite. Now these cases must be judged more or less individually.

2. When chronic posterior urethritis and prostatis exist, these should receive appropriate treatment, the catheter used to withdraw residual urine, and the result carefully watched.

3. In patients in whom operation has become too hazardous, we must endeavor to improve their general conditon, and, if necessary, do aspiration or perineal cystotomy under cocaine, endeavoring to prepare them for radical operation or alleviate their symptoms. Advanced arteriosclerosis should also be carefully considered.

4. Our responsibility is in recognizing and properly urging operation when indicated; if it is refused we have done our duty, and the patient must abide the issue with such means as remain.

5. Palliative operations should rarely or never be done from their hazardousness and inefficiency.

6. Prostatic hypertrophy is now curable by means of an operation which, though serious, is not hazardous when undertaken in *proper time and manner*. Failure of palliative treatment, of course, gives hope alone through operation, but should be anticipated rather than persisted in. In general infection, especially if repeated, as in irritable cases, obstructive cases unless promptly relieved by its sound and under observation, if residual urine is increasing despite catheterization, or the patient's general health is being impaired, all indicate the time for operation.

7. Anatomically, and now surgically, the simple perineal is the direct and preferable route. Rarely suprapubic exploration or lithotomy may be ad-advantageously added to it.

8. As statistics accumulate, we believe that radical cure may further anticipate the course of the disease.

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**Sterilization of Water for Troops in the Field.**—In answer to a question asked by Sir Michael Foster in the British House of Commons, in regard to the result of experiments in the British Army as to the sterilization of water for troops in the field, the Secretary of State for War replied that the sterilization of water in standing camps could be arranged, but in the case of moving bodies of troops great difficulty was being experienced in obtaining really satisfactory results.

# THE CAUSATION OF CANCER AND ITS TREATMENT WITHOUT OPERATION.*

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Before we can hope to accomplish anything toward the elucidation of cancer, we must be able to differentiate between the pathogenesis, the pathology, and the premonitory and initial symptoms in each individual form that it assumes. I insist upon this being a necessity before any correct conclusion can be arrived at. No one will, I venture to affirm, deny the fact that, with the exception of scirrhus and encephaloid, each type of the disease differs from its fellow in individuality, source, structural composition, progressive growth, and consequent invasion of the surrounding tissues.

Many theories (not one of which has ever been substantiated) have been adduced to explain the causation of cancer. Among these may be mentioned the eating of tomatoes, the consumption of too much animal food, the preponderance of salt in the dietary, living on a clayey soil, which at times is flooded, and many others; but it would be a waste of time to do more than mention them in a short paper like this. There may be a modicum of truth in such theories, but their importance exists only in the fact that, in certain circumstances, the influence exerted by the various conditions of life mentioned may tend to act prejudicially upon the general health. Thus one is rendered liable to any disease, cancer amongst the number, but the latter only when more important forces are at work.

The occurrence of the various forms of cancer has been attributed by many theorists to parasitic influences; by others it has been viewed as a disease of degeneracy; indeed so many statements have been hazarded on the question, each one pointing to different conclusions, that it becomes quite impossible to reconcile one with the other, and from my point of view, not one of them is reconcilable with the truth.

Were cancer due either to a parasite or a microbe, would we find it unilateral, as it almost invariably is in the first instance; and would it not be invariably accompanied by a rise of temperature, which the presence of parasites, embedded in the tissues, would naturally produce in consequence of the amount of irritation they would excite?

I am convinced that cancer, or rather the elements of cancer, are present in every individual, whether it manifests its presence or not. My reason for making this statement is that I believe the cancer entity is, in its original state, a normal cell, which, from a combination of circumstances, has become altered in character and has assumed a new rôle of existence. It thus loses its benign attributes, and ceases to perform its functions in harmony with its surroundings, becomes aggressive and cannibalistic in its proclivities, prostrating, and then preying upon its neighbors. In doing so, it procreates its species at an alarming rate of rapidity, and by its contact with the neighboring tissues, saps their vitality, and then destroys them when their power of resistance is thus reduced. The physiological condition of these normal cells is displaced by a pathological activity, terrible in its results. Speedily the disease process is conveyed by means of the lymphatics to distant organs, each of which becomes a new center, from which the mischief radiates.

Let us consider certain conditions which, by their combined influences, conspire in an indirect yet tangible manner to cause a temporarily weakened but otherwise healthy tissue to be supplanted by a structure still bearing a strong resemblance to its parent, but which becomes endowed with a power entirely foreign to that which it originally possessed.

The causes of this pathological metamorphosis are apparently trivial in themselves, and therefore liable to be overlooked; yet if they are present in force, they are sufficient to exert a pernicious influence upon the general health, and more especially upon an organ which has had its vital force previously diminished. If an organ has been the seat of prolonged irritation in addition to having had its vital energy reduced, a disease process is most liable to become established.

Let us constantly bear in mind that whatever acts prejudicially on the general health is liable to become a factor in the production of cancer. It is in this way marriage of blood relations, bad ventilation, constipation, excess in eating or drinking, worry, sedentary habits, and the neglect of important hygienic precautions act so perniciously, and react upon an organ, which in more favorable circumstances, would assuredly, by its inherent vitality, be quite able to resist the onset of malignant disease. We must never lose sight of the fact that intrinsically a morbid cell possesses a potentiality very much inferior to that of its healthy and physiologically active neighbor, and it is only when the latter is prostrated by one cause or another that the former is enabled to exert its pernicious potency, which almost invariably becomes progressive. In other words, every circumstance which tends to impoverish or militate against the general health predisposes to cancer. If, therefore, a particular organ is already the seat of a lesion, or if its physiological activity is in abeyance, this organ will become further weakened by injury, and a superadded enfeeblement will thus be conveyed to it. This will render it prone to that kind of cell metamorphosis which results in malignant disease.

It is a most important fact to bear in mind that cancer is essentially a disease of civilization. It is practically unknown among savages, and amongst those who lead a simple, and what I would designate a natural, life. Travelers, who are quite able to recognize it, and who have penetrated the regions hitherto unvisited by the white man, have never recorded a case; there is then no reason to doubt that it is a preventable disease.

To revert for a moment to the statement I made that the elements of cancer are present in every individual, I would like to draw your attention to the palpable fact that ephithelioma invariably retains its epithelial character, proving, I think, conclusively that it derives its origin from an epithelial cell. In scirrhus it is different, for in this case we have a cell or cells which have migrated from a distant organ—most probably the ovary—and have taken up their situation in the mamma, there to assume a new and morbid development if the opportunity arises. But this opportunity must be present before any morbid action is liable to follow. We have a palpable example of what is essentially epithelioma, existing in a harmless, or at least a passive, condition, in a wart. If this excrescence is not interfered with, the probability is, it will remain as a disagreeable disfigurement and nothing more; but if, on the other hand, it is subjected to rough usage, we know by experience very serious consequences may follow, and instead of a passive nodule we may have arising an active epithelioma. Now, in epithelioma of the cervix uteri, there invariably has existed for a lengthened

*A paper read before the Fourteenth International Medical Congress, held in Madrid, April 23-30, 1903.

period, prior to its manifestation as such, an enfeebled condition, not only of the uterus itself, but of the general health of the individual. The latter has been contingent upon, if not in a great measure due, to a prolonged existence of endometritis, with its train of concomitant symptoms of neurasthenia, and consequent prostration of functional activity of all the organs of the body, until the whole gear of the economy is thrown out of healthy working order.

No one will, I presume, gainsay that the integrity of the epithelium depends largely upon the unimpaired integrity of the thyroid body. Not only are the mucous membranes and skin dependent upon this organ, to a large extent, for the continuance of their health, but according to Charcot, Bonilly, Tuffier, Guinan, and others, there is a direct physiological relationship between the thyroid and uterus, which fact was well known to the ancients. If we consider for a few moments what the functions of the thyroid gland are, we cannot, I think, but be convinced of the important part it plays in maintaining the healthy standard of the blood. Dr. F. Blumm maintains that the function of the thyroid gland is to seize upon and render innocuous certain toxic substances, which are constantly produced in the intestine, and absorbed into the blood. It is in this relation, I am convinced, that the administration of thyroid extract produces such a beneficial effect in the treatment of cancer. It must be borne in mind that toxic substances most certainly are continually being absorbed in large quantity when constipation is persistent, and this will be accentuated when there has been over-indulgence in certain articles of diet which contain a large proportion of nitrogenous material. The enterotoxæmia, which results, tells in two ways, first there is a contaminated blood stream, which acts perniciously upon the nervous system, and through it upon every organ of the body. The functions of the thyroid, as a consequence, are prejudicially affected, and its power of neutralizing the toxic material referred to is reduced. This, therefore, accumulates in the blood, giving rise to pathological changes of serious import. In the second place, if saccharomycetes also be present in the blood, which we know is not at all an uncommon incident, they by their power of producing fermentative changes, seize upon this toxic material, transforming it into uric acid, and we have uric-acidæmia resulting. This condition of the blood we know interferes seriously with cell metabolism, and in this I maintain we have one of the principal predisposing causes of cancer. The continuance of the formation of enterotoxins also accounts for the cachexia which is generally coincident.

From the fact that certain animals fed on a milk diet remain in good health after thyroidectomy, but die when a meat diet is substituted, one is naturally led to the conclusion that in cases of cancer, it is advisable to abstain from food containing a large proportion of nitrogenous material, and substitute a dietary containing a preponderance of milk. From the evidence we have to hand, I am led to the conclusion that a diet which is composed largely of flesh meat tends to the production, of definite toxins in the intestinal canal, and it is these toxins of intestinal origin, or enterotoxins, for which the thyroid gland, in a normal condition, seems to have an affinity, and which it seizes upon, fixes, and finally neutralizes. Probably the toxins which arise in the course of a milk diet and a meat diet respectively, differ in quantity rather than quality. The possibility therefore of neutralizing the effects of the enterotoxins by the administration of thyroid extract is of great importance.

We must not, however, rest satisfied by depending solely upon the beneficial effects obtained by the administration of thyroid gland in the treatment of this disease, but simultaneously endeavor to destroy the saccharomycetes, which we know are almost invariably present in cancerous subjects, for if their presence is permitted to continue, their effects upon the enterotoxins will inevitably be perpetuated. Now, we know that the most potent destructive agent upon these bodies, with which we are at at present acquainted are the salicylates. It follows, therefore, that in conjunction with thyroid extract, it is desirable to administer a salicylate in one form or another, and by this means remove what I believe to be the chief factor in the production of uric acid. At the same time, constipation, which permits of the absorption of the enterotoxins, must receive our most serious attention. To put the matter in a nut-shell, our first duty is to ascertain that the bowels are completely evacuated once in twenty-four hours, that the dietary is so modified as to be composed largely of milk food, that thyroid extract is administered in five-grain doses three times a day, that along with this ten to fifteen grains of salicylate of sodium are given three times daily, and that the local affections are treated with a view to remove all sources of irritation. Then if the disease has not advanced too far, I am convinced it will yield to this treatment, which has frequently been the case in my hands.

In conclusion, I would venture to sum up the predisposing causes to cancer as follows:

1. Persistent and prolonged retention of fæces containing an undue proportion of decomposing albuminous material, from which enterotoxins are derived, and by absorption conveyed to the blood.

2. The blood thus contaminated produces a depraved condition of the nervous apparatus, thereby handicapping the functional activity of the various organs, interfering with cell metabolism, and eventually culminating in anæmia in young persons, or cachexia in the elder.

3. If the functions of the thyroid gland are at fault, these toxins, which otherwise would be neutralized remain in a position capable of producing serious mischief.

4. If saccharomycetes are present in the blood, this toxic material is liable to undergo chemical changes, resulting in the formation of uric acid, when uricacidæmia will result.

5. The presence of these toxins in the blood, alone or combined with uric acid, exerts a pernicious influence upon cellular structures, and confers upon them a predisposition to take on a malignant metamorphosis.

6. Prolonged or repeated irritation of a part is liable to rouse into malignant activity cells which otherwise would have remained dormant.

7. The vitiated condition of the blood by prostrating the physiological vitality of the various organs and cellular structures and paralyzing the *vis medicatrix naturæ* affords every facility for the new growth to establish its identity, and increase its area at the expense of its environment.

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**Diphtheria Spread in Paris Schools by Pencils.**—According to the Paris correspondent of the *Lancet*, a medical inspector of schools in Paris has discovered that diphtheritic infection among school children is spread by means of pencils. Surely medical inspectors of schools in this country have drawn attention to this means of infection on more than one occasion.

# PATHOLOGY AND TREATMENT OF PNEUMONIA.*

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If it were only possible to destroy all books and other writings on pathological histology, pathology and treatment of diseases and to obliterate all knowledge of them from our minds, what a great blessing it would be to the modern pathologist and therapeutist. I would also include all past knowledge of physiology and to begin the study of these subjects according to our present knowledge of them. To be able to wipe out all the past theories and pseudo-scientifics, facts with which they are lumbered and only have to master that which is accepted as truth by our profession.

If we examine our best and latest textbooks upon pathology, page after page is taken up with unimportant theories. The entire work is only a revision of some old work written fifty or a hundred years ago. Works on pathology devote most of their space to pathological histology. The true pathology that they contain could be written in a few pages. The term pathology is used instead of the proper term, pathological histology or pathological anatomy.

I know of no disease in which we have such a mass of antiquated ideas still retained, as we have in pneumonia.

By pneumonia, I refer to that disease produced by the pneumococci and not other diseases resembling it, in which we have an inflammatory process going on.

Pneumonia, pneumonitis, lobar pneumonia, croupous pneumonia, lung fever, and other names applied to true pneumonia, are usually defined as inflammation of the lungs.

I will give some of the old and modern definitions of pneumonia:

Wood.—The name of pneumonia is now usually applied to inflammation of the spongy tissue or parenchyma of the lungs.

Page.—Pneumonia or pneumonitis signifies inflammation.

Gould.—Inflammation of the lungs.

Ingals.—Lobar pneumonia consists of an inflammation of the vascular structure of the lungs with accumulation of inflammatory exudation in the air cells, whereby they are filled and rendered impervious to air.

Palton.—Pneumonia is an acute inflammation of the lungs of infectious origin.

Anders.—An acute infectious disease caused by the *Micrococcus lanceolatus*, which produces a specific imflammation of the parenchyma of the lungs and marked constitutional disturbances.

Osler.—An infectious disease characterized by inflammation of the lungs, etc.

When I graduated in medicine in 1868, it seemed to me that there was something about pneumonia that was not explained by considering it an inflammation of the lungs. The clinical history was so contrary to well-defined inflammation. For the past thirty years I have taught that pneumonia was not an inflammation of the lungs, both in lectures and clinics, exactly what it was, I did not know, but I did know that it was not a true inflammation. In 1888 I read a paper before the American Medical Association in which I said that pneumonia was not an inflammation of the lungs, but was a disease produced by some disturbance of the vasomoter system of the double blood supply of the lungs. At that time I had not accepted the germ theory of disease.

I found no explanation of my theory of the pathology of the disease, till after Dr. Andrew H. Smith of New York wrote the article upon Lobar Pneumonia in the sixteenth volume of the "Twentieth Century Practice of Medicine." This article made clear to my mind ideas and theories that I had taught for over thirty years.

Dr. Smith's definition is as follows:

"Lobar Pneumonia is an acute disease in which a specific parasite invades the air cells of one or more pulmonary lobes, where it grows in a fibrinous medium exuded from the functional capillaries, and generates a toxin that infects the system at large. The local process causes consolidation of the affected area by filling the air cells with the effused material, which material is afterward removed, leaving the structure of the lung intact."

In regard to the double blood supply of the lungs, Dr. Smith says: "The lung differs from all other structures in having two separate circulations: the nutritive, supplied from the left side of the heart through the bronchial arteries, and the functional supply from the right side of the heart through the pulmonary artery. This double circulation underlies all the phenomena of pneumonia, and must be recognized in any definition of the disease, as without it the disease itself could not exist."

I believe that our high death rate in pneumonia comes to a great extent from our antiphlogistic treatment of the disease. I do not deny that we may have inflammation of the lungs, but I hold that pneumonia is not an inflammation of the lungs. Again, I quote from Smith: "As to the relation of the specific organism to the disease as a whole, we may note:

"First: That no amount of traumatism inflicted upon the lung, be the methods ever so varied, produce pneumonia. We may cut, pierce, bruise, burn, or scald the lungs; we may introduce mechanical or chemical irritants into the air passages, and while we get inflammation as the result, we do not get pneumonia.

"Second: We may have pneumococcic infection in several serous and synovial cavities at the same time, resulting in suppuration in each, and not have pneumonia.

"Third: We may introduce the pneumococcus into any portion of the body, save the lungs, and even into the blood itself, and we do not get pneumonia.

"Fourth: But if we introduce active pneumococci into the parenchyma of the lung, we always get pneumonia as the result. Pneumococci are always found in the lungs in pneumonia, often in connection with other micrococci."

If we carefully study the pathological histology of a case of pneumonia, we do not find evidences of inflammation in the sense in which it is understood when applied to inflammation as it occurs in other tissue.

In inflammation we have effusion and the passage of leucocytes from the capillaries of the *nutritive circulation* into surrounding tissue. In inflammation of the lungs we would find this infiltration into the parenchyma of the lungs coming from the *nutritive capillaries*. In pneumonia we find the effusion and passage of leucocytes into the air cells: open cavities, and from the capillaries of the *functional blood supply*, altogether differing from inflammation. There is no change in the parenchyma of the lung, and but little effect upon the epithelium

*Read before the Academy of Medicine, Toledo, Ohio, April 1, 1903.

except that caused by pressure of the effused product from without. Inflammation effects the tissue itself, and causes an anatomical change in its elements. In pneumonia this is not the case.

Emmet says that "inflammation causes molecular death," but we do not find this the case in pneumonia. After a few days the air cells are emptied of the mass of exudate with which they were filled, and the cell walls are found practically in their normal condition, having suffered, at the most, only a little loss of epithelium, produced by pressure.

Again the crisis in pneumonia takes place, usually from the fifth to the eighth day, with a sudden fall of temperature and other symptoms, while the physical signs remain the same.

Could this take place if the process was inflammatory?

What is pneumonia, if not an inflammation?

In pneumonia we have a process of germ culture going in the air cells, each cell acting as a culture tube. The pneumococci, finding lodgment in the air cells, irritate the lining membrane of the cell, and then the functional blood vessels throw out material into the cell, which acts as a culture medium in which the germs rapidly multiply. The neutritive system of blood vessels maintain the neutrition of the lung tissue, and prevent its injury. A healthy and a morbid circulation taking place in the same tissue at the same time.

It is a well-known laboratory fact, that any germ acting upon a culture medium, if the medium is limited, after a certain length of time, it cannot furnish material for the production of toxins and nourishment of the germ and it dies. This is exactly what takes place in the air cells. The germ irritates the capillaries of the functional blood supply. Material is thrown out in the air cell, pressing upon these blood vessels and preventing any more exudate. After from five to eight days, the germ has exhausted the supply of culture medium, and ceases to produce any more toxin, which by its absorption caused the chill, fever, and other symptoms. No more toxin being produced, the symptoms subside.

Smith sums up the processes that take place in pneumonia as follows:

"(1) The occurrence of some cause of depression, either local or general, which favors the germination of pneumococci, already present in some of the smaller tubes. (2) The formation of a colony that spreads until it reaches the group of air vesicles that are terminal to the tubes in question. (3) The setting up of an irritation in these vesicles, causing a fibrinous exudation, and emigration of leucocytes, and a diapedesis of red cells from the functional capillaries. (4) The formation of a colony of pneumococci in the medium afforded by this exudate. (5) Arrest of the blood stream in the functional capillaries, followed by accumulation of free pneumic acid in the parenchyma of the affected area. (6) Overflow of exudate into neighboring lobules starting the process in them also. (7) Arrest of germ growth by the exhaustion of the medium and the accumulation of free acid in the tissue of the lung. Up to this time there has been a constant formation and absorption of toxin. (8) Retrogressive changes in the exudate preparatory to its removal by absorption. (9) Probably, in this latter process, formation of an antitoxic principle. (10) Entire removal of the exudate and restoration of the vesicle to its normal condition. (11) Resumption of the functional capillary circulation."

*Treatment.*—If pneumonia is not an inflammation of the lungs it should indicate a radical change in its treatment. A non-inflammatory disease should not be treated the same as an inflammatory one. The patient should be placed in bed in a large, well-lighted, and well-ventilated room. The temperature should be kept at about 65°. Above all things, a patient with pneumonia should not be removed from a warm bed and a warm room and placed in an ambulance and taken to a hospital. I would much rather attempt to treat a patient with pneumonia in poor hygienic surroundings than take the risk of removal to the best conducted hospital. A case of pneumonia is certainly not benefited by removing it from a warm bed to a cold ambulance, and then the exposure incident to a long ride does not add to his chance of recovery. The risk of removing such cases is attended with great danger. The importance of placing a patient with pneumonia in bed and keeping him there should never be overlooked.

F. K., a strong, vigorous young man, called at my office one morning. He had some premonitory symptoms of pneumonia; in the afternoon he had a chill with evidences of consolidation. I sent him home and placed him on treatment with instruction to go to bed. I visited him twice the next day. He was progressing well. I instructed him not to get out of bed under any circumstance whatsoever. The next morning, the third day of the disease, I visited him and found him in rather a nervous condition, symptoms not so favorable as the night before. He said that he awoke about four o'clock and felt so well that he got up and went to the watercloset, and run all over the house, went into his parents room and sat on the bed, and talked for some time, till he felt chilly, then went back to bed. The house was cold and damp. I told him I did not like his condition and was afraid that he would be worse, having disobeyed my directions. He said he was all right and wanted to get up and dress. I instructed him to remain in bed. At eleven o'clock I was sent for and found he had been having a chill, high temperature, full bounding pulse, flushed face, great dyspnœa, and in a high state of nervous excitement. I considered him in a very critical condition, and called Dr. Collamore in consultation. We bled him freely, which afforded temporary relief of the dyspnœa, but it soon returned again. He continued to get worse and died a short time after midnight, the beginning of the fourth day of his sickness. One of us was with him until death took place. If he had followed instructions and remained in bed and kept warm, I have no doubt he would have recovered, as he was doing well up to that time.

The food should be light but nutritious. Milk is the best diet.

No medicine should be given in any disease unless we know just what we expect it to do. Do not give any remedy for pneumonia just because it has been recommended in the disease. Some remedies may be good for pneumonia, but very bad for men, women, and children afflicted with the disease, and then, during the course of the disease, the local and constitutional conditions are undergoing a change. The remedy indicated to-day might be of injury to the patient to-morrow. Mix your remedies with brains.

The surgeon of to-day uses but few medicines, but he studies those few well and knows just what he can do with them. He has the latest and best instruments and appliances, and he knows just how to use them to get the best results.

How is it with the physician of to-day? He has his laboratory, his microscope, his hematometer, his reagents, and other instruments of precision. He

can make out a beautiful diagnosis, but then he is at a loss to know what to do. The physician of to-day does not know as much about therapeutics and the action and the limit to remedies as did his predecessors of twenty-five to fifty years ago. When he has made out his diagnosis, he takes up a price list of tablets and proprietary medicines and runs down the list till he comes to the name of the disease he has diagnosed, and gives it to his patient. Nearly 50 per cent. of all prescriptions are for patent or proprietary medicines.

Physicians are becoming diagnosticians instead of therapeutists.

If I see my patient during the prodrome before the chill I place him in bed and give him a brisk mercurial purge, followed by a siline. By this I empty out the alimentary canal and stimulate secretions. Full doses of quinine at this stage may abort the disease and prevent the chill. As we seldom see the patient until after the chill, we have to resort to other means. If I see the case within a short time after the chill, I give one grain of opium, also giving a few small doses of calomel followed by a saline. Tincture of aconite, in drop doses, should be given every hour. After engorgement and exudation has taken place, I place the patient on quinine, two grains. Ammonium chloride, three to five grains. Tincture aconite, one to two drops, and svapnia one-tenth grain, made into capsule and given every two hours, from the time of the chill until the crisis takes place, giving it day and night, arousing the patient from sleep if necessary. There is no stage of the disease, prior to the crisis, contraindicating the use of all these remedies. Other remedies are used as indicated.

Quinine is one of the best remedies I have used in pneumonia. In the beginning, full doses will sometimes abort the disease. As indicated, I afterward give it in two-grain doses every two hours, twenty-four grains every twenty-four hours.

Dr. A. A. Palmer read a paper before the American Medical Association on "The effects of Quinine in the Treatment of Acute Pneumonia," in which he demonstrated the use of this drug as a therapeutic agent. He says, "I cannot doubt that quinine is capable, when properly used, certainly in the early stages of the disease, of arresting its progress in a large majority of cases, not only mitigating the fever, but preventing the full development of the local inflammation. Quinine does not only reduce the fever, but it has a special tendency to relieve internal congestives; it brings the blood more freely to the surface, and induces perspiration, and if we can rely on modern experimental observations, it diminishes the production and the amœboid movements of leucocytes, and thus diminishes exudation."

In pneumonia the leucocytes increase from 9,000 in health to 10,000 or 12,000 in mild cases, to 30,000 or 50,000 in severe cases per cubic millimeter of blood. Quinine prevents the rapid production of leucocytes. It also prevents their amœboid movements, and retards their passage out of the vessels into the air cells.

To show this action of quinine, I have often, in class work, taken the web of a frog's foot, placed it under the microscope and observed the movements of the white and red blood-corpuscles intimately mixed with each other in the center of the current. Now apply a slight irritant to the field and we will see leucocytes leave the central current and flow along the wall of the vessel, adhering to the surface. Some of them become lodged, elongate, break loose, and pass through the coats of the vessels. If we inject quinine into the frog and continue to watch the blood current, we will see the leucocytes assuming their natural shape again, they do not adhere to the walls of the blood vessels, but flow in the current.

In pneumonia we find an increase of fibrin in the blood, the limpidity of the blood with its alkalinity is diminished. The presence of ammonium chloride in the blood increases its alkalinity, diminishes its viscosity, and prevents coagulation. In this disease, we find the chloride of sodium in the urine very much diminished or absent. The accumulated material filling up the air cells, contain a large amount of chloride of sodium. When ammonium chloride has been administered, it is effused into the air cells, thinning and liquifying the contents of the cell. The sodium chloride is taken up by the blood and eliminated by the kidney. I have proven this action in a number of cases, by analysis of the urine and sputum. Ammonium carbonate will not take the place of the chloride of ammonium. The acidulous radical of the carbonate ($CO_3$) being too easily decomposed and diffusible, will not remain in contact with the compound radical ($NH_4$). Carbonate of ammonium acts as a diffusible stimulant, easily undergoing chemical decomposition and both radicals are broken up.

Aconite is very strongly condemned by many in the treatment of pneumonia. If used in large doses, it should be condemned, but if used in small doses, it is very efficacious and of great value. It relieves the patient and prevents various complications. Tincture of aconite, in one-drop doses every hour, reduces the frequency, force, and tension of the pulse, flushes and moistens the skin, and increases the amount of urine with a corresponding increase of solids. After these are accomplished, aconite should be discontinued.

Bartholow says: "It is more especially serviceable before exudations have taken place, but is not without utility at any stage"

Fathergill says: "Aconite dilates the arterioles and greatly increases the capacity of the vascular system, and in this way drains blood away from the engorged part; in fact, this drug 'bleeds the patient into his own vessels." Norwood's tincture of veratrum viride, if given in large doses at the onset of the disease. will accomplish this better than aconite.

Opium, or its derivatives, is another remedy that I use throughout the disease. If the case is seen early, a full dose of opium, one grain, is given; after this, opium should be used in small doses. I prefer svapnia to other forms, given in one-tenth-grain doses every two hours. In such doses it acts as a stimulant to the respiratory centers, does not arrest secretion, but acts as an expectorant, relieves the cough and makes expectoration easier. Large doses of opiates should never be given, except in the beginning of the case. Since the introduction of heroin, we have a remedy that is very efficient in the treatment of pneumonia. One-twelfth of a grain, in tablet form, will quiet the nervous system, produce sleep, lower the temperature and pulse rate, diminish and increase the force of respiration, and make the expectoration much easier.

Alcohol, strychnine, nitroglycerin, digitalis, veratrum, salicylates, creosote derivatives, saline injections, etc., are all usetul in pneumonia, if used in the proper stage, or to combat complications as they arise. Time will not allow me to take up each one. Warm applications, cold packs, or cold spongings are called for in almost every case, depending upon conditions and circumstances.

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# THE PRINCIPLE OF LIFE AND COGNATE THINGS.

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Prof. H. D. Halliburton, in his address before the British Association for the Advancement of Science, discussed what he termed the "Revival of the vitalistic conception in physiological work." The statement is somewhat equivocal, is possible and probable of misinterpretation, leaving an incorrect impression of the facts in the case. It is as though the vitalistic conception, holding sway once but since abandoned, is again taken up or "revived," which does not state the case correctly. The vitalistic conception has always been entertained in various degrees of modification. Now, opinion has leaned toward or emphasized one phase of the conception, then a somewhat modified view has obtained, each being but an interpretation of the one constant conception of a force not merely or entirely physical. Life phenomena have never been conceived and interpreted on a purely physical basis, and the conception of "vitality," or a force and principle other than physical, has always entered into the hypothesis of the interpretation. It is therefore not the revival of the vitalistic conception so much as a more general interest in, and a more purely vital idea of the force operative in, physiologic work, which obtains.

Professor Halliburton admits, "It may be that there is a special force in living things that distinguishes them from the inorganic world," etc., and it is the part of science to demonstrate, or disprove, the entity of such special force; but to say that, "Because there is something in physiologic processes that we cannot understand, is no reason for calling it vitality" (Halliburton), does not by any means commend itself as a scientific position to assume.

Is there a something we do not understand? May it be demonstrated as a special force to these phenomena? Can such notion be disproved by accounting for organic processes on chemical and physical grounds? These are questions to be answered and settled if possible, and to solve the problems which these involve is the dignified attitude which medical science assumes.

A consensus of medical opinion will indorse the statement that "the vitalistic conception" of the present day is the admission that there is something in living matter that is not identified with any known physical and chemical activities.*

Is this "may be . . . special force," this "something not identified with any known physical and chemical activities," a chimera, or may its entity be demonstrated? Surely scientific ground for one position or the other may be established!

At least quasi confession of the reality of this "special force" is given by the most ardent objectors to the vitality conception, in the attempt to evidence the "identity of electricity and life."

The time has certainly come when there should be a dignified, scientific essay to settle this first and preliminary part of the "Great Biological Problem:" Is there a special force in organic phenomena? Is it sovereign, dominant in all the processes of the organic phenomena? Is it alone the magisterial, operative principle, or may it be supplemented and complemented by forces external to itself? These are problems not yet fully solved, it would seem, in medical science, the medical mind is much 'at sea" respecting them, hence the charge, in high places too, of "Chaos in Medicine.'

How can there be a correct understanding and interpretation of pathological, or a rational interpretation of therapeutic processes with these questions unanswered, and these problems unsolved?

A pathology based upon the hypothesis of a community of forces operating in organic processes would be wide of the mark were the correct interpretation of the facts in organic phenomena to evidence the entity of a special force, together with its sovereignty and unity in dominance of the processes. This is the position we assume, and the non-recognition of these facts leaves us as unsettled as to the basic principles upon which our pathology and therapeutics are founded as were astronomers, in solar science, prior to the Copernican epoch, nor can it be otherwise while the problems we have before us are uncertain and unsolved.

There will be some approach to a solvement of the problem of life in the endeavor to establish the entity or to evidence the fallacy of a special force in living things.

In the study and investigation of organic phenomena *motion* is what is first seen and conceived. With the best aids to vision a microscopical substance, mostly water, is seen, and which is always identified, and identifiable, as the physical basis of life, of organic phenomena, of every class and grade.

Organic processes are specific, identical, and unique to this one substance, the basis of them. Viewing this substance in normal environment, its first spectacular is motion in increase of mass or size. And this motion is specifically centrifugal, *from* center (Beale), and automatic. The cosmic forces common and operative in inorganic phenomena are not in evidence here, but are held in abeyance, the centripetal motion, in all other save this one instance, being centrifugal. So that the increase in the mass of matter is by force originating in itself, and operating from the center outward.

The original matter, the germ, is the seat and source of this ultimate or initial organic phenomena, metabolism, in association with and of the nutrient substance taken up by and into the bioplasm of the germ. This is followed by the appearance of the so-called "cell," discovering a membrane or cell-wall. The processes continue, increased cellular mass results in disturbed equilibrium with fission and multiplication of cells.

The phenomena are progressive, becoming more and more complex as they proceed, but the initial, or metabolic, process is identical throughout, and in every grade and species of organism, in plant and animal world.

Intake of nutrient substance to be sure; absorption of environmental nutriment, and metabolic process from within outward—centrifugal.

In all this the phenomena are the converse of those cognate to these in the inorganic world, the forces operative in organic processes not being in evidence in organic phenomena in their primordialism, but a force, specific to this basic substance, bioplasm, localized with it, and specifically dominating all the processes germane to the organism, is sovereign.

This distinction in the nature of the processes obtaining in the organic and inorganic domain is marked, and being vital in this discussion needs further illustration.

*The *Journal of the American Medical Association*, November 8, 1902. Editorial: "The Principle of Life."

In the inorganic world in its primordial and intricate phenomena nothing is spectactular. Atoms and molecules, to say nothing of the corpuscular hypothesis, a thousand "corpuscles" to form an atom of hydrogen, are occult to vision, even with the highest modern aids to sight.

In the atomic formation of molecules and their various arrangement motion, of course, enters into the mental process of ideal conception, the motion being centripetal, and by forces in no sense local or especial to the substances operated upon—at least, not so in any such sense as in organic phenomena. True, the universe is an organism in the accommodated sense used by the President of the American Association for the Advancement of Science, in his recent address before that body at Washington.

The great cosmic bodies, and in their entirety, are related, and the laws and forces operating are, in general, the same, universally, but in such sense as to allow the most complete distinction to obtain in the inorganic and organic spheres as to the modes of their phenomena and the principle of their operations.

The organic world, from the spectacular point of view, may be quite inconsiderable, for who can demonstrate, other than as a reasonable speculation, that there is life on any planet save our own? Yet from the nature of its physical make-up, and especially the character of the phenomena obtaining, it bears fine comparison with the cosmos of which it is so minute a part.

It is in the nature of the phenomena obtaining that our world finds its distinguishing characteristic.

Lord Kelvin, recognizing the wide dissonance of the inorganic from the organic processes, says that, "all motion in pure dynamics is reversible," yet maintains that this principle "has no place in the world of life."

Organic phenomena are evolution processes, developmental, progressive.

The microscopical protoplasm manifests motion as the initial expression of the special force of which it is the depository, the action originating within. The living matter comes close to, takes up into itself the nutrient matter of its environment, and, by a unique process, passes on its life and powers to the erstwhile dead nutrient substance, which at once assumes and occupies the position of the parent bioplasm. This, in turn, assumes a changed position, taking on structural form, being now classifiable among the tissues of the organism that is, or is to be, part of it becoming effete, which in the general processes is removed as waste.

This life property is not exerted indiscriminately, but only upon certain selected material found in its nutrient environment. The bioplasm of plants takes up certain inorganic elements and matter, and by a property peculiar to itself, and processes peculiar to plant organisms, brings them into the organic condition. Animal protoplasm has not this property and power, although in what the property consists is not as yet ascertainable, the two kinds of protoplasm being indistinguishable. Animal life would be impossible without the vegetable kingdom.

Here, then, is exerted the life principle, which seems to be an endowment of the living matter alike of the plant and animal, for in the absence of this special substance neither class of phenomena are producible.

If action giving rise to the structural unit of the organism, with the changes and multiplication of it, had not been *seen* the conception of life phenomena, embracing embryology and all physiology, could not have been formed. Motion, therefore, self-action, action automatic and self-originating, is the property of living matter, and, it would seem, of it alone. Other matter is moved by force external to itself and common to other matter and movement, motion in and by force inherent to itself being characteristic of this protoplasmic substance alone. Self-movement, unique in its nature and kind, is a property of protoplasm and special to it and its phenomena, the principle of life being its originating and active force. All motion organic in nature, all the activities of an organism originate in the living matter, the bioplasm of the cell or structural unit. Organic function, tissue motion, as expressed especially in osmosis, and all recognizable activity in an organism originate in and by force of the protoplasmic nucleus of the cells. Physical and chemical activity are secondary and subservient to this, as is evidenced by the fact that the latter are incompetent to the life phenomena without the former.

The question, vital at this hour, is, Are these the facts in the case? Have we stated them correctly? The misconception and misinterpretation of the facts in physiology and pathology, rendering oblivious and inoperable the fact and principle of the sovereignty and unity of the vital forces, or the life principle, in organic phenomena, has given rise to the error of active agency in disease of other than the vital forces, and the equally erroneous notion of active principle in drugs, in the sense of "curative properties" possessed, and therapeutic activities originated by them. What we have elsewhere termed as the huge delusion of a bottled and marketed pharmaceutical "cure" for disease, disastrous alike to the interests and health of the people at large, is the legitimate progeny of the misconception and misinterpretation we deplore. For every disease there is a "remedy" in some drug, is the half-truth which is infinitely worse than the lie, and, were there but money in it, some enterprising commercial pharmacist, assisted by a renegade M. D., would put up in one package the "germ" of a certain disease, and in another the "cure," and so by striking the correct balance befriend the world and gain the coveted revenue, nor is the day so far distant when these strictures will not appear so funny or untimely as possibly they may now.

External things, such as microorganisms, which may very properly be termed disease organisms, do certainly have relation to pathological conditions and processes, causal and adjuvant in rôle, just as drugs do in therapeutic processes leading to restoration to health, but the distinction between cause and origin in disease is a distinction most real and vital. The causal and adjuvant interpretation of the rôle of external things in pathological phenomena recognizes the force special in living things, affording a rational view and interpretation of the processes. This leaves the principle of life in charge, so to speak, magisterial, dominant in the activities, as it certainly is.

The other view and interpretation, making external things—microorganisms, for instance—the active agency in disease processes, involves us in chaos. The hypothesis, acted upon rather than defined and authoritatively taught, that force, other than the special or life force, operates effectively to carry on organic phenomena, while nowhere taught, as affirmed, is nevertheless assumed as the practical basis of pathologic con-

ception and therapeutic interference and exhibition. Is the error not colossal in proportions and disastrous in results?

The test of a theory is in its practical application, hence the question, how does it work? The test here is applicable.

A consensus of medical opinion will certainly support the editorial statement already referred to, indorsing the "something in living matter not identified with any known physical and chemical activities." This "something" is a force which operates organic phenomena, and is special to them, a like principle being undiscoverable as operating any other phenomenon.

True, forces operating in the inorganic realm are seen to be active in organic processes, and are vitally associated with them, but their operations in this special and classic kind are never in the absence of the life principle, and the results of their activities are so different from those that are disassociated with it as to evidence its dominance and control. Chemistry has two branches, inorganic and organic, and the latter evidences the magisterial influence and control of that something not identified or identifiable with inorganic chemistry. In another paper we have shown that the cognomen chemical physiology is unscientific. The fact of the life principle as sovereign in organic phenomena is but partially and tardily recognized, and is not given the dominant rôle which is its right. Other factors and forces are supposed, somehow, to *operate* in organic processes.

A rational view and interpretation of life phenomena, on current hypothesis, cannot be presented to a scientific mind, such as may be done in astronomy and other sciences. Medicine presents an aspect to an independent critic to-day not flattering to its status as an exact science. It hangs less together as to its segments, presenting less of orderly relation and sequence, giving place to empyricism in a disturbing degree, than its real nature and status should allow. As a natural outcome of this we have the "germ theory" of disease, which is utterly without foundation as popularly conceived and interpreted. Wild and well-nigh senseless speculations are indulged hypothecating diseases of "germ" or microorganic origin.

An equally groundless hypothesis and fallacious notion, and which is taught as a theory, is that of active principles in drugs, which in some way originate, not merely in the causal but in the operative sense, the processes therapeutic. A single scientific reason cannot be brought forward in substantiation of a disease of germ or microorganic origin, or of a *drug* containing an active principle. The instrument is in the wrong region of the medical heavens when observation leading to such conclusions are made.

The inconsistencies and crudities inseparable from such groundless hypotheses lead to the confession that "medicine is full of misnomers from which it will never be possible to depart," which without doubt is true enough on the hypothesis of organic processes operated partly by its own special force, and partly by other forces and factors external to itself, but by no means so on the scientific principle of the special force, sovereign and alone in active dominance in organic physiology. On this as the basis of interpretation in physiology and pathology misnomer is, in the main, avoidable and inexcusable.

Why should not the entity of the life principle be fully recognized and its rôle scientifically interpreted?

The phenomena of which physiology is the description, are a series of classic processes having a special force as their principle of operation. In the processes organic, besides the tissues and organs, the vehicles and channels and the forces generated by their activities, much of which may be classed as chemical, there is the special force originating the phenomena in its primiordialism, and in evident and constant dominance throughout the organism and its entire career. Never does its superintending hand disappear or its power cease to be the originating and sovereign force, and when conditions and environment become such that it can no longer be dominant, it disappears, and the phenomena ceases eternally. Chemical processes obtain in a cadaver but no organic chemistry, its originating, sovereign principle is absent. Turn on the batteries, prepare and immerse the body in solutions containing electric charges, and there may be ghastly amusement in it, but the presiding force is gone beyond recall, and the specific phenomenon, organic, is eternally closed.

The phenomena physiologic are orderly, methodic, graded, progressive, and purposive—in a word, unique to the organism, and with the central, sovereign life principle in control.

Crystal formation, as we have discussed elsewhere, is the nearest approach to organic phenomena of which we have knowledge, yet its processes are utterly unlike and the converse of organic motion. In the making of crystals the same general mechanism of building obtains as everywhere in all inorganic things, nor is there the remotest suggestion of anything analogous to the principle of life or the phenomena of which it is the sovereign and sole force, ever present, ever active. The Principle of Life fully recognized, and its rôle scientifically interpreted, would reconstruct pathology and therapeutics in particulars needed, and medical science would emerge, as other sciences have, from the chaos of past conditions, and take its rightful place at once in the front rank, as high as the highest, exact as the most exact, and the noblest of them all.

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**Sialogogues; Their Therapeutic Employment.**—W. G. Aitchison Robertson says that in conditions of amylaceous dyspepsia great benefit can be obtained by the slow mastication of starchy food. In more aggravated cases the patient should be told to chew slowly some one of the vegetable agents which exert a distinct sialocinetic influence. In cases of hyperchlorhydria, our aim ought to be to secure the digestion of the amylaceous constituent of the meal before the free acidity has had time to check proteolysis. This we can do by increasing the flow of normal saliva. In many cases of feeble gastric digestion the fault is due to merely a diminished activity in the gastric juice, both hydrochloric acid and pepsin being present in less than their normal amounts. When saliva is introduced into such a stomach it has the effect of stimulating a more copious and also a stronger secretion, and so the more saliva introduced, the larger is the amount of gastric fluid which is secreted. In many such cases as he has described, the author has found that a stimulation of the salivary secretion by means of palatable and pleasant vegetable sialogogues, as, for example, ginger, gentian, peppercorns, cusparia, etc., has been of the greatest benefit to the patient. Such bitter agents as cusparia, calumba, gentian, chamomile, etc., exert also a very beneficial effect on the gastric mucous membrane. Other salivary stimulants are at the same time carminatives, as pimenta, ginger, pepper, etc. We can thus obtain both actions from the same drug and employ them therapeutically.—*The Scottish Medical and Surgical Journal.*

## AN UNUSUAL CASE OF EMPYÆMA OF THE ANTRUM OF HIGHMORE.*

By SIDNEY YANKAUER, M.D.,
NEW YORK.

The interest in the following case lies in the unusual attempt on the part of nature to effect a spontaneous cure.

The patient, male, aged forty-eight years, was seen by myself for the first time six weeks ago. He had complained for about two years of obstruction in both nasal passages, intermittent on the right side, but continuous and complete on the left; a discharge in the nasopharynx most profuse in the morning, with the hawking and spitting characteristic of nasopharyngeal catarrh; there were no pain, headache, or local symptoms. He had consulted several specialists, who told him that he had a simple nasopharyngitis, and who prescribed sprays. His condition remaining the same after conscientiously following their directions, his family physician referred him to me on March 19, 1903.

Examination: Both lower turbinates were so markedly swollen that they came in contact with the septum and rendered any view of the deeper parts impossible. After cocainization, a large growth was seen on the left side, under the middle turbinate, about 2½ cm. long, extending downward over the lower turbinate, completely obstructing the posterior half of the middle and lower meatus. It had the shape of a polyp, but instead of having a grayish color it was covered with smooth and congested mucous membrane, with large dilated veins running through. Pus was seen on the floor of the nose. A probe passed readily between the growth and the middle turbinate, but between the growth and the lower turbinate it would only penetrate about ½ cm. The growth, therefore, arose from the lateral wall of the nose and lower turbinate. During the manipulation a drop of pus appeared at the lowest point of the growth, which reappeared whenever it was wiped away; but no opening could be found with the probe. Transillumination was unsatisfactory. An aspirating needle was then introduced into the growth and pus withdrawn. The growth was then incised and two drachms of pus escaped. It then collapsed completely until nothing was left but what appeared as a slight thickening of the posterior end of the lower turbinate. About one-half inch of a probe was then bent at right angles and passed through the opening, directly outward into the antrum of Highmore. No bare bone could be felt. A cannula, similarly bent, was then introduced, and the antrum thoroughly irrigated with a quart of boric-acid solution. These irrigations were repeated daily. After one week the opening had closed. It was again enlarged with a sharp hook and scissors until it was about 1 cm. in diameter. The drainage thereafter was free, and the irrigations were continued every other day until all secretion ceased. The obstructed breathing was relieved, and the swollen turbinates receded, not only on the diseased side, but on the other side also.

As to the diagnosis in this case, as the patient was treated for two years for simple nasopharyngitis only, it becomes necessary to call attention to the fact that secretion from any of the accessory sinuses will flow backward into the nasopharynx if the turbinates are swollen, as they were in this case from the irritating effect of the secretion. The secretion spreads over the nasopharynx, and in blowing the nose may be driven out through the other side, and its presence in the nasopharynx and pharynx sets up a secondary catarrh. The symptoms of this secondary nasopharyngitis may be the only thing of which the patient complains.

The interest attached to this case lies in the fact that an abscess condition could remain for so long a time unrecognized, and in the effort of nature to throw it off. The condition that here arose, a bulging inward of the middle meatus, with either a congenital absence of the bony wall or a necrosis thereof, is one of the rarest conditions in diseases of the antrum of Highmore, according to Gruenwald. Zuckerkandle says that not infrequently the bony wall of the antrum is absent over a large area, there being only the mucous membrane between the antrum and the nose, and in these instances the partition may bulge inward and come in contact with the septum. Hartmann describes such a case (*Deutsche medicinische Wochenschrift*, 1889), and Hajek (Nebenhöhlen der Nase) refers to a similar condition.

In the case here related the drop of pus, the direction taken by the probe, and the subsequent subsidence of the growth on evacuation confirm the diagnosis.

73 EAST NINETY-SECOND STREET.

*Read before the Metropolitan Medical Society, April 27, 1903.

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**The Use and Abuse of the Nitrites.**—A. B. Greiner classifies the nitrites as circulatory depressants. Nitroglycerin is one of the useful agents in chronic nephritis, because it dilates the renal vessels and takes resistance from in front of the heart by the depressant effect on the vasomotor system. To certain disorders of the circulatory system do we find the nitrites particularly applicable—their therapeutic usefulness may be said to be confined to those conditions accompanied by vasoconstriction; and distinctly contraindicated when the symptoms are produced by vasodilatation or are dependent upon it. Angina pectoris is amenable to the nitrites because of the power to produce dilatation of the vessels. In fainting, the circulation to the vital centers in the medulla should be restored or improved. Nitrites increase the anæmia of the vital centers, yet they are often administered. A better understanding of these drugs is desirable on account of the different views regarding their applicability.—*Virginia Medical Semi-Monthly*, July 10, 1903.

**The Value of the Leucocyte Count in Gynecological Conditions.**—M. Dütsmann reports a series of two thousand leucocyte counts made in patients suffering from pelvic conditions. In the main his results corroborate the statistics of other authors, but he lays especial stress on the prognostic value of repeated counts. In all severe infections, when the leucocyte count drops, while the clinical condition remains unimproved, the organism is losing in its struggle against the infection and the chances of recovery are bad. This is particularly true in puerperal sepsis, and if it is found that after a chill or sudden rise of temperature the leucocytes do not exhibit a corresponding increase, the situation is becoming critical and heroic treatment, *e.g.* hysterectomy, is indicated. The iodine reaction strengthens the conclusions drawn from the leucocyte count, and is of service in confirming a diagnosis. Large ovarian cysts, especially with twisted pedicles, exhibit a leucocytosis without the presence of pus, owing to the peritoneal irritation caused, but do not give an iodine reaction. The most interesting part of the author's communication is concerned with his study of eclampsia. As in septic conditions a normal or subnormal count is of infaust significance and such patients die of the disease, while with a continuously high count the seizures abate in violence and frequency and recovery ensues. This behavior of the resisting forces of the organism adds color to the modern view that eclampsia is an infectious disease.—*Monatsschrift für Geburtshilfe und Gynäkologie.*

MEDICAL RECORD:

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## DISCOVERY OF A PROTOZOAN PARASITE IN THE YELLOW-FEVER MOSQUITO.

FINLAY'S claim in 1881 that infection of yellow fever occurs by means of the mosquito was not taken seriously until after the demonstration of a like mode of transmission in the case of malaria. In 1900 and 1901, however, Reed, Carroll, Lazear, and Agramonte demonstrated this mode of infection for yellow fever, and showed also that fomites do not convey infection, but that the disease can be communicated by inoculation with the blood of the sick. They also, as Finlay had done before, designated *Stegomyia fasciata* as the intermediate host.

The experiments made by Major Reed and the other members of the United States Army Board in Havana were last summer repeated and extended by Drs. Parker, Beyer, and Pothier, members of the Yellow Fever Institute of the Public Health and Marine Hospital Service in Vera Cruz, and in the report of their labors, published in Bulletin No. 13 of the Yellow Fever Institute, the important announcement is made of the discovery of the probable parasite of yellow fever. These investigators worked in association with a commission appointed by the Mexican Government, Drs. Matienzo, del Rio, and Iglezias. A non-immune from a mountain village, who had never before visited the coast and who for the preceding twenty-two months had been in jail, was examined physically and found free from organic disease. The urine and blood examinations were negative. On September 4 two mosquitos which had fed on a patient ill of yellow fever on August 13, forty-one and a half hours after the chill, were permitted to bite his left hand. Seventy-four hours later yellow fever developed. On September 8 mosquitos were allowed to feed on his hands, and were then killed and examined histologically. The mosquitos whose bites produced the disease showed, on microscopical examination, in their salivary glands the spores filled with sporozoites in various stages of maturation, and the mosquitos infected by feeding upon the patient showed, on the fifth day after feeding, the conjugating bodies described below. The next case was in a man who had lived all his life in a mountain village, except for thirty days in Vera Cruz some eight years before. On September 9 he was inoculated with blood drawn from the preceding patient which had been defibrinated and diluted with two volumes of salt-solution and passed through a Berkefeld filter. No symptoms appeared until the nineteenth day when he developed yellow fever. This the authors think it more reasonable to assume was due to some accidental infection (from a mosquito) than to admit an incubation period of nineteen and a half days. At any rate another non-immune inoculated with another portion of the same serum failed to develop the disease. Also a non-immune who swallowed two infected mosquitos crushed up in water remained free from the disease.

The blood changes observed were: An increase in the red cells (from 4,600,000 to as many as 6,000,000, with a corresponding increase in hæmoglobin), due probably merely to dissipation of fluid. The white cells showed no variations in structure, pigment, vacuoles, or fat, but a marked variation in granulation, owing to the almost or quite complete disappearance of the eosinophiles. The blood and the organs post mortem were negative bacteriologically. The serum showed toward B. icteroides of Sanarelli, B. typhosus and B. dysenteriæ of Shiga, and B. còli communis, no agglutinating power.

Several investigators have believed that they had discovered the microorganism causative of yellow fever, but the present authors discovered and worked out the life history and the infection circle of a sporozoon which may possibly be shown to be the causal microorganism. In the stomach and œsophageal diverticulum of mosquitos which had fed on yellow-fever patients the authors found small fusiform protozoa, mostly in groups, though also single, which bore a striking resemblance to the terminal conjugation stages of certain sporozoa. These bodies, after conjugation, pass into the œsophageal diverticulum and undergo further development in connection with an "albuminoid body" of unknown origin and nature; increasing in size, the nucleus undergoing fragmentation or multiplication, and the resulting chromatophile granules rapidly increasing in size and becoming rather sharply defined and less regularly elongate oval, and forming "sporoblasts." These last are later liberated, and, passing to the anterior end of the diverticulum, penetrate the delicate connective tissue septum into the salivary gland, the cells of which they enter. In these cells the sporoblasts break up into resting spores which ultimately find their way into the lumen of the gland ready for discharge. From such infected mosquitos the authors produced yellow fever, as described elsewhere. Then from the patient they recovered the microorganism in mosquitos which had fed on the patient. "As further evidence, we permitted this same species of mosquito, *Stegomyia fasciata*, to feed on a case of malarial fever of the malignant quotidian type, on normal blood and on sugar and water. In none of these mosquitos did we find the parasite.' To this parasite they gave the name *Myxococcidium stegomyiæ*.

The presence of the parasite modifies the life processes of the mosquito so as to provide for the parasite's welfare. Whereas in normal mosquitos following feeding upon albuminous food, which is necessary for ova development, the ova undergo hypertrophy, distending the abdominal cavity, in the infected mosquitos after a primary hypertrophy the ova atrophy. This atrophy, the authors believe, alters the instinct of the insect, and preserves life for some time by suspending the process of ovipositing.

## THE TREND OF MODERN MEDICAL EDUCATION IN THE UNITED STATES.

Discussion on reform of medical education in the United States is constant and persistent. The fact has been for some time plainly evident that there is among a large number of the medical profession grave dissatisfaction with the present anomalous condition of affairs as regards the standard of medical education throughout the country. It is felt that strong efforts should be made to elevate the status of the medical profession in every part of the United States, so that an individual procuring a degree from one State should be upon the same plane as he who qualifies as a medical practitioner in another State.

Dr. David Starr Jordan, President of Leland Stanford, Jr., University, delivered a short time ago an address at the Cooper Medical College Commencement upon the training of a physician, in which he showed that in the United States, so far as medical education is concerned, the parting of the ways has been reached, and that a decision must soon be come to as to the methods to be employed in educating students of medicine in the future. The speaker pointed out that in the continental nations of Europe the teaching of medicine has been from the first a university function. In England, on the other hand, medical instruction has been more or less divorced from the university. It has been rather a function of medical associations and hospitals. The American college was modeled upon the English plan, its first purpose being to develop clergymen and gentlemen; thus the medical school in America arose through associations of physicians, entirely apart from the collegiate system. Some States, however, came to the conclusion that it was cheaper for the State to educate its own physicians than to tolerate uneducated ones.

The University of Michigan was the first State college to act upon this principle, and some other State institutions followed its example. In the meantime, for lack of endowment and public support, medical schools were founded by private enterprise, and later, other schools for purposes of advertising or money-making, sprang up like mushrooms on every side and, as Dr. Jordan said, we had medical schools of every grade of honor or dishonor; some ranking with the best in the world, others periodically raided by the police.

Referring to the trend of modern medical education, the speaker said that "more and more the honest schools are brought into touch with the university. Around the university the tested educational machinery tends to center." The university affords that foundation of science which is essential to the making of a good physician. The university teaches the science and the medical school teaches its application. Dr. Jordan thinks that two great influences are at work, one, that of the university, which tends to push up the requirements for entrance to the medical profession, the other, that of the counting-house and the desire to show numbers, which tend to push them down. Said the speaker, "Shall men go into medicine from the common school; from the middle of the college course; from its end, or shall we, with Johns Hopkins, demand, not only a college course but one which contains all the sciences fundamental to the study of medicine?" And the answer he gives to his own question is as follows: "The practical evolution of this matter will be thus: The medical school for the exceptional student will require a college course of science with physiology and chemistry as the leading subjects, other sciences, with German and French, being necessary factors. The State medical colleges and those of similar purpose will content themselves with a minimum of two years of college work along semi-professional lines, the preparatory medical course." Undoubtedly the university will play a more important part in medical education than it formerly has, but until some kind of uniformity in the standard of medical education has come into force in all or the greater part of the country it is of little use to map out a scheme for the training of the American medical student, considered as a whole. The first and greatest need is a uniform standard of medical education in every State of the Union.

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## SLEEPING SICKNESS AND ITS GEOGRAPHICAL DISTRIBUTION.

Owing principally to the white man's invasion of Africa, this curious disease—almost wholly confined to the African negro—has attracted, of late, much attention. The researches of the Portuguese Commission in Loanda and of a British commission in Uganda, as to the etiology of the disease, were referred to in these columns on June 27. To the *Journal of Tropical Medicine*, July 1, Dr. Louis W. Sambon, the talented Italian, who is a lecturer at the London School of Tropical Medicine, contributes an article on sleeping sickness. Writing of its epidemiology, he says: "The epidemiology of sleeping sickness is as yet very imperfectly known, but it presents several remarkable peculiarities. The disease is strictly connected with water. It prevails only along rivers and streams, or on the shores of lakes. Several persons have remarked that its endemic centers correspond, as a rule, with the worst malaria stations, and Corré lays special stress on the paludal nature of the sleeping sickness centers of Joal and Portudal. In Uganda, where it has only just appeared, it is confined to the northern shores of Lake Victoria Nyanza, and to the adjacent islands. Another characteristic feature is its patchy distribution. The disease is not generally diffused throughout a river valley or other endemic center, but affects particular foci, clings to particular villages, and is not observed in places near by. Corré has frequently remarked that sleeping sickness may attach itself to a particular house. It may suddenly appear in villages hitherto immune and cling to that place for years." Concerning the trypanosoma discovered by Dr. Castellani of the British commission in Uganda, Sambon says: "A comparison between sleeping sickness and the various diseases of animals caused by trypanosoma would seem to favor the belief that Castellani may have discovered the true cause of sleeping sickness."

Dr. Frank G. Clemow, British Delegate to the Ottoman Board of Health, has recently brought out a work on the "Geography of Disease." Writing of the recent geographical distribution of sleeping sickness, he says that "the disease, so far as is known at present, is met with as an indigenous malady, principally along the West Coast of Africa. Its northern boundary appears to be the Senegal

river, while to the south it is limited by the southern border of the Portuguese colonies. It is particularly common in the French colony of Senegambia, and in some of the ports there it has at times been so severe that the extraordinary phenomenon has been seen of a negro garrison being replaced by white troops on account of the losses caused among the former by its ravages."

The disease prevails largely along the shores of the Gulf of Guinea, while it is frequently encountered in Liberia, along the Gold Coast, and at Old Calabar in the Bight of Biafra. In 1901 it was extremely active at Principe Island, and had been so for the previous fourteen years. In the valley of the Congo it had been known for long in endemic form. The malady has even penetrated as far as Stanley Falls, the very heart of equatorial Africa. As mentioned before, the disease has recently gained a foothold in Uganda, where it is wreaking great havoc. In In Southern Africa sleeping sickness prevails extensively in the Portuguese colony of Angola.

Africa is the home of sleeping sickness, but secondary centers have developed occasionally in other parts of the globe, "although," says Dr. Clemow, "it is almost certain that these secondary centers have always owed their origin to importation from Africa." At one time the disease occurred with comparative frequency among negroes who had been transported from Africa to the West Indies, the Bahamas, and Brazil. At the present time, however, the black population of the West Indies and Brazil are said to be completely free from sleeping sickness, but in the Guianas there is some evidence pointing to the fact that it is now endemic in those countries.

Dr. Clemow states that negro lethargy is entirely a tropical disorder, and insists that as an endemic it is strictly confined to the Continent of Africa, between the sixteenth degree of north latitude and the eighteenth degree of south latitude. It is not confined to the coast nor to the western half of the Continent, but is seen in the very heart of the Congo Free State and in Uganda—countries which have no coast line. The statement of Dr. Sambon that the disease always breaks out in and confines itself to the vicinity of water, is not referred to in Dr. Clemow's book.

There is no perfectly authenticated case on record of sleeping sickness in a white man. Ferguson was of the opinion that he had met with the disease in white subjects in British Guiana, but as Uncinaria duodenalis was found in these patients, Ozzard thinks that Ferguson must have mistaken advanced cases of ankylostomiasis for the sleeping sickness. The malady is essentially one of tropical Africa, and in those instances in which it has occurred elsewhere, it had been imported thence. Corré is authority for the statement that in those areas of Western Africa where negro lethargy is endemic, negroes coming from other districts are particularly liable to it, the local inhabitants appearing to become, in a sense, acclimatized.

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**The Automobile Race in Ireland.**—The average of accidents during the Automobile Club fortnight in Ireland did not reach that of an ordinary driving tour, or a week of racing on the flat. At Cork, an Irishman said, "Sure, it was very successful, but there were no accidents at all." The "but" is delightful.

## The Addresses before the British Medical Association.

The London journals of August 1, just at hand, contain the addresses delivered before the British Medical Association at its annual meeting in Swansea. Our readers are already familiar with the same from the very full and accurate cable report sent by our experienced correspondents, but it may be of interest to refer again to some points not specially emphasized in the reports.

The address of the President, Dr. T. D. Griffiths, dealt with the evolution of antiseptic surgery and the influence of the progress and advancement of bacteriology and therapeutics. The subject chosen was a somewhat well-worn one, but the speaker succeeded in investing it with much interest. The first part of the address was taken up with a sketch of the manner in which surgery was practised in the London hospitals in the days when Dr. Griffiths was a student. At that time the speaker pointed out that the large wards of the hospitals were filled with all sorts of cases indiscriminately —simple and compound fractures, suppurating joints, traumatic, senile, and hospital gangrene, erysipelas, septicæmia, pyæmia, and cases operated on for accidents and diseases, all of which were dressed by the same attendants. No attempt was made at cleanliness, and healthy suppuration, termed "laudable pus," was regarded as a sign of good dressing and healthy action. The wonderful change brought about by the discoveries of Schwann and Pasteur, and their practical application by Lister, rendered possible by his successful investigations into the problem of inflammation and its attendant suppuration in wounds, was briefly reviewed. Reference was made to the need of the establishment of self-supporting nursing institutions to replace private nursing institutes, some of which are now flourishing by imposing on the invalid public, women imperfectly trained as nurses, and also to replace many of the so-called surgical homes.

The subjects of bacteriology and immunity were treated at some length. Therapeutics in relation to bacteriology was likewise discussed, and it was shown that Listerism is as valuable in the practice of medicine as it is in surgery.

The greater portion of the address was devoted to the question of public health, and the neglect of sanitary affairs in rural districts was severely criticised. Dr. Griffiths said he was of the opinion that the time had come when the sanitary condition of urban and rural districts should be improved in order to secure for the public the full benefit of the advance recently achieved in the science of hygiene by bacteriology and the principles of Listerism. Regret was expressed at the attitude of the government with regard to vaccination, and at the tendency of legislation for many years past in the direction of decentralization.

The address in medicine was delivered by Dr. Frederick T. Roberts. At the commencement of his address he took the opportunity to launch a tirade against "the absurd, irrational, and most mischievous specialism which is so rampant at the present day." Dr. Roberts chose as the subject of his remarks "Infective and Infectious Diseases." The speaker reviewed the practical etiology of infectious diseases, and among other facts drew attention to the remarkable light which modern observations and researches have thrown upon the rôle which different animals play in the transmission of infectious diseases. He further stated that he did not think the danger, of infection being carried directly by domestic animals, such as birds, cats, and dogs, from person to person, was appreciated at its full significance.

The morbid anatomy and histology, and the clinical history, phenomena, and diagnosis of infectious diseases were discussed more or less fully. Into the treatment and prevention of infectious diseases Dr. Roberts entered exhaustively. After declaring that we have few novelties in the way of specific remedies, he said he held the view that a very large proportion of cases of acute specific fevers could be steered through their course by the application of practical common sense, and sound physiological, natural, and sanitary principles. As a rule, no active treatment was required, unless it were an occasional aperient. The speaker, however, did not advocate a general policy of "masterly inactivity" in dealing with infectious diseases, but recognized the fact that there are many diseases and cases in which even from the outset the practitioner must admit the necessity of administering in some way or other suitable medicinal remedies.

With regard to hydrotherapy and allied methods of treating infectious diseases, Dr. Roberts did not express himself very enthusiastically. As to the use of alcohol in the same class of complaints, the speaker said that he was a staunch advocate of its judicious administration in a large number of cases. Dr. Roberts, while acknowledging the immense value of serum therapy in the treatment of some complaints, was not the less conscious that this method had entirely failed in others, and that in still other diseases it was as yet on trial.

The address in surgery was given by Mr. A. W. Mayo Robson, who began his remarks by tracing the origin and development of ovariotomy, and showed that from being a most deadly operation it had come to be one attended by few fatal results.

The great success achieved by the late Lawson Tait in operations of this description Mr. Robson attributed to his discovery of the value of natural drainage through the intestines, and the importance of the avoidance of morphine. He made a routine practice of purging after operation, and so avoided that distension which used to kill so rapidly in early ovarian work. The speaker made some caustic remarks on the term "peritonitis," saying that even the present time it was a convenient cloak for ignorance. Acute peritoneal infection he considered a far more rational designation than acute peritonitis, and surgery to be of service in this condition must be prompt. The speaker advised operation in the quiescent period of appendicitis and early operation in the acute type of the disease. With regard to hysterectomy for myoma, Dr. Robson alluded to his own experience in 170 cases of operation, with a 5.2 per cent. mortality. Attention was drawn to the remarkable progress which had been made in the surgery of the bile passages, and it was pointed out that the first cholecystotomy was performed in 1867 by Bobbs of Indianapolis.

The surgery of the stomach was dealt with at some length, and the fact was mentioned that until recently but little success had been met with in this branch of surgery. The greatest advance had probably been made in operating for diseases of the pancreas, the foundation of this form of treatment was laid by the classical experimental work of Senn in 1886. The work of Senn and of Murphy in improving the methods of operating for diseases of the intestines was referred to. Radical operation, performed early, was earnestly recommended by the speaker for hernia, when it was practically devoid of risk. It was also shown that in the hands of Murdoch, Cameron, Leopold, Sanger, and other operators Cæsarean section had been done in recent years with an extremely small mortality, owing to the genius of Lawson Tait, who utilized the post-mortem experience of Bernutz and Goupil, and the clinical observations of J. S. Parry, ectopic gestation had been treated successfully. The work of Kelly of Baltimore, Robson himself, E. Lambotte of Brussels, and Harris of Chicago, had rendered differentiation of diseases of the kidneys much more certain, and in consequence the surgery of the kidneys and ureters had made great strides. Mention was also made of Edelbohls' operation of renal decapsulation.

Mr. Robson concluded his address by pointing out that future progress in surgery would be intimately bound up with the work of the physician, the pathologist and the bacteriologist, but that the trend of modern medicine was to prevent rather than to cure disease.

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### Suicide in the United States.

In the *Yale Review* for May, William B. Bailey has an article on suicide in the United States from 1897 to 1901. The statistics given are not absolutely vouched for as to accuracy. They are taken almost wholly from the public press, as the Government affords no assistance, and the registration area of the various States is lamentably small. Thirty journals were studied to collect the data supplied by Mr. Bailey. Out of 10,000 suicides 7,781 were males and 2,219 females, giving a ratio of about 3½ males to 1 female. As in most countries the number of the married who took their own lives slightly exceeded that of the single, while single, widowed, and divorced women were found to commit suicide more often than men in like situations. Shooting appears to be the favorite method of putting an end to one's existence in this country, followed closely by poison. Hanging as a means of self-destruction is not held in so much favor as in the northern portions of Europe, nor is drowning, as in the southern countries. Jumping, poison, and gas are confined principally to the cities. With males the favorite method is shooting, and the one least used is jumping; while most women seem to have a predilection for poison a few end their lives by cutting.

In regard to motive, despondency stands at the head of the list, claiming about 20 per cent. of the victims. Business losses, ill health, and insanity follow in the order named, with about 13 per cent. each. Then comes disappointment in love, with the remaining motives far in the rear. Alcoholism is shown to be a factor in the impulsion to suicide among males; indeed a more important factor than the figures of Mr. Bailey would seem to demonstrate. Women are more apt to kill themselves on account of grief than are men, and ill health also tells more heavily upon them. Between the ages of twenty and thirty years the maximum of suicides from grief, chagrin, and from being crossed in love, occur. Between twenty and thirty, too, fall the maxima from alcoholism, insanity, despondency, domestic trouble, and fear of disgrace. From thirty to forty come the greatest numbers from business losses and ill health. Females have a tendency to commit suicide at an earlier age than males. From the data gathered by the writer it would seem that Monday is the favorite day for committing suicide, followed by Sunday. From Monday down to and including Thursday there is a gradual fall, but on Friday there is a sudden rise that cannot be easily explained. Saturday is, next to Thursday, the lowest day in the week. Among the males Monday is pre-eminently the day for suicide, doubtless due to a great extent to the fact that on that day the dissipated workman's money is spent, and he s in the throes of despondency and remorse. Females prefer Sunday to

Monday. The greater number of suicides occur in the twelve hours before noon. Beginning at midnight there is a continual increase until 6 P.M. Suicides on account of ill health and insanity are frequent in the early hours of the morning; alcoholism and chagrin later in the forenoon; despondency in the afternoon; disappointment, love, and family trouble late in the evening. The foregoing figures are curiously interesting if not of especial value.

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### The Dust from Buildings in Process of Demolition.

The *Lancet* of July 18 has an annotation headed as above, in which it is pointed out that the process of demolishing old brick buildings, and very often new ones too, is always going on somewhere in London, much to the annoyance and discomfort of those who live in adjoining premises, and also of those who pass by. Attention is likewise drawn to the fact that no serious effort is made to suppress the most irritating and injurious dust caused by the housebreaker's destructive operations. In consequence of this neglect of precautionary measures the dust bloweth where it listeth, into persons' eyes and nostrils, and down their throats, as well as settling upon any stationary objects within its range of flight, be they food or garments. Doubtless the dust nuisance is a real one in London, but there are few inhabitants of this city who are not of the opinion that it cannot compare in magnitude with the same evil as exemplified throughout the length and breadth of New York. It may be asserted with little fear of contradiction that in no city, ancient or modern—except possibly a small number which have undergone a long siege—has been witnessed such wholesale knocking down of buildings as is now being carried on from one end of New York to the other. True, the buildings may not be so old and solid in New York as in London, but what is lacking in this respect is more than made up in quantity. Not only, too, is it the destruction of buildings that causes the scattering of the dust by the four winds of heaven, but the construction of the subway, the tearing up of roads and car tracks, all combine to create dust and noise, and to render life in New York under existing condition a continual nightmare.

The remedy suggested by the writer in the *Lancet* is that before the demolition of a house is begun, the walls should be well wetted and the débris watered from time to time. The suggestion is a good one, but it is one thing to pass a law and another to enforce it. This very procedure is, we believe, enjoined by a city ordinance in New York, but that it is not enforced is notorious. Perhaps the authorities fear that if it were attempted to conduct such a project to a successful issue in New York the water supply would fail. Nevertheless, some means should be tried to abate what is both a nuisance and discomfort, and a menace to health.

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### Birth Rate in Fiction.

The decline of the birth rate in some of the countries of the world, and especially of that among Americans of native stock, has been discussed within the past few months almost *ad nauseam* in the United States. The subject has been written up and argued upon in all sorts of magazines and journals, and although no unanimous decision has been reached, it has nevertheless been generally admitted that native-born Americans do not produce nearly such large families as was the case two or three generations ago. An ingenious delver into matters curious, or possibly somewhat of a wag, has sent a letter to the August number of the *Popular Science Monthly* in which he declares that the birth rate in fiction has been steadily decreasing for a considerable time. The writer calls attention to the low birth rate in novels and plays, and adds that united as it is with a high death rate, will inevitably lead to the rapid extermination of the hero and heroine. He is strongly of the opinion that the birth rate in novels is decreasing, and that while families of a respectable size may be found in Thackeray and Dickens, they scarcely exist in Meredith, Hardy, and James. In order to prove his point the writer refers to two novels—"Vanity Fair" and "Beauchamp's Career." Becky Sharp was an only child. Sir Pitt Crawley, twice married, had four children; his brother five and his sister none, so there was an average family of three. Osborne and Dobbin each had two sisters, and the Sedley family consisted of brother and sister. Matters were yet worse in the next generation. Amelia had two husbands and two children. Becky one child, Sir Pitt one, and Josh none. "This," says the writer, "is apparently an average family of 1.83, which is almost exactly that of the Harvard graduates, according to President Eliot." In "Beauchamp's Career" the families seem to grow smaller by degrees and beautifully less. Twelve married couples have about five children—a truly distressing state of affairs and one that warrants the writer in predicting the rapid extermination of the population of the novel. Novelists of the present day certainly do not, as a rule, introduce large families to their readers. This may be in keeping with the actual condition of things, or it may be that children are as difficult to manage in the pages of a book as they are in real life, and accordingly in both cases they are either not conceived or not brought forth.

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**Tuberculous Peritonitis in Childhood.**—Alfred Friedlander says that by far the greatest number of the cases of this affection belong to the chronic form. English and American pathologists recognize three types of this form, ascitic, fibro-adhesive, and ulcerative-suppurative. The disease almost always begins insidiously. Anæmia is always suspicious, and if joined to emaciation should put us on our guard. In the vast majority of these cases attention will be directed to the abdomen, either because of pain, or because objective examination will reveal abnormal conditions in this region. The occurrence of marked ascites in childhood is always a grave sign. The temperature may run a very irregular course; fever may be entirely absent for weeks or months, or it may range from the normal to 102° or over. The bowels are often constipated, or there may be diarrhœa. The diagnosis of tuberculous peritonitis is often a matter of extreme difficulty. If one hesitates to resort to laparotomy, when there is ascites the withdrawal of fluid may be of value; the cytological examination shows the same characteristics that are found in tuberculosis of other serous membranes. Predominence of the mononuclear lymphocytes points strongly to tuberculous inflammation, while excess of polymorphonuclears is evidence of a purulent inflammation. Another aid to diagnosis is the use of tuberculin. As to treatment, laparotomy is of undoubted value in many cases, especially when there is localized abscess. But its routine employment is not to be recommended. In simple cases, either of the ascitic or fibro-adhesive variety, the attempt should be made to strengthen the patient's resistive powers and to improve his general condition.—*The Cincinnati Lancet-Clinic.*

# News of the Week.

**Bucks Co. (Pa.) Medical Society.**—At the annual meeting held at Quakertown on August 6, Dr. J. B. Carrell of Hatboro read a paper entitled "Success in the Practice of Medicine," and Dr. James N. Raudenbush of Philadelphia a paper on "The Treatment of Tetanus and the Use of Tetanus Antitoxin."

**Smallpox Still Increasing in Philadelphia.**—For the week ended August 8 there were reported to the Philadelphia Board of Health thirty-six cases of smallpox with five deaths. Active measures have been taken to prevent an extensive epidemic and vaccination has been undertaken on a large scale. Almost all of the cases have occurred in unvaccinated individuals.

**Municipal Hospital, Philadelphia.**—Dr. B. Franklin Royer, at present demonstrator of anatomy in Jefferson Medical College, has been appointed chief resident physician in the Municipal Hospital.

**Proposed New Journals.**—The American Orthopedic Association will publish early in August the first number of a new quarterly, *The American Journal of Orthopedic Surgery*. It will replace the Transactions, formerly published by the association. The journal will contain the papers read by members at the annual meeting, together with such discussion as took place upon them. In addition to these, original papers on orthopedic subjects by members and from outside sources will be published. The journal will also contain abstracts of important orthopedic books and articles appearing here and abroad. It is intended to develop this department, especially in its survey of foreign literature. The editorial committee consists of Drs. R. W. Lovett of Boston, B. F. McKenzie of Toronto, and H. M. Sherman of San Francisco.

Another new journal, which is announced to appear in October next, is to be what its name implies, *The Daily Medical Journal*. Each issue will consist of six pages. The managing editor will be Dr. M. W. Curran of New York.

**The Nova Scotia Medical Society held its thirty-fifth annual meeting at Antigonish on July 1 and 2, under the presidency of Dr. J. J. Cameron. Dr. Henry C. Marcy of Boston delivered the annual Address in Surgery, and Dr. G. G. Campbell of Montreal the Address in Medicine.**

**A National Relief Society.**—Miss Clara Barton, against whose continuance as head of the American Red Cross Society very determined opposition has recently developed, proposes the creation of a national relief association with branches in every city in the United States. She suggests that a national fund be established to be at ready command of a finance committee of men of national reputation when calamity breaks upon the country. It is her aim to establish central executive offices from which will be directed an educational movement in the direction of popular instruction in first aid to the injured. Out of the national fund permanent executive offices may be built, which shall be the home of the national organization.

**The New Bellevue Hospital.**—It is announced that certain difficulties which had been encountered in connection with the acquisition of the block between Twenty-eighth and Twenty-ninth streets, running down to the East River, upon which it was proposed to build the new Bellevue Hospital, have been disposed of, and that the way is now clear for the Department of Charities to acquire the land. In all probability work will be begun on the new buildings for the hospital in October. It is planned to start building at the northern end of the site, the Twenty-ninth street end. As soon as one building is ready for occupancy, one of the old ones will be torn down, and so on until all the old buildings have been removed. The cost of land to be acquired and the sums to be spent to put it in condition for building will amount to about $2,000,000. The site will comprise the lots from Twenty-sixth to Twenty-ninth streets, and from First avenue to the East River.

**A French Congress against Alcohol.**—The first National Antialcohol Congress will be held in Paris from October 26 to 29, under the honorary presidency of M. Casimir-Périer. The program consists of two parts—the first part of the program will be devoted to a review of the existing situation in regard to alcoholism and the struggle against it; the second to the plan of campaign; this will include the action of the State and local authorities, the medical profession, the clergy, etc., the institution of an educational propaganda among young people, and the securing of the powerful influence of women. The Congress will also discuss the organization of a campaign against alcoholism by means of the federation of all temperance organizations directed by a permanent committee.

**A Reverend Health Officer.**—The Board of Health of Pottsville, Pa., has appointed the Rev. W. D. Williams, pastor of the Congregational Church, health officer of the town.

**New Building for the Manhattan Maternity Hospital.**—Plans for a new building to be erected on East Sixtieth street for the Manhattan Maternity Hospital have been filed with the Building Superintendent. The structure is to cost $58,000, and will be of ornamental brick, 45.3 feet front and 66.3 feet deep, on a lot 100x100.3 feet. It will be four stories high and fireproof throughout. There will be four wards (one for babies), four isolating rooms, a diet kitchen, an operating room, and an amphitheater.

**Col. Henry Lippincott** of the Army Medical Corps, who was among those designated to be appointed brigadier-general and placed on the retired list, will not be promoted. The reason given for this is that Colonel Lippincott did not have a civil war record of one full year, a necessity to secure the right to promotion according to the President's direction. The matter was called to the attention of the War Department, and referred to the President, who gave directions to have Colonel Lippincott's name taken from the list.

**Father Operated upon Son.**—A young surgeon in Brooklyn has just recovered from an operation for appendicitis performed by his own father. This unusual occurrence took place, it is said, at the urgent solicitation of the sick son, whose confidence in the superior skill of his parent—a confidence shared by many others—was thus happily justified.

**Health Inspectors Punished.**—As a result of charges of neglect of duty which were preferred against ten medical inspectors of the Department of Health in Brooklyn, three have been dismissed, four fined, and one censured. Two were exonerated. The charge in each case was that the inspector permitted the disinfection of premises where contagious diseases had occurred, before the termination of the disease. Each inspector received a salary of $1,200 a year.

**The Philippine Opium Commission.**—Governor Taft has appointed Major Edwin C. Carter, Bishop Brent, and Dr. Albert a commission to visit countries where opium is used and ascertain the methods of regulation and control. The commission is to visit Japan, Formosa, Shanghai, Hongkong, Singapore, Java, and Burmah. An investigation of this kind is thought necessary on account of the opposition which has developed to the proposed bill for the regulation of the opium traffic in the Philippines.

**A New Dispensary and Infirmary.**—The Sydenham Society has founded a hospital and dispensary at 347 East One Hundred and Sixteenth street, New York. The dispensary is situated on the lower floors, and on the upper floors there are twenty beds and an operating room. Drs. Salo Cohn, R. Cronson, J. Goldstein, H. Jarecky, R. Kunitzer, J. Levin, L. Lichtschein, S. Mark, and L. Marcus compose the visiting staff.

**Cause and Cost of Typhoid Fever in the Boer War.**—The report of the commission which investigated the prevalence of dysentery and typhoid fever among the British forces during the South-African war fills a bulky Blue Book, which was issued August 8. The commission finds that flies were the active agents in the dissemination of typhoid fever in standing camps, although the comparative immunity of the Boers is attributed to the boiling of their drinking water. It is calculated that the widespread occurrence of typhoid fever during the war entailed an expenditure of upward of $20,000,000.

**Lake Keuka Medical and Surgical Association.**—The fourth annual meeting of this society will be held at Grove Springs, Lake Keuka, N. Y., on Tuesday and Wednesday, August 11 and 12, 1903, under the presidency of Dr. Arthur W. Booth of Elmira, N. Y. The secretary and treasurer is Dr. W. W. Smith of Avoca, N. Y.

**A Memorial to the Late Major Reed.**—A meeting has been called at Bar Harbor, Me., to consider the project of a memorial in honor of the late Major Walter Reed, M.D., U. S. A., to whom the world is indebted for most important services in the investigation and the suppression of yellow fever. Leading professional men have been invited to be present. Several committees in different parts of the country have already been appointed, and the object of this conference is to secure unanimity of purpose and concerted action. Addresses may be expected from gentlemen who are well acquainted with all the facts. The committee calling the meeting consists of Drs. Daniel C. Gilman, S. Weir Mitchell, Edward G. Janeway, Wm. H. Welch, and Christian A. Herter.

**Dr. Lorenz in Mexico.**—A correspondent of the Vienna *Zeit* writes that, notwithstanding the honors heaped upon Prof. Adolf Lorenz in the United States, hardly any attention was paid to him in Mexico. He was not invited to demonstrate his method, and the local German as well as the Mexican doctors kept aloof from him. The Austrian ambassador, Count Hohenwart, however, gave a dinner in his honor.

**Canadian Medical Association.**—The thirty-sixth annual meeting of this society will be held in London, Ont., on August 25, 26, 27, and 28, under the presidency of Dr. R. H. Morehouse of London. The address in surgery will be delivered by Dr. James Stewart of Montreal, the address in medicine by Dr. Alexander Hugh Ferguson of Chicago, and the address in gynecology by Dr. Matthew D. Mann of Buffalo.

**Milk Inspection in Pennsylvania.**—As a result of several deaths attributed to milk poisoning an investigation of the dairies of the State was recently undertaken by the Pennsylvania Dairy and Food Department. A thousand samples of milk were analyzed and over 750 of them were found to contain formaldehyde or other antiseptic additions. Many samples of cream also were found to be artificially thickened and made a deep "cream" color by the addition of anilin dyes.

**Insanity in England.**—The annual report of the Lunacy Commissioners, abstracted in a cable despatch to *The Sun* of August 2, shows an enormous increase in madness in England and Wales. In 1859 the number of insane was 36,762, or one in 536 of the population. There has been a steady increase from that time up to January 1, 1903, when the number of insane was 113,964, or one in every 293 of population. The rate of increase since 1894 has been especially notable, the number at that time having been 92,067. There was never such an increase in the numbers of insane as in the year ended December 31, 1902, the increase over the previous year being 3,251. The number of persons who lost their minds in 1902 alone was 22,581, or almost 500 per week. The increase is found almost entirely among pauper lunatics. The proportion of lunatics privately cared for to the population is about the same now as it was in 1859, whereas the pauper proportion is twice as high. Among the causes of lunacy in the cases tabulated by the commission, the most prolific was the abuse of alcoholic beverages, 23 per cent. of the male and 9.6 per cent. of the female cases being ascribed to this. The influence of heredity was demonstrated in 24.6 per cent. of the female and 18.8 per cent. of the male cases. Physical rather than mental factors were responsible for the greater number of cases in which the cause could be traced. The increase in insanity was greater in rural districts than in the large cities.

**State Medical Examinations.**—At the recent medical licensing examination in Pennsylvania, of 392 applicants, one was expelled for drinking, two withdrew on account of illness, and 51 failed to pass the examination. In Ohio, out of 91 applicants, eight failed to attain the necessary percentage of 75 marks.

**Influenza in New York State.**—The bulletin of the State Board of Health for July contains a review of the mortality from influenza during the first half of the present year. On the basis of the reports for the months of January to June, inclusive, the review concludes: "The first decade of life, and, in fact, the first twenty years, seems to be almost immune to the effects of the disease, and the middle period of life, to the age of forty-five or fifty, is resistant to it so far as reported fatality is an indication. The susceptible age of infancy is an apparent exception, as more deaths are ascribed to it in the first year than in the next twenty. Prior to the age of fifty only one-fourth of these deaths occurred; after which there is a marked increase in each decade, the greatest number falling between seventy and eighty. The months of December, January, February, and March, during which influenza is prevalent, have much larger mortality at seventy years of age and over than the remainder of the year. There are considerably fewer deaths of males than females, and this is true of every decade except during the first year of life, and especially true in old age."

**Medical Work of the Bahama Geographical Expedition.**—An expedition sent out some time ago by the Geographical Society of Baltimore for a survey

of the Bahama Islands, returned last week. The medical members of the expedition made a study of the diseases prevalent on the islands, and found the health conditions good except for large numbers of lepers and the lax methods, or rather absence of all method, in caring for them. An important and interesting work undertaken by the medical staff was an investigation of the Culicidæ; they found several species of mosquito, among them Stegomyia fasciata, the carrier of yellow fever.

**The Geneva Convention of the Red Cross Society.**—Announcement is made that the convention of the Red Cross Society, which was to have been held in Geneva on September 15, has been indefinitely postponed. The reason given for the postponement is that so many countries have failed to appoint official delegates that it would be impossible to have a representative meeting on the date set.

**Obituary Notes.**—Dr. Moses Bruckheimer of Washington, D. C., died at his home in that city on August 7, aged sixty-two years. He was born in Kilsheimer, Baden, Germany, and came to America when twenty years old. He served throughout the civil war as a member of Company F, Sixth New York Volunteers. At the close of the war he studied medicine and was graduated from the Medical Department of the Columbia University in 1868.

Drs. Adolph Cudell and Ernest H. Luete, two young Cleveland physicians, were drowned in Lake Erie, off the German-American Clubhouse, on August 5. The two young men had procured a boat, and, rowing a short distance into the lake, entered the water. Suddenly one of them was seen to throw up his hands, while the other was swimming toward him. Before aid from the shore could be given, however, both had disappeared.

Dr. Julius A. Schuylke, one of the leading physicians of Wyoming, died suddenly in a Casper-Thermopolis stage while *en route* to Casper on August 7. Death, it is said, was caused by an overdose of some drug. Dr. Schuylke served in the Cuban and Philippine campaigns as surgeon in the army.

Dr. George W. Rolerfort, a prominent negro physician in New Jersey and a Republican politician in Essex County, died in Newark on August 6, of apoplexy, having been stricken the previous afternoon while at the City Almshouse, of which he was medical supervisor. He had practised in Newark for thirteen years and had built up a large practice. He was born at Lexington, Va., on June 20, 1860. By working as a barber and as a waiter he made enough to pay for the first part of his education at Morgan College, Baltimore. For a three years' course at the Leonard Medical School of Raleigh, N. C., from which he was graduated in 1889, and for a special course in gynecology at the University of Pennsylvania a patron supplied the funds.

Dr. E. Virginia Baker Norton died at Lancaster, Pa., on August 5, at the age of fifty years. She was graduated from the Woman's Medical College of Pennsylvania and subsequently became associated in a professional capacity with a State institution at Augusta, Me.

Dr. Thomas J. Yarrow died at Philadelphia on August 6, at the age of sixty-three years. He was thrown from his carriage ten months ago by an unruly horse, and had not been well since. He was graduated from the medical department of the University of Pennsylvania in 1861, and served in the United States Army.

Dr. Richard K. Brown died at Mt. Holly, N. J., on August 8, at the age of sixty-three years. He was graduated from Jefferson Medical College in 1862 and served with distinction as a surgeon during the civil war.

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

VACATION — SWANSEA — GENERAL MEDICAL COUNCIL'S FRUITLESS SESSION—OPHTHALMIC NEONATORUM; VIEWS ON ITS PREVENTION BY OBSTETRICIANS AND OCULISTS—DR. ALFRED HILL—OBITUARY.

London, July 24, 1903.

The summer session is practically over. Our talk is of holidays, change of air, and so forth. Some have already set out on their trips; a few are just concluding them, and will wind up at Swansea next week. A much larger number will begin there, for in that town is the meeting of the British Medical Association, lasting through the week, after which there will be a dispersion in all directions. Swansea is not a place I should select for a holiday, but there are many attractions around it, as you may suppose from its position in beautiful South Wales. Geologists are interested in its great undeveloped coal field. Others regard it as the great center of metal works, many as the future ocean port. Antiquaries will turn to the castle, which dates back to 1099, or the queer, narrow streets, now invaded by trams and electric lights.

The trade of Swansea is perhaps the most important of the Bristol Channel ports, exceeding them all in value though not in tonnage. The variety of its imports and exports is remarkable. The Harbor Trust is in such good credit that it can borrow at 3½ per cent., although its debt exceeds £2,000,000. The trustees are placing a steamer at the disposal of the medical visitors, who will thus be able to see the coast to advantage. The railway facilities are unusually great, and doubtless many will seize the opportunity of making or renewing acquaintance with some of the lovely localities of South Wales.

The Medical Council has once more exhibited its pusillanimity and vacillation. Finding the Royal Colleges still recalcitrant, you know that it called this special meeting with a view of representing them to the Privy Council unless they gave way. The resolution to do so was brought forward by Sir Victor Horsley and was to be fully considered at this meeting. Well, the special meeting has come and gone; the discussion—if two days of inconsequent talk deserve the name—has ended as so many proposals in the council have ended, in postponement. The session, called at enormous cost, to settle everything in dispute, has settled nothing. The colleges put their own construction on their charters and hold that the acts of Parliament do not affect them, and so the council has no power to enforce its views. But these acts require the Medical Council to represent to the Privy Council any corporation whose examinations are not satisfactory. Of the insufficiency of the preliminary school examinations instituted by the colleges the Medical Council has abundantly satisfied itself and yet has failed to do the duty imposed upon it.

When it was determined to hold this special session many thought that led by Sir V. Horsley the council would at last take its courage in its teeth. I have watched the doings of the council for years and predicted that it would find a way out of decisive action. The colleges acknowledge the council may criticise their doings—say it is "a criticising body" only, and as such they will take its observations into consideration. The net result of the special session is to put off the matter until November, when perhaps all the old speeches will be repeated and ——? In the meantime the president and a small committee are to confer with representatives of the colleges, "should it appear that a conference on the question raised is desired." And so the council is being reproached by all medical reformers in that it obviously knows its duty but has not the courage to do it.

Ophthalmia neonatorum is so destructive to sight that it probably accounts for 10 per cent. of the cases of blindness, and yet it is a preventable disease. The subject has been brought before the Obstetrical Society by Mr. Sidney Stephenson, who has had special opportunities of studying it. Out of 1,498 cases, gonococci were demonstrated in 60.17 per cent. Various other organisms were sometimes associated with it. He pointed out the fallacies of clinical diagnosis and the necessity of bacteriological examination of the pus from the conjunctiva. Mr. Stephenson urged the advantages of Credé's method of preventive treatment and only admitted one drawback—the production of trivial conjunctival catarrh. Protargol and corrosive sublimate were good, but the 2-per-cent. solution of silver nitrate was, he declared, much better. This Credé treatment was also favored by most of the speakers, though some of the objections were freely discussed.

Dr. Herman admitted the superiority of the silver solution had been shown by Mr. Stephenson's figures, but said that from the mother's point of view the irritation of the conjunctiva was no trifle, and a young practitioner would be injured if it got abroad that he always did something to a baby's eyes which made them sore. He suggested that silver should be used in any case with a history or symptoms of discharge; in others sublimate.

Dr. Walter Swayne felt the same objection, and therefore at the Maternity Charity, which was worked by students, they used sublimate.

Mr. E. Treacher Collins remarked that new-born infants did not secrete tears, but any irritant introduced would cause a copious secretion which would wash away infective matter. The tears, too, were bactericidal, and even clean water introduced at birth had been proved to diminish the cases of ophthalmia, which might be entirely prevented by disinfectant fluids. The disease could also be cured if treated early enough.

Dr. Griffith hoped Mr. Stephenson's paper would convince the council of the society of the necessity of revising its directions to midwives. Imperfect results showed that the method had been improperly carried out. In private practice, however, he only used silver when he suspected infections; in other cases he cleansed the eyelids, nose, and lips with 1 in 1,000 solution of mercuric iodide as soon as the head was born, before the child opened its eyes or attempted to breathe. He considered mercurial solutions of 1 in 2,000 or less untrustworthy, and boric-acid lotions as little, if any, better than water.

Dr. Cullingworth, who is on the Central Midwives' Board, said the rules proposed were now before the Privy Council and he hoped they would be found satisfactory in this respect. He deprecated overburdening the midwife's bag and perhaps her mind with more than one solution. He drew rather a lugubrious picture of the midwife's suffering from the ridicule of the ignorant at her antiseptic basin and phial of eyedrops. But if he inquired in the most ignorant districts I am sure he would find that babies' eyes were often subjected to dangerous, even filthy, washings as a result of superstitious practices. He also remarked that many chemists believed that ionization occurred only in simple watery solution of one mercurial salt, and as antisepticism was due to that, the common solution of biniodide with the aid of potassium iodide was probably inefficacious. This would have to be cleared up—perhaps by bacteriological investigation.

Dr. Amand Routh was much impressed with Mr. Stephenson's paper, but felt a difficulty in recommending two solutions, and there were points against changing the rules of the society. The sublimate was always at hand and silver solutions did not keep well. The rules required the midwife to send for a doctor on the least appearance of inflammation in the child's eyes.

Dr. Horrocks questioned the estimate of 10 per cent. of children affected, especially when modern aseptic midwifery was practised. Even at that ratio the routine recommended would subject 90 per cent. to instillations of germicides of no use to them, and to some of them probably injurious. Why not make a selection and treat only suspected cases? General practitioners were quite capable of doing so.

Dr. Boxall urged routine measures of prevention. Ophthalmia was so disastrous that if the incidence were only 3 instead of 10 per cent. he would advocate them. Thoroughly flushing with 1 in 4,000 sublimate would probably carry on the conjunctival surface as much antiseptic as 1 mm. of a 1-per-cent. solution dropped in, and would also wash away any material from between the lids.

Dr. Sikes thoroughly agreed with Dr. Boxall. The supposed difficulty of detecting the gonococcus did not exist; on the contrary, he had found it to be easy, and early bacteriological examination should be made in every case of sore eyes in new-born children.

Dr. Cuthbert Lockyer maintained that Credé's method was so effectual and the "reaction" so unimportant that its routine employment should be universal.

Princess Henry on Monday opened the new buildings of the Belgrave Hospital for Children.

Dr. Alfred Hill, who lately resigned the Medical Officership of Health to Birmingham, after forty years' work for the corporation, has received a handsome testimonial, and his colleagues in the service have presented him with a silver tea and coffee set.

Alderman Walmsley, J.P., Consulting Surgeon to Salford Royal Hospital, died on the 16th inst., aged seventy-five years.

Mr. Robt. H. Woodhouse, M.R.C.S., L.D.S., died suddenly on the 8th inst. He was a leading dental surgeon, president of the Odontological Society in 1896. He had suffered from heart disease for some years.

# Progress of Medical Science.

*Boston Medical and Surgical Journal, August* 6, 1903.

**Malaria in Temperate Climates**—Theobald Smith took as his subject for the Shattuck Lecture delivered on June 9, 1903, before the Massachusetts Medical Society, "The Sources, Favoring Conditions, and Prophylaxis of Malaria in Temperate Climates, with Special Reference to Massachusetts," of which the following is a summary: (1) There is no evidence that any but the tertian form of malarial fever can be propagated in Massachusetts. (2) The original source of tertian infection must be looked for in the blood of individuals coming from permanently infected localities in our own country and in Southern Europe. (3) There is no definite information as to the stage of disease or relative immunity in which mosquitos may become infected, but analogy with similar diseases of animal life indicate that the gametes are not formed early in the disease, and that relatively immune persons are the most dangerous, especially after fresh exposure, because in them gametes form very promptly without causing much or any clinical disturbance. (4) The dissemination of infection is most easily promoted in our latitude when people live in a crowded condition, unprotected from mosquitos and near breeding places of Anopheles. (5) The decline and disappearance of malaria after importation and epidemic prevalence is in part due to relative isolation of the inhabitants and protection by quinine and from mosquitos, and in part to the absence of persons partially immunized by long exposure in endemic localities. (6) There is some evidence that sewage pollution in surface waters favors mosquito larvæ directly, through increase in food supply; indirectly, by injuring their enemies. (7) Since malaria may be latent and hence unrecognized, and since it is largely a disease of the lower classes whose movements it is difficult to control, the best method of reaching it is to suppress the mosquitos whenever possible. (8) Malaria is of sufficient importance to become a notifiable disease. (9) Infants and children exposed should have their blood examined during any disturbance of health. (10) In times of epidemic malaria it may become necessary to make special regulations governing infected persons. (11) It is of great importance that the relation of the widely distributed species, *Anopheles punctipennis*, to the parasite of tertian fever be accurately determined. (12) It is also highly desirable to test the infecting power of fresh cases of tertian fever as compared with relapses and with individuals from malarial countries.

*Journal of the American Medical Association, Aug.* 8, 1903.

**Condition of the Endometrium in Cases of Uterine Myomata.**—Thomas S. Cullen gives in this brief paper the results based on gross or histological examination of nearly 1,000 cases. As a rule, the cervical mucosa shows no change. Endometritis is occasionally found, and then is associated with inflammatory changes in the adnexa. Adenocarcinoma of the body of the uterus is frequently associated with myomata. Most of the changes observed in the uterine body are, however, entirely mechanical. Thus portions of the mucosa may be forced into the cavity, producing polypi. The author lays down the general rule, that when the Fallopian tubes are normal and no sloughing submucous myoma is present the uterine mucosa will be normal or show only mechanical changes. Under such favorable conditions the surgeon may do a myomectomy, opening, if necessary, a large part of the uterine cavity, with little danger of infection.

**Control of Suppuration in the Anterior Segment of the Eye by the Insertion of Iodoform into the Anterior Chamber.**—E. C. Ellett reports some experiments and one clinical case bearing upon this method of treatment. The iodoform is used in the form of rods of gelatin containing 50 per cent. of iodoform. These substances are mixed hot and poured on a clean tin plate to harden, and the resulting film is then cut into the required sizes. Under local anæsthesia a peripheral incision is made in the cornea, and the rod is completely inserted into the eye. To be of any value this treatment must be used not later than the second day after infection, and should be repeated daily until positive improvement or absolute failure is noted. The results have not been very brilliant, but, in view of the almost hopeless nature of these cases, they are at least encouraging.

**Albuminuria in Diabetes Mellitus; Its Importance as a Factor in the Causation of Diabetic Coma.**—Arthur R. Elliott draws attention to the importance of albuminuria in diabetes, and insists that it is never without significance. It is either toxic or degenerative, and occurs at some time or other in one-third of all cases of diabetes. Toxic albuminuria is usually acute, and develops in the later stages as a result of the presence of acid

toxins in the blood and urine. It is of the gravest prognostic significance, because it invariably precedes and accompanies diabetic coma; indeed, with the associated renal changes, it is the final determining cause of the coma. Degenerative albuminuria is a very frequent accompaniment of the mild type of diabetes, being due to a secondary nephritis arising from prolonged hyperfunction and impairment of renal nutrition. This form of albuminuria, therefore, has little immediate significance, although it points to the presence of chronic nephritis as a complication.

**Subtropical Trachoma, and a New Remedy in Its Treatment.**—Ruffin A. Wright describes under this title a rather mild type of the disease, and one which the negro almost wholly escapes. The author advocates the use of a five-per-cent. ointment of copper citrate, although believing that a ten-per-cent. ointment will be readily tolerated so soon as excessive secretion has been allayed by one of the silver salts. This treatment appears to have originated with F. R. von Arlt, but it has not been used before in America. Emphasis is laid upon the fact that it does not cure trachoma more quickly than other non-operative methods, but possesses the very great advantage of causing so little pain that the patients readily submit to daily home treatment for a long period. Another claim made for it is that it produces absorption and disappearance of granulations and hypertrophied papillæ quite as rapidly as other applications. The majority of patients will tolerate the application twice a day. A good plan is to apply the remedy at night, letting it remain in the eyes during the night. Its use is contraindicated when there are corneal ulcers or iodine preparations are being used either externally or internally.

*The Medical News, August* 8, 1903.

**The Choice of Technique in Operating upon Prostatic Obstruction.**—Charles H. Chetwood groups the cases of of vesical insufficiency due to obstruction by an enlarged prostate into three classes: In the first class there is simple obstruction, in the second obstruction with inflammation behind it, in the third obstruction, inflammation and secondary degenerative changes. The object of operation in the first class is to remove the obstruction, and in removing it to do so permanently. In the second class, the same object is held in view with the further purpose of draining the inflamed viscus. In the third class, nothing more can be done than is done in the second; and it is sometimes not possible by means of operation to affect the advanced degenerative changes which occur late in these cases.

The choice of operation for the relief of any of these conditions lies at the present time between prostatectomy by lobular enucleation and prostatotomy by means of galvanocautery incisions. As a result of his experience in forty-five cases, the writer comes to the conclusion that prostatotomy is less dangerous than prostatectomy; that it is the operation of choice in a large number of cases of prostatic obstruction, notably those of moderate glandular enlargement, orificial hypertrophy, and contracture, in which the prime object is removal of the obstruction and depression of the bladder orifice; that galvanocaustic incisions, when combined with perineal cystotomy, accomplish satisfactorily the desired result, shorten the operation, and minimize its dangers.

*New York Medical Journal, August* 8, 1903.

**Rheumatism and Typhoid in Childhood.**—J. R. Clemens points out the striking similarity in the clinical picture of rheumatism and typhoid in childhood. Often there is a continued fever at night with general amelioration of symptoms by day, terminating in an apparently rapid convalescence, only to be followed by a marked and persistent anæmia and the development of chorea. An examination of the heart at this time may reveal the presence of a variety of murmurs, and careful inquiry into the previous history will probably elicit recollections of a stiff neck or of "growing pains."

**Some Further Remarks and Queries Concerning the Influence of Altitude upon Heart Disease.**—Robert H. Babcock refers to his previously expressed opinion, that the effects of high altitude upon cardiac disease are to be attributed to the acceleration of the circulation incident to lowered atmospheric pressure, and then cites several cases to show that the subject is a more complex one. Theoretically, residence in a high altitude should be contraindicated in mitral and aortic stenosis, yet in two or three of the cases narrated the patients were in better health in the mountains of Colorado than when at the sea level. The ease with which cardiac strain may be induced at high altitudes is touched upon, and the conclusion is reached that a cardiopath going to a high altitude will incur no special risk if he will remain inactive until he becomes accustomed to his changed surroundings and his circulation has readjusted itself.

**The Cause and Specific Treatment of Hay-fever: A Preliminary Report on the Use of the Toxins and Antitoxins of Professor Dunbar.**—Emil Mayer made use of the material sent him by Dunbar on cases both of the spring and of the autumnal variety of hay-fever, in each instance employing a non-susceptible person as a control. One drop of the serum is capable of neutralizing the effect of twenty drops of the toxin solution. He observed the same reactions as have been described by Dunbar and others. The autumnal cases absolutely failed to react, but those of the spring variety reacted so satisfactorily to the antitoxin as to practically demonstrate the identity of the spring variety of hay-fever in this country and in Germany. Dunbar believes that the autumnal cases will be found to respond to some other toxin. The antitoxin serum is instilled into the eye or into the nose, as hypodermic injections have caused great local irritation.

**The Psychical Relations of Tuberculosis in Fact and Fiction.**—G. A. de S. Saxe summarizes his paper as follows: (1) The average consumptive exhibits traits of mind and temperament that are directly connected with the disease, although not specifically characteristic of it, and these have not received from medical men the attention they deserve (2) The only probable theory for the mental and moral degeneration of the consumptive is that of toxic poisoning of the central nervous system by the products of the tubercle bacilli. (3) The fundamental factors in the psychical make-up of the typical consumptive are the loss of self-control, the rise of brute selfishness. The increase of susceptibility to suggestion, emotion and nervous irritation, and the tendency to rapid nervous and psychical fatigue. (4) There is no tangible proof that the sexual functions are exalted in tuberculosis, but in all probability the sexual irritability is raised in the early stages of the disease and lowered coincidentally with the waning vitality in the later stages. (5) Any form of insanity may be found in tuberculous persons, the tuberculous toxin, along with other factors, contributing to mental derangement in susceptible individuals. (6) The criminal tendencies of consumptives have been observed with sufficient frequency to justify an investigation into the medico-legal question of restricting the responsibility of a criminal on the ground that he is tuberculous. (7) The euthanasia of consumptives is to be explained on purely physical grounds, the changes in the nervous system being so marked at the time of approaching dissolution as to efface the patient's suffering and render death easy.

*American Medicine, August* 8, 1903.

**Pigmentary Degeneration of the Retina.**—Walter L. Pyle reports the case of a man fifty-four years old suffering from this affection, in whose history there were a number of interesting peculiarities. In an accurate and comprehensive family history extending back over a century, no record existed of any ocular trouble, with the exception of one case of retinal hemorrhage in a brother who was addicted to the abuse of alcohol. There had been no consanguinous marriages in the family. He was a healthy boy, but was troubled with night-blindness although his visual acuity was normal. Examination of the eyes showed characteristic signs of pigmentary degeneration of the retina. Except in the exact macular region, there were scattered over the whole fundus pigment-masses with interlacing processes resembling the Haversian canals of bone. The long-continued absorption of retinal pigment had rendered plainly visible the choroidal vessels, giving the familiar "wainscoted" effect. The retinal blood vessels had undergone hyaline thickening, reducing the size of the blood column, but apparently not interfering with the transparency. They were outlined with whitish streaks. The optic discs were dull, pale gray—waxy or parchment-like—in appearance, with but little blurring of their margins. Contiguous to the center of the posterior capsule of the lens there was a small opacity in each eye, but otherwise the media were clear. The fields of vision were reduced to within the 5° circle for white, and within the 3° circle for red, but the central acuity of corrected vision and color-perception remained remarkably acute. Response to the Abney pellet-test is prompt and accurate. There was very little nystagmus. The pupils reacted to light and accommodation. Despite this marked degree of retinitis pigmentosa and restricted union, the man was able to follow the calling of traveling salesman, covering the territory east of the Mississippi and making long journeys by day or night trains. Much of his ability to go about unassisted was due to a noteworthy compensatory development of the sense of touch and hearing, estimation of distance, sense of location, etc.

*The Lancet, August 1, 1903.*

**Fractured Clavicle with Ossific Union in Utero.**—E. Sydney Hawthorne reports a case of this kind coming under his observation on April 1 of the present year. The subject was a full-term child born after a normal labor. There was a small, hard, immovable, and painless tumor at the center of the right clavicle, which was not associated with crepitation or restriction of motion. The diagnosis was a fractured clavicle united by callus. Since that time the callus has been steadily absorbed until now the condition is that often found in green-stick fractures in the young. There was no history of injury to the mother during this pregnancy.

**Large Piece of Glass Embedded in the Orbit for Twenty Years Without Causing Symptoms; Removal.**—J. Hoggan Ewart reports this case, which came under his observation on July 4, 1903. The patient, who had a small sinus situated about 2 cm. above the inner canthus of the left eye, stated that twenty years ago a clock had fallen on her head, and the glass of the clock had broken and made a deep cut across and to the outer side of her left eye. The wound was sutured and gave no further trouble until three weeks before coming to him, at which time the skin broke and there was a slight watery discharge. A probe revealed the presence of a large piece of glass deeply embedded transversely above the eye. It was much cracked and its edges were quite sharp. On removal, it was found to measure 3 cm. in length, 1 cm. in breadth and 1.75 mm. in thickness.

**A Case of Recurrent Varioloid Rash Following Vaccination.**—R. W. C. Pierce reports an interesting and very puzzling case of eruption following vaccination. The subject was a boy of fifteen who was vaccinated on December 5, 1901, along with a large number of other boys in the same school. One other boy was vaccinated with lymph from the same tube, yet no other similar case developed. The vaccination was successful, and on returning home on December 16, he became ill with mumps. On December 24, or nineteen days after the vaccination, he had what was considered to be a typical attack of smallpox. He returned to school on February 22, 1902, quite well, but on March 4 again became ill, this time with what was diagnosed by four experienced physicians as varioloid because of the typical character and distribution of the lesions. By April 1 all of the pocks had "peeled" out, and he was discharged. As the boy had traveled about a good deal and several cases of smallpox of unknown origin had appeared in neighboring towns, the possibility of exposure to infection could not be completely excluded. On the other hand, against the theory of this being varioloid, were the facts that he had been ill two months before with what was taken to be smallpox, and had been successfully revaccinated three months previously. Apparently the two illnesses were identical. The case differed from the recorded ones of generalized vaccinia in that there was no recrudescence at or near the site of the original vesicles, and that the rash did not appear until nearly three weeks after vaccination. The behavior of the mother's vaccination points to an unusual family receptivity. The author suggests that the case may have an interesting bearing on the connection between variola and vaccinia.

*British Medical Journal, August 1, 1903.*

**A Very Simple Remedy for Tuberculosis.**—J. Dulbery writes that his attention was called, sime time ago, by an intelligent layman, to the use of raw carrots in the treatment of pulmonary tuberculosis. Though naturally skeptical, he consented to see some of the "cured" cases, with a view to publishing his conclusions for the benefit of the medical profession, and the impression he has derived so far is that the remedy is worth trying. It is his intention at a later stage to publish full particulars of the cases and the progress they have made. His reason for writing this preliminary note is to inquire whether any one has ever heard of this treatment, and to suggest that it be given a trial, considering that it is harmless.

**Swallowing a Pin Without Bad Results.**—M. Jenkins says that he was recently called to see a little girl who had swallowed a pin. On arrival he found a child two years old looking very blanched and excited, surrounded by a number of women, each one suggesting a different mode of treatment. On examining the child he could not find any place that caused her pain, but the mother was certain she had swallowed the pin, she having given it to her to play with a few minutes before, and the child having run to her partly choking. The mother was advised to give her a small quantity of very thick porridge at stated intervals, varying now and again with a little boiled rice, and to continue the same until further developments took place. The treatment was continued throughout the day, and the bowels acted late in the evening. They moved again the following day, at which time the pin, measuring an inch and a half in length, was passed without pain or discomfort.

*Münchener medicinische Wochenschrift, July 21, 1903.*

**A Case of General Infection with the Pneumobacillus.**—F. Jenssen reports a case of septicæmia, in which, during life, Friedlander's bacillus was cultivated from the blood. The case began as a multiple lobar pneumonia, but signs of general infection very soon appeared. At autopsy there was found a multiple pneumonia of both lower lobes with pleurisy; abscesses of the kidneys, liver, and spleen; and a diffuse purulent peritonitis due to rupture of the liver abscess. From all of these lesions the above-named bacillus was obtained and also from the fluid of the right shoulder-joint, from which it was cultivated in pure culture.

**A Case of General Infection with the Diphtheria Bacillus.**—Roosen-Runge's case was an empyema following a croupous pneumonia. The rib was resected, and from the pus pneumococci were cultivated in pure culture. For six days following, all went well, but there was then a sudden rise in temperature, followed by severe constitutional symptoms. At this time 20 c.c. of blood were taken from the median vein, and from it was cultivated a bacillus which was morphologically like the diphtheria bacillus and showed the same cultural and staining characteristics. Two days later a similar test gave the same result. Two days following, the patient died. At autopsy there was found an endocarditis, and in smears from the endocardium the above described bacillus was found to be abundantly present. Upon inoculation into guinea-pigs the bacillus was found to be non-pathogenic for these animals.

*Deutsche medicinische Wochenschrift, July 16, 1903.*

**Etiology and Therapy of Sclerosis of the Middle Ear.**—P. Stenger points out the important part which diseases of the nares and posterior nares (especially adenoids) play in the etiology of sclerosis of the middle ear. The early symptoms of such cases are often very obscure and slight, with the result that the process has been operative for a long time before the ear specialist is consulted. As is well known, treatment applied alone to the middle ear gives very unsatisfactory and uncertain results. It is of the utmost importance that, in conjunction with such treatment, attention should be directed to the nares and posterior nares, so that these cavities may be placed in the best possible condition. It is astonishing what results may be obtained from the latter measures alone. This is strongly exemplified in two cases of long standing, which are reported in detail.

*Berliner klinische Wochenschrift, July 20, 1903.*

**Biliary Colic without Gallstones.**—Hermann Krukenberg reports two cases of typical biliary colic which were operated upon, but in which no gallstones were found. In both the gall-bladder was exceptionally movable and might be designated as a "wandering" gall-bladder. It would seem certain that the attacks of colic were due to the great movability of this organ. In both cases the gall-bladder was made fast to the abdominal wall, and following the operation there were no further attacks.

**Pathogenesis of Pertussis.**—G. Arnheim has recently studied 150 cases and isolated therefrom a short influenza-like bacillus which refuses to grow upon the ordinary culture media, except in the presence of hæmoglobin. In the fatal cases the mucous membrane of the trachea and bronchi was in a state of advanced catarrhal inflammation. Recent investigations have shown that these mucous membranes are extremely rich in nervous elements, and it is probable that the violent attacks of coughing are produced through the irritation of these nerve elements by the toxins of the causative microorganisms—such irritation being conveyed to the coughing center in the floor of the fourth ventricle. Animal inoculations were carried on with cultures of the bacilli isolated, but these were without exception negative.

**Pseudotubercle Bacilli in a Case of Bronchiectasia.**—R. Milchner reports a case of bronchiectasia which was diagnosed as pulmonary tuberculosis, both upon the ground of the clinical symptoms and because of the presence in the sputum of morphological tubercle bacilli which retained the carbol-fuchsin stain after acid decolorization. Upon autopsy no gross or minute tuberculous lesions were found, and the correct diagnosis of the case was then first made. Sections of the involved lung tissue, which had been previously hardened in alcohol and formalin, were stained for tubercle bacilli, but none of these organisms were found. Fortunately some of the sputum of the patient had been preserved. Some of this was placed for a short time in alcohol and formalin, and

then stained for tubercle bacilli, the result being negative, although sputum from the same specimen which was not put in the alcohol and formalin showed apparently the presence of tubercle bacilli. Since genuine tubercle bacilli do not lose their staining properties when submitted to the action of alcohol and formalin, there can be no doubt but that the bacilli here present were pseudo-tubercle bacilli, and the fact is emphasized that submitting the specimen to the action of alcohol and formalin is a valuable method in the differentiation of pseudo from genuine tubercle bacilli.

*French and Italian Journals.*

**The Chemical Diagnosis of Hyperchlorhydria.**—Léon Meunier considers that the estimation of the total acidity and the hydrochloric acidity is not sufficient in deciding whether there is hyperchlorhydria of the gastric juice. The gastric juice, after Ewald's diet, is to be considered hyperchlorhydric only if with exaggerated or even normal chlorhydric acidity, it also contains in solution: (1) Sugar stuff reducing Fehling's solution, which, estimated in dextrose, will be less than 10 grams per 1,000 cubic centimeters, or better yet, (2) Soluble substances derived from starch, which, when transformed into dextrose, will yield an amount less than 20 grams per 1,000 cubic centimeters.—*La Presse Médicale*, July 22, 1903.

**Fermentation of the Fæces.**—A. Habel has found, from his investigations, that all functional or organic intestinal troubles result in fermentation, and holds that this fact may be of service in the diagnosis of dyspepsia from fermentation and (by a comparison of the degree of intensity of the process) in deciding the degree of functional change in the intestines. the differential diagnosis of organic and functional affections, and sometimes as an aid in determining whether certain pathological phenomena are due to intestinal or to other causes. The author disclaims the idea of being dogmatic, but merely suggests the utility of the measure, and says that he intends to carry on his researches upon the subject.—*La Presse Médicale*, July 18, 1903.

**Serous Cyst of the Appendix.**—R. Chevrier reports the case of a man who complained of attacks of pain in the right iliac fossa. These were not accompanied by a rise of temperature, nor did they interfere with the peristaltic movements of the intestines. The patient had only slight nausea. In fact, the only symptom of appendicitis was the localized pain. An operation was, however, decided on, and the appendix found to be free, somewhat longer than usual, and presenting in its central portion a swelling about the size of a walnut. On examination this was found to be a cystic cavity filled with serous fluid, not communicating with the appendix. The latter was not thickened, nor its tissues discolored. A microscopic examination was not made, as through some oversight the specimen was not preserved.—*La Revue Médicale du Canada*, July 8, 1903.

**Milk Diet and Ordinary Diet in Dyspeptics.**—M. G. Bardet concludes, from a detailed study of the subject, that hypersthenic dyspepsia is a purely functional affection, due to an excess of alimentation in persons incapable of transforming any more foodstuffs than their organisms absolutely need. It can be cured only by regulating the amount of food taken and by suppressing all irritating alimentation. No other medicines are needed than the earthy alkalies and sometimes anodynes. The majority of individuals are undoubtedly capable of absorbing three or four times the amount of nourishment which they really need; this proves that they have active livers, but a day will surely come, toward the fiftieth year of life, when they will pay by the wholesale for these daily excesses. Hypersthenia is a veritable boon in these cases, dyspepsia being a means of defence for the organism, if properly understood and treated—*Bulletin Général de Thérapeutique*, July 15, 1903.

**The Defensive Functions of the Greater Mesentery.**—Raffaele Pirone states that: (1) A spleen which has undergone necrosis from ligature in mass of the blood vessels becomes surrounded by the mesentery, which, because of the inflammatory process arising in it, rapidly forms connective tissue which does not merely encapsulate the spleen, but invades it. The endothelial cells of the membrane are transformed into macrophages which carry away the detritus of the gradually destroyed organ. Owing to this double plastic and phagocytic action, the mesentery ends by completely obliterating the spleen; behaving toward it as the vasal endothelium behaves in the organization of a thrombus. (2) Following the extirpation of the spleen, no histological changes are found in the mesentery indicating a vicarious lymphoid transformation of this organ. (3) The greater mesentery exhibits a vigilant protective action, which, under given circumstances, acquires the value of a true means of defence to the peritoneal cavity, and consequently to the whole organism.—*La Riforma Medica*, July 15, 1903.

**The Effects of Sea Air and Sea Bathing on the Phenomena of Nutrition.**—A. Robin and M. Binet conclude their study of the subject by a consideration of the indications and contraindications of this form of treatment. Sea baths have a stimulating effect on metabolism, and are therefore indicated when this effect is needed, but they are contraindicated in phthisis. They are indicated in rachitis, lymphatic troubles, scrofula, and tuberculosis of the bones and the ganglia, provided that organic destruction is not more active than processes of repair. They are indicated in anæmia and chlorosis when nutritive exchanges and oxidation are diminished, but contraindicated when these processes are over-active. Indicated in gout, especially if supplemented by suitable diet and hygiene; in chronic autointoxication of gastro-intestinal origin, in hyposthenic dyspepsia, in neurasthenia accompanied by phosphaturia, in the nervous conditions following fevers, and in certain cases of diabetes in which oxidation of the nitrogenous substances is diminished, and the relation of the total phosphoric acid to the total nitrogen tends to be raised.—*Archives Générales de Médecine*, July 21, 1903.

**Experimental Pathology of the Kidneys; Nephrectomy and Unilateral Ureterostenosis.**—Paolo Fiori has found that unilateral ureterostenosis provokes renal and general phenomena; the first are shown by oliguria, sometimes anuria albuminuria, hæmaturia, and a diminished elimination of urea and the salts of potash, and histologically by congestion, hemorrhages and degeneration of the epithelium; the second by emaciation. Disturbances of the urinary function are usually transitory, but may be prolonged or recur after a lapse of time. In ureterostenosis the general trophic changes are the chief characteristic; in nephrectomy the changes in the general condition are less marked. In both conditions other factors may concur to the alteration of the general condition; among others, functional insufficiency, and molecular lesions of the more highly differential cells. The remaining kidney may be the starting point of abnormal products from the elaboration or disintegration of cells. It is very possible that the protective internal secretions may become insufficient when we suppress or mutilate a kidney, and that while in nephrectomy compensation occurs fairly rapidly and is complete in ureterostenosis, the functions are neutralized by the greater amount of circulating poisons.—*Il Policlinico*, June, 1903.

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**Phthisis in Laundresses.**—In the report of the Chief Inspector of Factories for Great Britain for 1902 the prevalence of phthisis among laundresses is touched upon. Among laundresses admitted into the Wandsworth and Clapham Infirmary during 1899 and 1900, phthisis cases formed 8.7 per cent. of the total admitted, while in the class of women other than laundresses the percentage was 5.3. In the Isleworth Infirmary during the same period the percentages were 10.9 and 4.5 respectively. Pulmonary phthisis is most marked in females from fifteen to twenty-five years of age.—*British Medical Journal*.

**Rare Ocular Manifestations of Venereal Disease.**—M. T. Yarr reports three unusual cases. Case 1 was that of a boy of eighteen years with a chancre of the eyelid. The inner third of the lower lid was irregularly eroded, and the whole depth of the lid was swollen and indurated. On eversion a pinkish-yellow, granular-looking, glazed ulcer with raised edges could be seen extending to the bottom of the fornix. There was practically no discharge, and the bulbar conjunctiva was unaffected. The condition was of four weeks' duration, and the diagnosis of chancre was confirmed by the appearance of the rash two weeks later. Recovery quickly ensued under the use of mercurial inunctions and boric-acid washes Case 2 was one of interstitial keratitis due to acquired syphilis. Infection had occurred five years previously. Case 3 was one of gonorrhœal iritis. Yarr says that while this condition may not be very rare, it is seldom made out. Gonorrhœal rheumatism supervened in this case and recovery of vision was not complete. The eventual local condition, as in two other similar cases seen by the author, was one of numerous thready synechiæ, grayish-green effused lymph, and a tendency to involve the pupillary edge of the iris chiefly, leaving the rest but slightly involved.—*Journal Royal Army Medical Corps.*

# Society Reports.

## BRITISH MEDICAL ASSOCIATION.

*Seventy-first Annual Meeting, Held at Swansea, July 28, 29, 30, and 31, 1903.*

**Special Report to the Medical Record.**

(Continued from page 237.)

### SECTION OF TROPICAL MEDICINE.

*Wednesday, July 29—First Day.*

**President's Address.**—The President, G. H. F. NUTTALL, M.D., Ph.D., of Cambridge, remarked that there had been some doubt as to the continuance of a special section for tropical diseases, but that the British Medical Association could hardly call itself up to date without this section—recent work in tropical diseases was amongst the most important work ever done in medicine. The discoveries made with regard to malaria and yellow fever showed what lay in the power of this branch. New workers who want to make discoveries need but go to the Tropics. However, there were many diseases in temperate climates which, studied here with every convenience, would greatly help the elucidation of other similar diseases in the Tropics the investigation of which must necessarily be carried out under great difficulties. Last year, while studying a common horse-fly, *Stomoxys calcitrans*, the speaker had discovered a filaria in the head of this fly, a filaria not unlike *F. Bancrofti*, the life history of which had been so admirably worked out by Manson. The filaria found in *Stomoxys* had been described several years ago, but looking for its intermediate host he was able to find it in cattle. He was studying *Stomoxys* because it had been accused of transmitting the trypanosome of so-called surra in the Philippine Islands. All experiments made with this fly and with nagana infected animals at Cambridge proved negative, but he mentioned the finding of the filaria in *Stomoxys* to show how tropical diseases may be elucidated by the investigations of other similar diseases quite common in Europe.

**Disposal of Excreta in the Tropics.**—Prof. W. Y. SIMPSON, M.D., F.R.C.P., of London, opened the discussion on this subject. In England, he said, disposal of sewage was a term generally employed to represent its treatment for purification. It was at this stage that most of the difficulties connected with sewage disposal had arisen in this country, for as a rule those connected with collection and removal had been more or less satisfactorily overcome. In the Tropics it was different, and the term had a wider meaning and included collection, removal, and purification. It was obvious that there was little use of elaborate systems of purification in the last stage if the excreta were not properly dealt with or disposed of in the first two stages, and as a consequence a large quantity was allowed to remain and pollute the soil in close proximity to the dwellings. Indeed, the first two stages were, by far, the most important in the Tropics.

The Chinese, especially of Southern China, were probably the most careful of all nations in the collection, removal and disposal of excreta, while they were perhaps the most careless in the removal and disposal of garbage and waste water. The solicitude displayed in the collection, removal, and disposal of the excreta was not, however, based on any health consideration, but because among a people representing an ancient civilization agricultural skill and knowledge had been brought to a high degree of development. The value of the excreta as manure was to such an extent appreciated that the passer by was deemed to confer a favor by urinating in the receptacle provided near the shop or dwelling for that purpose. To own a public latrine in China was almost as lucrative a business as to own a pawnshop. Nothing under such a régime was wasted. In the villages the latrines were openings immediately over large cemented cesspools, the contents of which, to all appearances underwent certain bacterial changes similar to those in the recently introduced septic tank in England, for when emptied and discharged on the adjacent fields or into boats there was no deposit, but the whole seemed to be in a liquid state. The boats conveyed the sewage to the farmers, who stored it in similar cesspits and applied it to the land. It was seldom that fresh excreta were used.

For villages in the Tropics the Chinese method of dealing with the excreta seemed by far the most practicable and the most healthy so long as the cesspools and the latrines over them were well raised above the ground and protected against flood water and rain water.

It was the collection and removal of excreta which were so manifestly defective in the Tropics. As practical sanitarians, it was necessary to grasp the fact that it was not always necessary to introduce new methods or even European methods, on the contrary excellent results were often obtained by the old method or some modification of it, so long as the hygienic principles of the west were followed. There was nothing to be gained by inveighing against manual methods when the character and habits of the population allowed of no others.

As regarded removal of excreta, it might be broadly stated that no town of over 10,000 or 15,000 inhabitants could deal satisfactorily with the removal of its excreta other than by a system of pipes. This need not involve an elaborate system of sewerage. The system which seemed most suitable for a small town with a mixed population was a pail system, with numerous small depots dotted at convenient distances over different parts of the town, where the excreta and slops from the houses in the vicinity could be emptied and immediately conveyed by pipes to the outfall, where the product was to be treated.

Each district depot might be considered to be a large watercloset which, instead of serving one house, served a group of houses in the neighborhood. Belonging to the local authority and under its exclusive control, they could be fitted with flushing or disinfecting arrangements. These depots would allow of the removal of excreta being effected expeditiously without carts and with a small staff.

In Calcutta, in the European quarter, there was a depot in every compound by which the sewage of the house could be removed by gravitation to the outfall—as to the final disposal or treatment of excreta in the Tropics the only practical method was application to the land, unless it was a town situated on the sea and the currents were such as to carry the excreta away to sea. The application to land appealed to an agricultural people. The only question that might arise was whether the excreta should be applied direct to the land at once or undergo some form of preparation—although in favor of preparation according to the Chinese method, or the septic-tank system by which the putrefactive organisms get full play and destroy disease germs, yet Dr. Simpson was inclined to think that the application of fresh excreta to land could be carried out under favorable circumstances in the Tropics without the slightest danger of spreading disease, provided certain precautions were taken.

As to the preparation of the sewage before it was applied to the land, probably the system most suited to the Tropics was the septic-tank, in that the excreta were protected from flies. After a fairly prolonged exposure in the septic-tanks the excreta could be applied with advantage to the land direct in the dry season.

Dr. ANDREW DUNCAN continued the discussion by the reading of a paper in which he advocated either the system proposed by Prof. Vivian Poore or incineration

**Influence of the Septic Tank on Pathogenic Bacteria.**—Dr. LEONARD ROGERS, captain in the India Medical Service, followed with a paper on this subject. In India at the present time the septic-tank process was beginning to be introduced in various places. Captain Rogers, at the request of the Government of Bengal, had carried out some bacteriological investigations to try and ascertain the effect of the process on pathogenic bacteria. He found that the septic-tank process was inimical to most

of the pathogenic organisms tested for; that is to say, the typhoid bacillus, comma bacillus of cholera, staphylococcus, streptococcus, Micrococcus melitensi, Shiga bacillus of dysentery, and plague bacillus, but not to the anthrax bacillus, doubtless owing to the resistance of the spores. On the other hand even small quantities of the effluent from the tanks showed both the Bacillus enteritidis sporogenes and streptococci, so that it could not be considered as by any means free from pathogenic bacilli, and even after such treatment it would not be safe to discharge it in any place within draining distance of water which might possibly be used for drinking purposes.

Dr. H. Marcus Fernando of Colombo spoke of difficulties with regard to the disposal of excreta in Ceylon on account of the heavy rainfall. In many places the natives would not eat vegetables grown on sewage farms.

Dr. W. B. Clarke of Barbados described the cesspits of Barbados and asked whether sunlight might not have some beneficial action on sewage.

Fleet-Surgeon P. W. Bassett-Smith, R. N., drew attention to the widespread diffusion of the ova of intestinal parasites by means of sewage applied to land.

Sir Patrick Manson supplied details concerning the commerce of fecal matter and urine in China.

Dr. F. M. Sandwith of Cairo said that though he had tried to get the authorities in Egypt to introduce a water-drainage system and still thought it the best system of removal for towns, he felt bound to say that he had never seen any cases of epidemic disease which could be traced directly to good or bad cesspools. It ought to be understood definitely that all stools derived from patients suffering from typhoid fever, cholera, dysentery, ankylostomiasis, and perhaps plague, should be thoroughly disinfected before being thrown into the cesspool.

Dr. L. W. Sambon of London said the pail and cesspool system was a very old institution in Italy. Indeed it could be traced to the Ancient Romans. It was still very prevalent throughout the Peninsula. The sewage from the cesspits was finally applied to the land as manure. The speaker strongly condemned the application of sewage, and more especially of fresh excreta, to rapidly growing vegetables that were eaten raw, such as salads and radishes—repeated washing did not render such vegetables sterile and they might be a fruitful cause of disease dissemination. He mentioned an epidemic of typhoid fever in Naples which was traced to the consumption of salads manured with the contents of a cesspool in which typhoid stools had been emptied.

Dr. C. Christy drew attention to the importance of preventing the access of flies to cesspools.

Mr. J. Cantlie, F.R.C.S., of London, said that throwing sewage into the sea was by no means wasting it as some thought, and he mentioned the record takings of fish at Yarmouth which followed the throwing into the sea of 30,000 condemned carcasses of sheep from New Zealand.

Dr. G. H. F. Nuttall of Cambridge endorsed Dr. Sambon's caution that vegetables to be eaten raw should not be treated with human excreta. He mentioned the observations made during the Spanish-American War with regard to the connection between flies and typhoid fever.

Professor Simpson concluded by stating that the favoring of cesspools in large places always entailed badly kept ones amongst the poorer people. He thought that care should be taken with regard to the application of sewage to particular plants, the case of the epidemic mentioned by Dr. Sambon was very interesting, but he thought that under proper supervision there could be no danger.

**Sprue, Primary and Secondary, with Special Reference to the Blood Changes Found.**—Fleet-Surgeon P. W. Bassett-Smith, R. N., read a paper on this subject, reporting a number of illustrative cases. Sprue, he said, was a form of disease which one would expect to find frequently in the Navy, so large a fleet being now maintained on the China seas, taking up one of the most prolific endemic areas. Curiously enough, however, few cases appeared in the returns. The American surgeons, from a great experience of the disease in the Philippines, were of the opinion that it was not properly a specific disease, but only a condition produced after attacks of dysentery, probably caused by certain definite forms of bacilli belonging to the colon group which they were able to isolate from the stools. The speaker believed that sprue was a chronic inflammatory condition (causing cirrhotic changes in the mucous membranes) of bacterial origin; giving rise to a diminished supply of those nitrogenous products which were required in the formation of the red cells. He said he wished particularly to draw attention to the characters of the anæmia which this disease produced, and to point out that if recovery were to take place, it must be by raising the oxygenizing agents, viz., the red cells in the blood, to their normal level. The blood in sprue resembled that of pernicious anæmia, except that the hæmoglobin value of the cells was also reduced and megaloblasts were not present.

In the treatment of the disease, the speaker employed a milk diet, followed by clear soups, egg flips, and raw meat juice, according to the condition of stools. Medicinally he had given salol, Dover's powder, arsenic, iron, and oxgall; also stimulating expectorants were given for relief of the cough.

Sir Patrick Manson said he wished that cases of sprue were better studied, even in this country where, in people returning from the tropics, the disease lasted long enough for investigation. As to treatment, there was no one particular line to be followed as a routine. Milk diet did well in many cases. He had seen excellent results from mixed diet and likewise excellent results from a pure meat diet or from a pure fruit diet. He now placed the patient on milk diet; if this failed it was substituted by a diet of meat juice; if this also failed, a mixed diet was tried or a fruit diet. The result of fruit diet was admirably illustrated by a case he recently had at the London School of Tropical Medicine. The patient was over fifty years of age, at which time of life the prognosis in cases of sprue is always exceedingly grave. The patient was first treated with little benefit by milk diet and other special diets, finally strawberries began to come in and the patient was put on a diet of this fruit at a considerable expense. The stools at once improved and the patient was soon restored to health. This was not the only case in which recovery followed the use of strawberries. This speaker looked upon this as a decided advance in the treatment of sprue; another advance was the hypodermic use of arsenic and iron.

Mr. James Cantlie advocated the meat treatment and suggested that the acrid oils used for cooking in China might have something to do with the disease.

Dr. K. Goodboy stated that he had been making a bacteriological study of sprue cases, but that, so far, his observations were contradictory. He thought the treatment of the mouth lesions was very important.

Dr. L. W. Sambon wondered how any one could doubt the specific nature of sprue. The disease had well marked specific symptoms, ran a peculiar course, showed typical anatomical lesions, and had a definite geographical distribution. Perhaps the most important indication of its specific nature was the fact that the disease might manifest itself several months after the endemic area had been left, but only in those who had dwelt within this endemic area, and it never followed dysentery or other intestinal disorders in people from other tropical colonies where dysentery was common, but sprue unknown. Another important fact was the almost entire absence of the disease in the Navy, notwithstanding the large fleet maintained in the China seas.

Dr. C. Christy of Liverpool then read a short paper on "Entrance of the Malaria Spore within the Red Cells."

SECTION OF MEDICINE.

*Wednesday, July 29—First Day.*

**The Medical Treatment of Inflammations in the Cæcal Region.**—Dr. PAUL CHAPMAN of Hereford opened the discussion on this subject. The question of need for operation in appendicitis and the responsibility of the physician in attempting to decide were first alluded to If a characteristic history of previous attacks were obtained and a tumor were distinctly palpable then an operation was indicated, but the frequency of recovery without operation was emphasized. In those cases in which there was considerable dulness and obvious inflammation in the cæcal region the treatment should be more often expectant than it was prone to be at the present time. The old plan of giving saline aperients,with rest, and suitable diet was, if possible, to be tried in the first instance.

Dr. H.W. KING of Chester also thought that in many cases of inflammation in the cæcal region the patients would make a more satisfactory recovery without operation. Sedatives with the limitation of food in the presence of vomiting and other urgent symptoms, were in his opinion the chief indications in the first instance. In subacute cases he would give an aperient at once, but in acute cases he could give none. He had found the exhibition of belladonna with an aperient of very great value.

Dr. T. D. SAVILL of London divided the treatment of appendicitis into preventive, remedial. and surgical. A principal part of the preventive treatment of appendicitis was the treatment of chronic catarrhal colitis. This was chiefly by irrigation, particularly with a weak solution of chinosol or silver nitrate. As regards appendicitis, if the patient's pulse were under 100 or the temperature not raised he would temporize in operation. Opium he considered should not be given for as long as possible; it masked symptoms. He urged also that operation should not be delayed too long. He preferred to have a surgeon brought into contact with the case as soon as possible.

Dr. W. COLLIER of Oxford had hoped to hear more said regarding inflammation in the cæcal region other than appendicitis. He referred to a paper by Mr. A. W. Mayo Robson in which it was maintained that an operation should be performed as soon as a diagnosis of appendicitis had been made. But he had seen, in general practice, many slight and speedily recovering cases. The quality of surgical aid available was an important factor. In cases of mild appendicitis with a well-formed tumor in the right iliac region recovery had frequently occurred in the past. Now the tendency was to provide against risks to the practitioner's reputation by leaving the case to the surgeon. The disadvantages of operation were alluded to, such as hernia and pain in the cicatrix.

Dr. STRATON of Salisbury believed that many of the cases of appendicitis recovering were cases of colitis, the appendix undergoing enlargement as the tonsil did in response to microorganismal influence. Whenever suppuration had occurred, however, operation was indicated.

Professor SAUNDBY of Birmingham referred to a paper read by the late Mr. Lawson Tait, who held that it was reprehensible for a physician to have a case of serious appendicitis without having surgical opinion on the case, and described a consecutive series of thirteen hospital cases of appendicitis which recovered without operation. If there were any reason to think that pus were present operation should be done. If the attendant were in doubt, a leucocyte count should be made, and if there were an excess of leucocytes with continued pyrexia, operation might be done. Permission should not be given to the patient to resume ordinary life so long as a lump could be found in the right iliac region. Such cases should certainly be operated on, in view of the risk of an indolent abscess undergoing rupture and setting up fatal septic peritonitis. When a relapse had occurred operation was indicated.

Dr. W. J. TYSON of Folkestone thought this subject was essentially a combined question of medicine and surgery. At present the cases were too apt to become purely surgical. Many patients in whom relapses had occurred, twice at any rate, got well. From the beginning and in the early stages the case was medical. Careful attention to diet and relief of constipation meant a diminution of serious cases. In doubtful cases a consultation was particularly required. In the future the origin of the disease should be more carefully considered with a view to prevention.

Dr. MICHAEL FOSTER of London alluded to thc preliminary catarrh of the colon, which was apt to become mucous and even membranous colitis. Of thirty cases of membranous colitis under his observation, in four appendicitis developed; in one of these the appendix was removed, in another an abscess burst by the bowel, in a third case the appendix was removed, and in the fourth it was not. In two of the cases at least the colitis was not affected. In the treatment of the colitis overdieting should be avoided, but a full plain diet was indicated.

Dr. MAC PHEDRAN of Toronto thought the medical treatment was rest, physical and physiological, within some cases leeching over the cæcal region. The important aid in diagnosis in doubtful cases of suppuration which was furnished by a leucocyte count was emphasized. Operation he considered should be performed within the first few days, or if not then not until much later when adhesions had formed. It was not always in the latter case necessary to remove the abscess, merely draining the abscess was sufficient.

Dr. O'DELL of Torquay maintained that the physician and surgeon should share responsibility in the management of appendicitis cases. The dictum of Sir Frederick Treves that an operation should be done after the occurrence of a second attack was a sound one.

**A Sphygmocardiograph.**—Dr. PAUL CHAPMAN of Hereford then gave a demonstration of an instrument for obtaining simultaneous heart and pulse tracings, and an easy method of obtaining a tracing from the end of the index-finger.

**Treatment of Paralysis of the Upper Extremities by Cross Union of the Nerve Trunks.**—Drs. W. J. HARRIS and V. W. Low of London next contributed a paper on the importance of accurate muscular analysis in lesions of the brachial plexus and the treatment of Erb's palsy and infantile paralysis of the upper extremity by cross union of the nerve trunks. In this it was maintained that in man the deltoid, spinati, biceps, and supinator longus muscles were supplied almost, if not entirely, by the fifth cervical root. The importance of faradic stimulation of the nerve roots at the time of the operation was insisted on. Three cases of the treatment of the paralysis by cross union of nerve roots were described; in one of the cases immediate recovery of sensation was obtained after the operation and in the galvanic reactions distinct improvement resulted after six weeks. In one case, although the paralyzed muscles gave the reaction of degeneration through the skin, yet they reacted to faradism of the corresponding nerve trunk.

**Serum Therapy.**—Dr. R. LORD of London made some observations on the treatment of disease by antitoxins, toxins, vaccines, and other forms of serum therapy.

Dr. BERTRAND DAWSON of London argued for the isolation and standardization of the active principle of antitoxins.

Dr. E. LANCASTER of Swansea referred to cases of recovery from tetanus after the injection of antitanic serum.

*Thursday, July 30—Second Day.*

**The Medical Treatment of Gastric Ulcer.**—Dr. H. D. ROLLESTON of London opened this discussion. The general treatment, that of absolute physiological rest, although universally recommended, was not always rigorously car-

ried out. Many allowed sips of water, but water was absorbed from the intestine and had to be expelled from the stomach by peristaltic action. Nothing should be allowed in the stomach, but the mouth should be kept clean by a mouth wash which diminished the risk of infection of the stomach. Patients fed by the rectum frequently developed parotitis, and this might be attributed indirectly to dryness of the mouth. It was recommended that the rectum should be washed out daily with non-irritating antiseptic solutions. If enough water were given by the bowel nutrient enemata need not be given for a week. Diacetic acid was very common in persons who had been starved or had been treated by rectal feeding. Semisolid nutrient enemata were sometimes better than fluid. Drug treatment intended to bring about a cure was directed to increasing the bodily resistance or to removing any underlying cause. As soon as gastric irritation had subsided, iron should be given. In men potassium iodide should always be tried, as the ulcer was often syphilitic. Apart from perforation, the only complication requiring surgical treatment was repeated hemorrhage. Vomiting was an indication for absolute rest, but it might persist although nothing was given by the mouth; the vomiting might be reflex from the rectum, or due to sepsis. Hæmatemesis was to be treated by absolute rest and the hypodermic injection of morphine to calm anxiety. Adrenalin locally might also be of benefit in arresting hemorrhage. Ergot was contraindicated as it raised blood-pressure; digitalin and lead were also not to be given. Allusion was made to the use of citric acid when the coagulation time of the blood was short. Operative interference was justifiable in persistent pain, in persistent pyloric obstruction, and in repeated hæmatemesis.

Prof. R. SAUNDBY of Birmingham premised his remarks by saying that the diagnosis of gastric ulcer must be admitted to be imperfect. If a patient were vomiting seriously and had pain he should be put to bed and placed on a milk diet, and then gradually restored to a full diet. Later sulphate of iron and sulphate of magnesia were indicated. If recent hæmatemesis were present the patient should be fed by nutrient enemata alone for forty-eight hours, after which the milk and lime-water feeding might be commenced. Prolonged starvation and prolonged rectal feeding were to be deprecated; physiological rest to the stomach was not good. If pain persisted, alkalies were first to be tried on the supposition that it was due to hyperacidity, or if it were very bad, morphine might be given hypodermically. Drachm doses of olive oil by the mouth had sometimes seemed to relieve pain. He had had only one death in 200 cases of recognized gastric ulcer under treatment, and had never found the vomiting intractable. For hæmatemesis he usually applied an ice-bag to the epigastrium and gave morphine hypodermically; if persistent, the question of operative interference should be considered.

Dr. W. J. TYSON of Folkestone thought that every case of anæmia should be looked upon as a potential case of gastric ulcer.

Dr. H. W. KING of Chester insisted on the importance of good nursing in the treatment of gastric ulcer. He recommended rectal alimentation for six to seven days. Water should, he thought, be given freely by the mouth unless there was much vomiting or hæmatemesis. Washing out of the bowel should not frequently be had recourse to—not, for example, daily. Adrenalin used in one case did not seem to do much good.

Dr. W. COLLIER of Oxford referred only to the treatment of gastric ulcer in anæmic women. It was very rarely a fatal disease. Rectal feeding was chiefly of value from its mental influence. In recurrent hemorrhage morphine and the application of the ice-bag for short periods were indicated. For the relief of pain bismuth was of much value, but it should be given before food; large doses of alkali and cannabis indica were also of value.

Dr. F. D. BOYD of Edinburgh considered that cases of chronic ulcer should be operated on. He approved of withholding even water by the mouth. It was debatable whether the value of rectal feeding was commensurate with the discomfort it afforded. It might be continued while there was absence of gastric hyperæsthesia. Iron, as the citrate, might be given hypodermically. In view of operation it was to be remembered that the ulcer could not yet be localized. If the bleeding point could be found surgical aid was advisable, but he deprecated gastroenterostomy. He asked if there was really hyperacidity in gastric ulcer?

Dr. A. MCPHEDRAN of Toronto referred to the occurrence of hæmatemesis in patients without ulceration, and in these there was, he had observed, hyperacidity. In such he had found olive oil of benefit in diminishing the pain and hyperacidity. The question of operation for hæmatemesis was to be entertained with caution, chiefly because the hemorrhage was usually from a minute opening. He alluded to the value of operation for persistent pain, caused apparently by gastric adhesions.

Dr. T. D. GRIFFITHS, president of the association, said the object of its treatment was physiological rest, principally by rectal feeding. The guide in this was the state of the mouth, the tongue should be moist and the breath sweet. Absolutely nothing was to be given by the mouth. An antiseptic mouth wash might be used. In slight cases ten days of this treatment was usually sufficient. Then the diet must be gradually increased, as in feeding an infant, during a week or ten days. He would avoid the use of cane sugar. From four to six ounces of digested food may at first be given every four hours. In addition drinks of saline bland fluids might be given even to three or four pints a day. The bowel during rectal alimentation need not be washed out except every three or four days. There should be no flatulence allowed. If the rectum became irritable a little laudanum might be given by the rectum. From two to three weeks in bed should be sufficient in most cases. When relapse threatened, the treatment should be resumed.

Dr. BERTRAND DAWSON of London also alluded to the difficulty of diagnosis. He would feed by the rectum for one week. The mental good of nutrient enemata was perhaps equal to the physical. The harmfulness of withholding food altogether was perhaps exaggerated.

In acute hæmatemesis in addition to ordinary treatment he would give calcium chloride in rectal injection. Bleeding from the stomach was often from multiple points, and this seemed to contraindicate operation. Both ergot and adrenalin were, he considered, unsafe. An emergency operation for acute hæmatemesis was not to be recommended—the cases almost invariably yielded to medical treatment. Dr. W. Ewart of London contributed to the discussion a demonstration of an instrument for the continuous administration of nutrient enemata.

Dr. G. PARKER of Clifton had tried the administration of calcium chloride by the mouth with good effect, and insisted on giving a large amount of water daily by the bowel.

Dr. Rolleston, in reply, said he had found hyperacidity in some cases of gastric ulcer and had not found it in others.

Papers were read by Dr. E. LLOYD JONES of Cambridge on "The Physical Examination of the Chest," and by Dr. J. HADDON of Denholm "On Food and Fasting in the Treatment of Disease," in which he argued for the establishment of lectureships on dietetics in medical schools.

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**Dysentery in South America.**—On the western side of South America dysentery is widely prevalent. In Ecuador it is common in the rainy season. In Peru it is endemic along the coasts, and is said by Hirsch to occur in the interior, at such elevations as 8,000 feet and even 13,000 feet above sea level. Dysentery is met with in all parts of Chile.—Clemow's "Geography of Disease."

## AMERICAN ORTHOPEDIC ASSOCIATION.

*Seventeenth Annual Meeting, Held in Washington, D. C., May 12, 13, and 14, 1903.*

**Special Report to the Medical Record.**

FIRST DAY—TUESDAY, MAY 12.

**President's Address.**—Dr. LOUIS A. WEIGEL of Rochester, N. Y., delivered this address. He spoke of the decadence of the family physician, and pointed out some of the reasons for this unfortunate state of affairs. While part of this was no doubt due to the growth of specialism, a good deal depended upon the lack of interest or careful observation of the general practitioner in certain lines of work. Specialists were useful, particularly if they had received sufficient general training before taking up their specialty, but in small communities, at least, the general practitioner was, and always would be, *the* doctor. The specialist would be the connecting link between the patient and the family doctor, and should serve as a buffer to prevent collisions between these two parties

**Excision of the Knee for Bony Ankylosis; Report of a Case.**—Dr. A. J. STEELE of St. Louis presented this report. He said that osteoclasis was rarely applicable in these cases, and, as a rule, cuneiform osteotomy was indicated, and could be practised with very satisfactory results. This was the treatment in the case reported in this paper. So large a piece of bone had to be removed that unfortunately it became necessary to sacrifice the femoral epiphysis, but the tibial epiphysis was spared. The limb, after straightening, was fastened by nails, and a fixative apparatus was applied. At no time after the operation was there any unfavorable symptom. The specimen showed ossific union of the three bones making up the joint. He had used ivory and bone pins in this operation, but had found them unsatisfactory, and hence, he preferred to use steel nails until sufficient callus had been thrown out. A well-fitted leather brace, fashioned over a plaster case, was subsequently used. The patient in this instance was a healthy boy, apparently without constitutional taint, tuberculous or otherwise, so that the trouble appeared to be purely a local one.

Dr. JOEL E. GOLDTHWAIT of Boston said that the point to be borne in mind was, that children's bones, where epiphyses were approximated, did not form a firm bony ankylosis as rapidly as they did later in life. He reported a series of cases allied to the one just reported. All of them had been treated by wedge-shaped exsection, and in all considerable difficulty had been experienced in maintaining a good circulation after the straightening of the leg. Apparently the vessels were bound down in cicatricial tissue, and it became necessary to flex the leg a little in order to secure a proper circulation. One of the patients had been transferred and had been attended by a general surgeon, and in this case the leg became gangrenous and amputation was required.

Dr. A. J. GILLETTE of St. Paul said that from Dr. Steele's paper one might perhaps infer that ankylosis of the knee-joint from tuberculosis was quite common; in reality he believed it to be quite rare. Since he had been using forcible correction he had not found a single case which could not be straightened in this without tenotomy.

**The Abuse of Flat-foot Supports.**—Dr. W. R. TOWNSEND of New York read this paper. He said that flat-foot was often confounded with osteitis of the ankle, metatarsalgia or a neuritis. When flat-foot did exist, it did not necessarily follow that a support should be applied. Extreme spasm or deformity or inflammatory conditions might be present, and the use of a support might do more harm than good. Another error was the application of supports which did not fit or fulfil the indications for treatment, or were so frail that they could not act as supports. In many cases the support was applied so far forward or backward that it was of no assistance in preventing deformity—indeed, deformity might be actually produced and disability caused by the use of such supports. Different cases required different treatment, hence no one support could possibly serve a good purpose in all cases of flat-foot. Temporary relief might be obtained, but not a cure where there was flat-foot, and the use of a defective shoe would often more than counteract the benefit which should be derived from a flat-foot support. The routine practice of treating these conditions by ready-made supports sold by those who had no accurate knowledge of the anatomical conditions to be treated, should be discouraged.

Dr. ROYAL WHITMAN of New York called attention to the fact that little children with pigeon-toes almost always had weak feet or knock-knee. It was common to take these children to a shoe store and have the shoes raised on the outer side, a practice which was very bad.

Dr. R. TUNSTALL TAYLOR of Baltimore remarked that he had recently seen a case in which the patient had been made distinctly worse by wearing a foot-plate made by an instrument-maker.

Dr. GOLDTHWAIT referred to a class of cases in which there was undoubted flat-foot, and yet which had exhibited no improvement in his hands under the use of flat-foot plates. These cases were instances of rigid or extreme valgus. Only within the past few months had he recognized these cases as talipes valgus instead of varus, and had treated them just as they would an obstinate valgus. The usual treatment had been to excise the scaphoid and shorten the inner side of the foot, after which the correction of the position was easy.

**The Surgical Pathology of Genu Varum and Genu Valgum.**—Dr. WALLACE BLANCHARD of Chicago presented this paper. He said that a case of genu varum usually showed three contributing curves which, in the order of their development were: (1) An exaggeration of the normal out-curve of the lower femur; (2) an out-bend of the upper part of the tibia, and (3) a distributed out-bend of the tibial shaft. The least amount of over-correction was required at the culminating point to give a straight and lengthened leg. In genu valgum the primary inward bend was usually in the upper part of the tibia, and the succeeding inward curve became distributed through the shaft of the tibia. The least over-correction was necessary at the apex of the deformity in the tibia. According to Renier, the operation of epiphysiolysis was applicable to children between seven and seventeen years of age, while Lorenz would employ it only in those between five and sixteen years of age. Dr. Blanchard said that he had tried the operation, following closely the directions laid down by Renier, but had only succeeded in overstretching the external hamstring and opening up the outer half of the joint, and the operations had been followed by considerable swelling and severe pain, so that he had not felt justified in further resorting to this very dubious procedure. In his opinion, rapid osteoclasis, by the method he had previously described, was a superior plan of treatment. In bow legs with three contributing curves, the apex of the most prominent part was usually selected for the operating point. He did not think epiphysiolysis was hardly worthy of consideration when compared with osteotomy or osteoclasis, and that the former operation presented somewhat greater risks, and the longer period of recovery should condemn it when osteoclasis was available.

**Mechanical versus Operative Treatment of Rachitic Deformities of the Lower Extremities; a Statistical Review.**—Dr. R. TUNSTALL TAYLOR of Baltimore presented this paper. He said that out of 109 cases they had had only two relapses and one of over-correction. The statistics seemed to him to point very clearly to the great superiority of the operative treatment. The author then presented a new osteoclast which he had devised. It worked on the lever principle. There was a T-brace, measuring twelve by thirty-six inches. Arising from the intersection of the arms and the "T" was an arched support holding the mechanism for working the lever.* The latter measured twenty-four inches in the

long arm and six inches in the short arm. Its action was very rapid, accurate, and effective.

Dr. AUGUST THORNDIKE of Boston was pleased with this instrument because it seemed to imitate more nearly the production of a fracture by natural processes than any other osteoclast hitherto invented.

Dr. JOHN RIDLON of Chicago said that this was a beautiful mechanical device, but he thought a round or elliptical bearing pad would act better than a flat one, and that with the present leather covering the skin would almost surely be badly lacerated.

Dr. HENRY LING TAYLOR of New York said that he made use of the Grattan osteoclast as modified by Drs. Phelps and Weigel, and with it difficulty was experienced in producing a fracture in close proximity to the joint. The inversion of the foot, occurring in nearly all cases of bow-legs, was apparently due to a twist in the shaft of the tibia; hence, in operating, one should take pains to manipulate the fragments until they were quite free, and then give the lower fragment a strong twist outward.

Dr. W. R. TOWNSEND said that he had seen this new osteoclast work, and was of the opinion that it was likely to supersede the clumsy and expensive Grattan instrument.

**The Treatment of Paralytic Talipes by Tendon-transplantation Supplemented by Other Operative Procedures.**—Dr. ROYAL WHITMAN of New York read this paper. He thought tendon-transplantation, in its original form, had not proved as effective as had been expected. The simplest and most important function of the foot was weight-bearing, and next in importance was plantar flexion; then came dorsal flexion, and, finally, abduction and adduction. The object of treatment was primarily to prevent deformity, because this was intimately connected with the function of the part. Tendon-transplantation was especially applicable in paralysis of the anterior leg group of muscles with lateral distortion, and yet even in this class recurrence of deformity was the rule rather than the exception. The most constant cause of failure with this treatment was the mechanical disadvantage at which the transferred muscle must do its work. If the deformity were of the varus type the foot should be placed in abduction. If the deformity were of the calcaneo-valgus or varus type the most useful operation was astragalectomy with backward displacement of the foot upon the leg, and the removal of the cartilaginous surfaces. A supplementary measure was the shortening of the elongated tendo Achillis. The attachment of transplanted tendons to those of the paralyzed muscles should be replaced by direct implantation as a point of selection. The effect of the transplantation should, wherever possible, be assured by doing accessory operations, such as arthrodesis of the mediotarsal joint, for the prevention of varus or valgus deformity and astragalectomy. The latter should be done in case of an immature ankle-joint.

Dr. GOLDTHWAIT said that tendon-transplantation frequently made it possible to discard a very clumsy brace and substitute a lighter one; exceptionally it was possible to discard all apparatus. Some of the most satisfactory functional results from this operation had been obtained by operations upon the thigh. He had been considerably perplexed by the formation along the sheath of the tendon in its original position of a cicatrix, which subsequently became organized and thus gave the tendon a double pull. This resulted in a considerable diversion of power.

**Acute Atrophy of Bones and Joints Following Comparatively Slight Injuries.**—Dr. JOEL E. GOLDTHWAIT presented this paper. He referred to cases of comparatively slight injuries followed by prolonged joint disability. There was usually, he said, a swelling of the part, but not very acute, there being an absence of great limitation of motion. These cases had yielded but slowly to treatment, and had left in some instances a permanent disability. Several cases were reported and elucidated by the exhibition of skiagraphic negatives. The cases had done well under treatment which did not involve complete fixation, but was founded on the view that the condition was chiefly one of atrophic disturbance. He thought the subject was one which should receive very serious study from orthopedic surgeons, for certainly many very careful surgeons, familiar with this aspect of the subject, would be disposed to make a diagnosis of hysteria. The *x*-ray showed general atrophy of the bones and joints of the affected part, and explained the permanent disability.

Dr. WHITMAN remarked that Wolff had been one of the first to demonstrate that the bones were living tissue. He saw no reason for invoking the action of the trophic nerves when it was just as easy to explain the condition on the ground that the bone itself had been injured.

Dr. STEWART L. MCCURDY of Pittsburg said that he had been interested in this subject for many years, having first had his attention directed to it by a case of general atrophy of the entire right arm as a result of injury. It should be remembered that the atrophy or trophic change was dependent not so much upon a lesion of the cerebrospinal as of the sympathetic system.

Dr. L. A. WEIGEL said that the condition was not one involving a whole extremity, but was an eccentric atrophy, which was in the internal structure and did not effect the contour of the bone at all. There was no way of making a positive diagnosis in these cases except by means of the *x*-ray. In one case in which he had made skiagraphs from time to time he could observe the progressive change. There was a peculiar cadaveric coldness of the affected part that was quite characteristic. This atrophy, it should be noted, did not confine itself to the seat of injury. In tuberculous conditions there was apt to be a more general softening.

**Early Operative Treatment of Tuberculous Osteitis of the Knee.**—Dr. BERNARD BARTOW of Buffalo was the author of this paper. He said that between protective treatment and excision of the knee there was commonly no middle course of treatment. The indication for excision should be invasion of the joint by the disease. An epiphyseal focus could often be detected before such joint involvement occurred. If such a focus were found by trephining the diseased tissues should be curetted away and the cavity treated with carbolic acid, iodine, or chloride of zinc. The operation should then be united by suture. Severe flexor contraction should be relieved by open division within the tendon sheaths, and while repair was taking place in the severed tendons the joint should be placed completely at rest, thus removing the disturbing influence of muscular tension. Fixation had not been required beyond six months in any case. It was not advisable to employ this procedure in cases showing impending involvement of the joint. Failure to arrest the tuberculous process in no way impaired the result to be expected from later excision.

SECOND DAY—WEDNESDAY, MAY 13.

**Some Points in the Treatment of Hip-joint Disease.**—Dr. GEORGE B. PACKARD of Denver read this paper. He said that he had never allowed complete weight-bearing as early as Lorenz recommended, yet he had been impressed with the retardation of growth resulting from lack of functional use. For some time he had been in the habit of employing prolonged fixation, but he had recently returned to the treatment taught him by the late Dr. C. Fayette Taylor, and which comprised the use of a long splint until the subsidence of tenderness and muscular spasm, and then the use of a walking splint. One should not lose sight of the advantage of massage and protected use after the acute stage. These children should have three substantial meals a day, each meal to be followed by a glass of milk and a raw egg. This was not so apt to cause gastric disturbance as when the eggs and milk were taken midway between the meals. Meat, fats, raw eggs, and

milk should be prominent elements in the dietary of tuberculous children. It was of the utmost importance that dietetics and hygiene should receive careful consideration.

**Observations on Hip Disease as Seen in Hospital Out-patients.**—Dr. Augustus Thorndike of Boston was the author of this paper. The cases made use of in this study were those in which the treatment had been commenced from nine to eleven years ago, and had been kept up for a reasonable length of time. The total number of cases was fifty-five, of which number seventeen had the disease in the right hip, thirty-six in the left, and two in both hips. The children varied in age from six months to twelve years at the time of first coming under treatment. The first five years of life furnished 51.7 per cent. of the cases; the second half of the first decade, 42.6 per cent., and the period between the ages of ten and twelve, 5.5 per cent. The favorite age for the development of the disease appeared to be between two and seven years. As an evidence of the widespread educational influence of the teachings of orthopedic surgeons it was stated that only five of the cases were brought to the hospital at a period greater than a year after the detection of the malady. The shortest duration of treatment was four years, and the longest was now over eleven years. In forty-nine out of the fifty-five cases some modification of the Taylor long traction splint was used. Prolonged recumbency in bed had never been employed, but the Bradford frame had been used in 53 per cent. of the cases for periods varying from one to eight weeks. Abscesses were present in 42 per cent. of the cases, and in 38 per cent. the abscesses were incised, curetted, and drained. Tuberculous sinuses persisted for many months after incision and drainage. The number of cases with abscess proved the disease to be of a severe type. The average shortening was one and one-third inches. Twenty-two of the cases had more than 22° of motion. Motion in abduction was impossible in fourteen, and was almost normal in eight cases. These statistics showed that even in an out-patient clinic and with poor home care certainly more than half of the cases had a fair walking gait. The results were a little below what had been achieved in some other hospitals in this country. Almost all of their cases were walking well when the real or apparent shortening was compensated for by a high sole.

**Hip Disease Considered with Special Reference to the Combined Treatment.**—Dr. R. Tunstall Taylor of Baltimore read this paper, which was supplementary to one presented last year. In that one he had dwelt upon the great value of the skiagraphic diagnosis, a method which he considered to be preferable to the use of tuberculin. He had discarded disinfection of the cavities by carbolic acid, having lost one case so treated from carbolic-acid poisoning. Formalin was now employed as a safer agent. Tuberculin should be discarded because it had been shown time and again that the characteristic reaction of tuberculosis, obtained with this agent, was also observed in syphilitics, lepers, and neurotic individuals. He would recommend tuberculin only when good *x*-ray negatives could not be obtained, or were inconclusive. To show the value of taking skiagraphs from time to time in order to study the progress of the disease, the speaker reported a series of cases, exhibiting the skiagraphs, and also two patients. He said that from the results so far obtained he should continue the use of the combined treatment in cases in which skiagraphs showed extensive caseation until he became convinced of his error. The patients were kept in bed for six or eight weeks with traction in abduction, and then wore a traction splint and high shoe for about one year. Lorenz had criticised the long period of traction as detrimental, and he was inclined to think that this criticism was deserved and that it would be well to make use much earlier of some form of convalescent apparatus. The *x*-ray would aid in determining the proper time for tentatively allowing functional use.

Dr. Bernard Bartow of Buffalo, speaking of the paper by Dr. Packard, said that his own experience was to the effect that with the best climatic conditions and constitutional treatment movement was no advantage, and that fixation, pure and simple, and as perfect as possible, was essential. He had also been interested in Dr. Taylor's statements regarding the length of treatment, and was of the opinion that the method advocated by him was ideal for almost any period of the disease. The more quickly a tuberculous focus was removed, the better the chance of arresting the process and securing good restoration of function.

Sir William Hingston of Montreal, Canada, said that he had long ago come to the conclusion that to keep a child for an indefinite period with extension was a mistake. In a great number of the traumatic cases—and most of them were traumatic—one could obtain a desirable result without resort to the knife. He was thoroughly in favor of early operating, but he did not quite see the advantage of the anterior incision over the one advocated and practised by the late Dr. L. A. Sayre and many others.

Dr. G. G. Davis of Philadelphia said that he had not infrequently trephined the head of the bone in cases of acute tuberculous inflammation, making six or eight small openings. By this means one was able to cut short the acute symptoms. However, in several instances in which he had carried out this treatment with apparent success the symptoms had reappeared, showing that operative procedures did not in themselves cure the affection or relieve the surgeon of the necessity of relying upon rest as a curative measure.

Dr. V. P. Gibney of New York said he believed it to be good practice in these cases to cut down upon the points of infiltration, squeeze out the contents, and treat the case as one would an abscess which had been aspirated, sewing up the wound without drainage and without the use of any chemicals. A skin-fitting plaster-of-Paris bandage should then be applied, and an ice-bag, and the child should be kept at rest for some days. He had known of a number of cases in which the night cries had been dreadful, and nothing had been accomplished by traction or fixation, yet almost magical relief had followed the treatment just outlined. If chemical agents were employed, or a more extensive operation were done, one was apt to get beyond the area of disease. The subsequent progress of the case could be followed by taking skiagraphs from time to time. This should be the guide as to the amount of traction to be used and the length of time traction should be kept up.

Dr. Newton M. Shaffer of New York pointed out that the initial limp was the danger signal, and throughout the entire course of the disease the inability of the patient to bear the weight of the body upon the affected joint was clearly marked. When the patient had sufficiently recovered to show a disposition to bear his weight upon the affected limb, the surgeon was called upon to discriminate between the disability due to disease and that induced by the prolonged use of apparatus. Weight-bearing was the test of whether or not it was safe to leave off the apparatus. He would rather err on the side of using an apparatus too long than not long enough.

Dr. Clarence L. Starr of Toronto said that two or three years ago he had advocated before this society the practice of resorting to early curettage in tuberculous disease, and following this by swabbing out the cavity with pure carbolic acid, and he had not observed carbolic-acid poisoning in any of his cases. He was opposed, however, to the method of first using the carbolic acid and following this with alcohol, for the acid formed a wall of coagulum against absorption, and this was dissolved away by the alcohol, thus distinctly favoring the absorption of the carbolic acid. He had met with no such large proportion of cases with discharging sinuses as had been reported by Dr. Thorndike. When an abscess appeared

to be progressing the case was sent to hospital, thoroughly curetted and closed up, and, after a certain length of time, the patient was returned to the out-patient department.

Dr. GOLDTHWAIT remarked that the distinctive feature of the treatment advocated by Dr. Taylor was embodied in the use of the word "combined."

Dr. E. H. BRADFORD of Boston said that the difference in the proportion of cases with discharging sinuses in Boston and in Toronto could probably be explained by the difference in condition of the poor patients seeking treatment. The objection to Dr. Taylor's suggestion that when there was much detritus the surgeon should cut down upon and remove it was, that the hip-joint could not be treated the same as the knee or ankle. Moreover, the *x*-ray did not constitute a reliable guide as to the limits of the disease, as has been approved by experiments conducted in the pathological department of the Harvard Medical School.

Dr. B. S. MCKENSIE of Toronto said that while Dr. Taylor was right, in a measure, he was afraid he would overstep the bounds of prudence. Mention was made of the excellent results obtained in his city in the treatment of the orthopedic hospital patients in tents all the year round.

Dr. JOHN RIDLON narrated one very difficult case to show that it was not always possible to cure these cases or get such good results as had been reported by Dr. Taylor.

Dr. G. G. DAVIS agreed with Dr. Bradford as to the unreliability of the *x*-ray in showing the disease and its extent.

Dr. L. A. WEIGEL exhibited a picture which showed that bone atrophy at an early stage, and long before it was possible to attribute it to non-use.

Dr. Taylor, in closing the discussion, said that the anterior incision was employed in order to do as little damage as possible to the muscular structures The incision passed through the inter-muscular septum down to the capsule. He certainly did go a little beyond the diseased area, but trusted to the disinfectants to complete the cure.

**The Correction of Deformity at the Hip the Result of Disease; a Study of the Best Methods and Best Positions.**—Dr. V. P. GIBNEY of New York read a paper with this title. He said that experience had led him and many others to believe that the Gant operation was the safest and most effective operation yet devised for the cases in which it was indicated. While a longer limb could be obtained by centric correction, the procedure was not alway devoid of risk. It was unsafe to employ forcible correction when sinuses led down to the joint. It was true that there were some relapses after subtrochanteric osteotomy, but they occurred about as frequently after forcible correction through the joint. Possibly Lorenz obtained better results because of his prolonged uses of plaster of Paris. The claim had been made that the breaking up of the focus in which a reparative process was going on, by means of forcible correction was often responsible for the development of tuberculous meningitis, yet the available statistics did not prove any direct connection between the two. He would earnestly advise subcutaneous osteotomy as well as subcutaneous tenotomy. In conclusion, he expressed the opinion that the ability to sit comfortably should be sacrificed to the ability to stand and walk erect.

Dr. A. J. STEELE of St. Louis said that his own experience went to show that there was danger of tuberculous meningitis if extreme force were used in these cases. An illustrative case was cited.

Dr. JOHN RIDLON placed on record five cases on which he had operated after Professor Lorenz's visit last fall to Chicago. In all of the cases the deformity had remained corrected, and to his amazement there was motion to the extent of 5 or 10°

Dr. J. E. GOLDTHWAIT placed on record a series of sixteen cases, for the most part adults, which had been operated upon during the past winter, together with photographs of some of the cases.

Dr. N. M. SHAFFER said that while he was open to conviction regarding the propriety of performing forcible correction in advanced cases, he had not yet been convinced because he had seen so many disastrous results.

Dr. JOSEPH KURTZ of Los Angeles spoke in favor of doing osteotomy by the open method, claiming that there was no reason to fear infection.

Dr. Gibney replied that while theoretically there should be no reason to fear infection, nevertheless the fact remained that even surgeons most skilled in aseptic technique occasionally encountered infection.

**The Forcible Reposition of Congenital Luxation of the Hip.**—Dr. GWILYM G. DAVIS of Philadelphia was the author of this paper. He said that while many of the severe injuries reported from forcible reposition had occurred in older patients, they were not by any means confined to them. To call a method "bloodless" which produced hæmatomata extending from the middle of the thigh below to the umbilicus above certainly savored of sophistry. He would suggest that the tendons of the adductor muscles be cut subcutaneously, and thus considerable traumatism at this point be avoided. It seemed to him unnecessary to resort to forcible movements in all directions as a routine practice to loosen up the joint; it was not improbable that they tended to increase the functional disability and the tendency to displacement. Violent tractions for immediate replacement should be abandoned, for, everything that could be gained in this way could be obtained without danger by weight traction made in bed for a certain length of time. The method he recommended was practically that of Paci, the circumduction method of reducing luxations. The thigh was flexed upon the abdomen, followed by downward pressure upon the knee with abduction, external rotation and extension. Pressure was made upon the trochanter posteriorly while the limb was carefully extended. Abduction was maintained subsequently sufficiently to prevent the escape of the head from its new position. If the adductor muscles prevented the downward abduction they could be tenotomized, but it was not always necessary. Rather than to employ great force he believed it to be better to incise and clear the way for the head of the bone to enter the acetabulum.

**Congenital Dislocation of the Hip; Report of a Case of Bloodless Reposition Followed by Death, with an Analysis of Twenty-three Cases in Process of Treatment.**—Drs. H. AUGUSTUS WILSON and J. TORRANCE RUGH of Philadelphia presented this report. The patient was a girl of seven years with a double congenital dislocation of the hip. She was in fair condition, and the radiograph indicated that the conditions were favorable for replacement. The child was slightly rachitic. Reduction by the Lorenz bloodless method was undertaken at the Jefferson Medical College Hospital on March 18, 1903, at 11 A.M. All associated in this case were intimately connected with the eight cases reduced by Lorenz himself on December 11 and 12. The fifth and sixth hips reduced by Lorenz were extremely difficult, but finally yielded to his experienced and skilful manipulations. Thirteen hips were subsequently reduced at the hospital, and two outside, making a total of twenty-three hips. There were twelve girls and five boys; six were double and eleven single. Of the single ones, eight were right and three left. The youngest patient was twenty months; six were under two years; two were between two and three years old; five were between three and four years; five were between six and seven years; three were between eight and nine years, and two were ten years old. The case under discussion had been under treatment elsewhere since the age of two years up to within a few days of the operation by the bloodless method. Very great difficulty was

encountered in reduction, far greater than in a boy of ten years with a double dislocation. Complete, satisfactory reposition could not be accomplished. Fixation by plaster of Paris in the "frog position" was done with the expectation of a cutting operation at a later day. The anæsthesia was maintained for one hour and twenty minutes, and 3½ ounces of ether were consumed. The little patient became completely conscious after the operation, but after a time mild delirium developed, which was followed by collapse and death in twenty-two hours. The post-mortem examination was made by Dr. W. M. L. Coplin. A long and large ligamentum teres was found, which more than filled the acetabulum, and which prevented the reduction. The articulating surface of the head of the femur rested on the posterior and upper edge of the acetabulum. The capsule was elongated and thick. There was a fracture of the neck of the femur, one of the body of the ischium and one of the ascending ramus of the ischium. The ends of the bones were all in close apposition. In addition to these findings there were acute catarrhal bronchitis, acute catarrhal pneumonia and acute, diffuse hemorrhagic nephritis.

**The Resistance of Tissues as a Factor in the Manual Reduction of Congenital Hip Dislocations.**—Dr. E. H. Bradford of Boston presented this paper, which was based on observations in the anatomical department of the Harvard Medical School, and also upon clinical observations at the Children's Hospital. He declared that Lorenz's visit to Boston had taught him a number of new and important details. He was convinced that, in the treatment of congenital dislocation of the hip within the ages of three and six, Lorenz's method was correct and satisfactory. He had come to the conclusion that the resistance offered by the capsule was less than that offered by the muscles and their tendons. The chief resistance was from the strong tendon of the adductor magnus. The resistance to pulling down the head came from the hamstring group and the long tendon of the adductor magnus and the iliotibial band. These resistance tissues could be readily overcome by small tenotomies done at a distance from the hip. In the lighter cases, *i.e.* very young children, manual manipulations by the Lorenz method were sufficient. In the resistant cases mechanical force properly applied, so as to pull upon and adduct the limb, and also act directly upon the capsule, was of assistance. Where the tendon of the adductor magnus was so strong that an immoderate amount of force was needed, it would seem advisable to divide the chief resisting tissue rather than incur the danger of fracturing the femur or severely bruising the tissues. The division of the tendon could be done either before the operation or at the same time. The speaker said that Lorenz had refused to operate upon a girl of nine in the hospital with double congenital dislocation, because of her age. Dr. Bradford had subsequently cut down upon the parts, and after freeing the capsule, had found it impossible to bring the head down sufficiently. This had led him to an anatomical study, carried out with the aid of Professor Dwight. It had been supposed that the group of adductor muscles felt superficially were the chief obstacles to reduction. It was found that the lower fibers of the adductor magnus were collected in a strong tendon, but that a portion which was not inserted was situated near Hunter's canal. This tendon, which was an extremely strong one, could be neither seen nor felt without dissection. This fact showed that by a small incision and a division of this tendon, three-fourths of the adductor magnus could be thrown out of commission. These anatomical facts having been demonstrated by numerous dissections, the principles were put in practice upon certain children. One trouble with all manual correction was the difficulty of holding the pelvis. A lawyer in Boston had devised an instrument by which it had been found possible on two cadavers to dislocate the head of the femur downward. The apparatus had also been tried on children of thirteen, nine, and six years of age respectively, and in these cases the reduction was made very much more easily than by the manual manipulation, and caused the patients much less discomfort. The torsion of the femur was found to be the chief factor in transposition.

**Peripheral Palsies Following Manual Replacement of the Congenitally Dislocated Hip.**—Dr. Henry Ling Taylor of New York was the author of this paper. He said that one of the chief dangers of the Lorenz operation was that those who were not well acquainted with it might think it was easy of performance. He felt very grateful to Lorenz for the very frank way in which he had answered all the questions put to him. Having followed a number of the cases operated upon by Lorenz's method, he had been struck by the fact that the children did not get up and walk in every case within a few days or weeks as was desirable they should do. Examination of these cases showed a complete loss of power in the quadriceps muscle, and, therefore, of extension at the knee. It was found then that Lorenz had commented upon this fact in his book. Further inquiry showed nine cases of peripheral palsy of the quadriceps muscle. These cases had been examined from time to time since then, and all had either completely recovered or were recovering from this palsy without any treatment. Only two of these patients were over six years of age, a fact which did not agree with the conclusions of Lorenz. He had found two cases of palsy in the sciatic distribution, one being a patient ten years old, and the other thirteen. The first of these had completely recovered, and the other had nearly done so.

Dr. Roswell Park of Buffalo said that after listening to these papers he had been impressed with the folly of calling this a bloodless method, and he did not believe it was safe to break bones and tear tissues so indiscriminately.

Dr. James E. Moore of Minneapolis said that with all honor to the method and to those who had brought it to a wonderful state of perfection, he felt that there were certain attendant dangers. It seemed to him rational to believe that there were certain cases in which operative treatment would offer better chances for the patient. The so-called bloodless method touched a chord of popular sympathy by reason of its name, but he could not help feeling with Dr. Park that this operation often caused a much greater loss of blood than a clean cutting operation in the hands of an expert surgeon.

Dr. V. P. Gibney of New York said that he quite agreed with many of the remarks that had been made to the effect that this method was one fraught with a good deal of danger.

Dr. Newton M. Shaffer of New York said that he wished to express his great appreciation of Lorenz's visit and his efforts in this country, for they had been of immense benefit to orthopedic surgery. Dr. Lorenz had operated at his clinic, and in every instance had been prepared to do a cutting operation if it seemed to him to be indicated; hence it could not be truthfully said that he was always a "bloodless" surgeon. Personally, he did not regard the Lorenz operation as any more brutal than osteoclasis. It was greatly to be regretted that Lorenz was unable to be present at this time and participate in this discussion as he had expected to do.

Dr. George B. Packard of Denver exhibited some skiagraphs of cases upon which Dr. Lorenz had operated in Denver. In one of the six cases, that of a child of nine years, the bloodless operation was attempted, but because of the tearing of the subcutaneous tissues the operation was abandoned and the limb was put up in an abducted position. Two of the four skiagraphs showed the hip to be in perfect position; the other two skiagraphs showed anterior transposition.

Dr. John Ridlon said that he had seen a good deal of the work done by Lorenz in Chicago, and he wished to say

that he thoroughly believed this was the best single operation known for the treatment of the condition under discussion. He had notes, though not final ones, of twenty-one cases upon which Lorenz had operated, and of twenty-six cases upon which he had refused to operate, or a total of forty-seven cases. Of the operative cases, he failed to replace the hip in four; in one a fracture of the neck of the femur occurred; in one there was a fracture of the shaft of the femur, thus making six cases in which the replacement was not secured. In one of these cases, but not one of those in which fracture occurred, paralysis of the sciatic group resulted, and had not yet entirely disappeared. In one instance in which the replacement was effected, the perineum was torn. Dr. Ridlon said he had uncovered four hips upon which Lorenz had operated. The first was a child of four, and the hip was found in anterior transposition and the joint quite loose. In another child of four the hip was in anterior transposition and the joint firm. In the next case, a bilateral one, one hip was either in the socket or very slightly in front of it, while the other hip was the seat of a fracture of the femoral neck, and the head of the bone could be felt lying on a level with the greater trochanter and to the posterior and outer side of it. This gave a total of ten cases in which the final results were known out of the twenty-one cases upon which Lorenz had operated. All of the cases would be reported upon in detail at some future time. Three cases had been heard from, but not seen by him. One of these was said to be in good position; one was said to be in anterior position with the head beneath the femoral artery and nerve; in the third, Dr. Davis reported that the head of the femur had at once slipped out of the position in which Lorenz had placed it, but could be easily replaced in the same position

Dr. J. E. Goldthwait of Boston said that all who had been associated with Lorenz must have been impressed with the number of cases which he had considered inoperable—cases in which the children were too old or had too much deformity. It seemed to him that the discussion so far had only named facts and conditions which had already been described by Lorenz in his book.

Dr. B. S. McKensie of Toronto remarked that Lorenz had not claimed to present a perfected operation, and such claims as he had made had been put forward modestly and very unostentatiously. Lorenz had made the statement in a New York clinic that he thought in cases of double congenital dislocation a successful result should be obtained by him in 25 per cent., and that a successful result should be secured in about 50 per cent. of the single cases. This was very different from the view taken by the laity with regard to Lorenz's method. Moreover, those who saw Lorenz operate did not observe the exercise of any such remarkable strength as the papers pictured him as using.

Dr. Arthur J. Gillette of Minneapolis remarked that the laity and many of the profession seemed to lose sight of the fact that congenital dislocation of the hip was not always as terribly disabling as it was described as being, and that many of these persons did quite well if left untreated.

Dr. Leonard W. Ely of New York thought orthopedic surgeons were generally agreed that this condition gave rise to much disability, that it should be treated, and that the Lorenz operation, though by no means free from danger, was the best yet devised.

Dr. DeForest Willard of Philadelphia said that he had done the Lorenz operation before Lorenz's visit with indifferent results, but that since that time he had been using more force and with better results. Both clinical observation, and *x*-ray examination, however, had shown in every case not only a defective acetabulum but a defective femoral head and neck, and he felt sure, therefore, that a considerable number of these cases would relapse within a year after the child had begun to walk about. We should not allow the term "bloodless" to be applied to this operation, for a torn muscle bled far more profusely than a clean incision with a tenotomy. He predicted that in the future surgeons would divide the adductors with a knife in addition to doing the manipulative operation. He was inclined to think that when the head of the femur had remained on the dorsum of the ilium for twelve years it would do more harm than good to throw it into the anterior position; personally, he would, at the present time, be disinclined to throw the head forward in a patient over eight years of age.

Dr. A. J. Steele of St. Louis mentioned the case of a child of seven years upon whom Lorenz had refused to operate. Subsequently, by prolonged traction with division of the adductors, and by the use of screw power before operation, it had been found possible to reduce both hips.

Sir William Hingston of Montreal said that he had never before listened to a discussion characterized by so much fairness, clearness, and impartiality. Lorenz was not upon trial; it was his method, and the discussion on the latter had all been in the interests of the little patients. It was fortunate for these little sufferers all over the world that Lorenz had come to America, for the subject had been approached without previous prejudice, and in a short time it would be presented to the world entirely freed from error.

Dr. Clarence L. Starr of Toronto called attention to a case in which the ligamentum teres had proved an obstacle to reduction.

Dr. Joseph Kurtz of Los Angeles said that there was still another obstacle to reduction that had not been referred to, *i. e.* the elongated capsule. Lorenz overcame this by long-continued abduction and adduction.

Dr. G. G. Davis said that he did not think enough stress had been laid upon the use of continuous traction. Ultimately some of these cases would be treated by a cutting operation.

Dr. H. Augustus Wilson said that the notoriety attendant upon the visit of Lorenz to America had served to call the attention of general practitioners to these conditions, and the result would be that many of these cases would, in the future, be reduced at a time when this could be properly done.

Dr. E. H. Bradford, in closing the discussion, said that he had found the ligamentum teres present in quite a percentage of the young children. Some years ago he had exhibited a specimen showing the folding in of the capsule, and had at that time expressed the opinion that this was the chief obstacle to reduction. He was now inclined to think that he had exaggerated the importance of this condition as an obstacle to reduction, and this view was shared by Dr. Royal Whitman. The Lorenz operation was a very serious operation even in a small child, and he desired to insist that it should only be undertaken by one fully competent to do it.

THIRD DAY—THURSDAY, MAY 14.

**A Treatment of Osteitis Deformans and Osteoarthritis.**—Dr. Frank E. Peckham of Providence presented this paper, reporting four cases of osteitis deformans and one of osteoarthritis treated by a superficial cauterization of the skin in the vicinity of the diseased area. The actual cautery was used once a month, and midway between these applications a small blistering plaster of cantharides was applied over that portion of the spine corresponding to the nerve center for the part involved. Three of the cases were apparently well, and one was rapidly improving. One case showed slight improvement, but abandoned the treatment because of its harshness.

Dr. Goldthwait said that it was well known that counterirritation over the seat of the active process would give relief, and that there might be a long period of quiescence before the disease again became progressive. He was disposed to doubt the correctness of the diagnosis in the case of osteitis of the hip, because in such cases rotation was a mechanical impossibility, and yet the reader of the paper

had stated that there was no limitation of rotation. It was probably a case of iliopsoas bursitis. Osteoarthritis of the shoulder was associated with pain over the anterior part of the humerus at the attachment of the anterior part of the capsule, and hyperextension of the shoulder always caused pain. Any form of counterirritation which would improve the circulation of the part would give relief.

Dr. Peckham replied that if the case had been one of iliofemoral bursa of such long standing it would not have been cured spontaneously in the manner described.

**An Unusual Case of Pott's Abscess.**—Dr. STEWART LEROY MCCURDY of Pittsburg reported this case. The essential point was that the abscess was incised below Poupart's ligament, and that subsequent irrigations proved that there was a direct communication with the air passages.

**Bone Wiring for Recent and Ununited Fractures, with Report of Cases.**—Dr. MCCURDY also read this paper. He said that in cases of six months' duration or longer one must cut down upon the fragments and make use of various methods of uniting the bones. It had been his practice for some time to leave the bones down in their normal position while wiring them, thus preserving their nutrition. When they were brought out of the wound in order to facilitate wiring the periosteum must be damaged, and the nutrition of the fragments impaired, so that necrosis of the ends was liable to occur. The method he employed consisted in making an incision over the fracture sufficiently long to permit of the resection of the ends of the bones, but they should not be sawed off unless they overlapped or were uneven. The wound should be kept open during this process by means of shoe-horn retractors. He favored the introduction of the wires in such a way as to disturb the medullary canal as little as possible, and, hence, the wires were not passed completely through the bones. He made use of iron broom-wire instead of silver wire, because the former metal only was a normal element of the body. The blackening of the silver wire showed that this metal was gradually converted into a sulphide. In one case, in which silver wire ulcerated through in a short time, iron wire was then inserted, and a skiagraph, taken after a period of five years, showed that the iron wire had remained *in situ* and had given rise to no irritation. Dr. McCurdy also presented an instrument for use in cutting the ends of the bone; he also described a method of anchoring bone fragments to external bridge work to hold them in place during repair.

**A Further Study of the Mechanics of Rotary Lateral Curvature of the Spine.**—Dr. R. W. LOVETT of Boston presented this paper. He said that he had been able to show by experiment that neither the articular processes nor the different elasticity of the two elements of the spine was necessary for the production of torsion, but that such torsion took place in the column of vertebral bodies alone, and that this column, therefore, must be considered mechanically as a straight flexible rod. Bending in the antero-posterior plane was found to cause side displacement. It could not be bent to one side without twisting, nor could it be rotated or twisted without acquiring a lateral curvature. A left lateral curve was acquired by twisting to the right, and the reverse by twisting to the left. This curve was constant and marked. If the twisting were made during full flexion, the lateral curve instead of being in the dorso-lumbar region would be in the cervical region. In total left scoliosis there were three conditions, so far as the shoulder girdle was concerned, which caused an obliquity with regard to the pelvis: (1) A total lateral curve to the left, occurring in a flexed position of the spine; (2) a lateral curve to the left, occurring in an extended position of the spine, and (3) a lateral curve, occurring as a result of a twist. These conditions could be identified clinically without difficulty. The therapeutic application of torsion was, therefore, plain, but it was not possible as yet to say what was the therapeutic value in cases having fixed curves. The torsion, as he had given it, had been both active and passive.

**Treatment of Lateral Curvature of the Spine.**—Dr. GWILYM G. DAVIS of Philadelphia read this paper. The treatment advocated by the author was: (1) To confine the patient to bed a large part of the time with the object of overcoming body weight; (2) while in bed to employ weight extension to head and lateral pressure by bands and other means to assist in straightening the spine by position; (3) to have the patient rise daily and take suitable gymnastic exercises, and (4) in walking cases to make use of exercises, and if the deformity were marked, to use braces also.

**A Consideration of the Proper Arrangement of the Clothing in Growing Children with Reference to the Prevention of Faulty Attitudes.**—Dr. J. E. GOLDTHWAIT of Boston was the author of this paper. He said that in examining these children he had been deeply impressed with the amount of weight carried on the shoulders. The stocking straps were almost invariably attached to the waist, and the child was, therefore, carrying on each shoulder all the time a weight equivalent to from three to five pounds. Moreover this weight was upon the movable part of the shoulder. The normal position, with the shoulders square, could not be long maintained with the clothing so supported, and this consequently led to stoop shoulder, flattening of the chest, protrusion of the abdomen and of the head, all of which must result in the production of muscle strain, particularly on the spinal muscles, weakness and, frequently, in lateral curvature. It was a very different matter when this weight was borne on the base of the neck just as was done in the adult male with the suspenders properly applied. When the weight was so applied, the shoulders being left free, the element of muscle strain already referred to was eliminated, and personal comfort was promoted.

**The Scoliotone, a Machine for Elongating the Spine and Lessening the Rotation in Lateral Curvature.**—Dr. COMPTON RIELY of Baltimore presented this apparatus and paper by invitation. He said that a fact, which had not been commonly mentioned in the literature, was that almost invariably in these cases there was an asymmetry of the two sides of the pelvis. He had found that the anterior superior spine was usually from one-half to three-quarters of an inch higher on the convex side. The author called attention to the importance of obliterating mechanically the element of lordosis as a preliminary to the lessening of the lateral and rotary deformities, and cited in confirmation the advantage of Swedish corrective exercises and in the use of casts for corrective jackets. In the machine, called the scoliotone, which he presented, the direction of the correcting force was adaptable equally to the lateral deviation and rotation, or chiefly to one element or the other. The machine consists of a quadrilateral frame of gaspiping, a stand and a lever for raising weights.

**Home Apparatus for Forcible Correction of Lateral Curvature.**—Dr. R. W. LOVETT of Boston exhibited a cheap and efficient apparatus suitable for use at home by dispensary patients.

Dr. A. B. JUDSON of New York, in opening the discussion, said that a brace applied to produce anteroposterior pressure would be useful in treatment, although not practically efficient for absolute reduction of the deformity A column which bent anteroposteriorly and at the same time laterally, might be said to have not two curves but rather one curve partaking of anterior and lateral qualities —in other words, a simple curve produced by a force the resultant of two forces, one acting on the anteroposterior, and the other on the lateral curve. This was not necessarily attended with rotation, a new movement due to something extrinsic.

Dr. B. S. McKensie thought the greatest possible force

could be applied by suspending the weight entirely by the spine, and applying a lateral force by means of a girdle around the body until the latter was drawn to an oblique position of 45° or 50°.

Dr. N. M. SHAFFER said he had devised, and hoped very soon to put in practice, an operation for preventing further increase in the curve by producing a synostosis in the contiguous articular processes.

**Breaking Down of the Foot in Trained Nurses: A Series of 500 Observations on Normal and Disabled Feet.**—Dr. R. W. LOVETT of Boston presented a paper on this subject, based on 500 consecutive observations on the nurses entering a large general hospital. For a period of eight years he had had an opportunity of observing and recording any static trouble occurring while these nurses were in the training school, having from 100 to 140 nurses constantly under observation for two years or more after the first examination. It was found that the foot broke down in about 60 per cent. in the spring, or about two months after coming to the school. It was found necessary for the severer cases to go to bed, but the milder ones could be successfully treated by the use of felt pads and plates. In estimating the probable resisting power of the feet the only element that he had found of practical value was the bearing surface as seen through glass. A smaller proportion of those feet broke down which showed a broad bearing surface as compared with those in which the weight was borne on two "islands." He concluded that this kind of breaking down was more associated with general causes than with any special structure of the foot, and that the use of a good boot and proper supervision seemed markedly to diminish the amount of trouble.

**Officers Elected.**—*President*, Dr. Reginald H. Sayre of New York; *First Vice-President*, Dr. Joel E. Goldthwait of Boston; *Second Vice-President*, Dr Gwilym G. Davis of Philadelphia; *Secretary*, Dr. John Ridlon of Chicago; *Treasurer*, Dr. E. G. Brackett of Boston.

**Place of Meeting.**—The next annual meeting will be held at Atlantic City at the time of the meeting of the American Medical Association.

## Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending August 8, 1903:

| | Cases. | Deaths |
|---|---|---|
| Measles | 184 | 7 |
| Diphtheria and croup | 288 | 22 |
| Scarlet fever | 106 | 13 |
| Smallpox | ... | ... |
| Varicella | 14 | ... |
| Tuberculosis | 250 | 162 |
| Typhoid fever | 89 | 12 |
| Cerebrospinal meningitis | 5 | ... |

**Dearth of Physicians in Austria.**—The Medical Congress recently held in Vienna revealed a sorry, and at the same time anomalous, condition of affairs in the Austrian Empire. Twenty thousand committees, or 86 per cent. of all, are so poor that they cannot afford regular physicians, and 30 per cent. of the dead (in Galicia, 75 per cent.) are buried without medical certificate. Yet, while there is such need of doctors, the number of medical students is decreasing at a surprising rate. Of every 1,000 students in the Austrian universities this year, only 132 are in the medical departments. The total number of medical students is only 2,120 as against 5,277 in 1888-89—a decrease of about 60 per cent. in a little over a decade—and the decrease is likely to continue. At the Congress referred to, Dr. Wichmann earnestly warned all young men against choosing the profession of medicine, which he declared the Government had practically killed by its faulty laws in favor of the laboring man. Other speakers dwelt on the same point. They were not opposed to compulsory insurance against illness as such, but to the manner in which it is managed and to the abuses to which it has given rise, and which call for prompt remedies. From the country committees good physicians have long been excluded, because they cannot be supported there, and now that already one-third of the Viennese are taken from private practice by the Krankenverscherung and its underpaid employees, the outlook in the city becomes hopeless, too. Quackery naturally increases under such circumstances, and the medical man's resources are further cut off by the fact that, thanks to his own hygienic reforms, the number of cases of illness is little more than one-half of what it was twenty years ago.—*The Evening Post.*

**Saline Injections.**—The Berlin correspondent of the *Lancet*, reports that, at the German Surgical Congress, held from June 3 to 6, Professor Küttner of Tubingen said that he had made experiments for the purpose of ascertaining whether solutions other than salt-solutions could be used for intravenous injection; he had not, however, obtained any result of importance. He had found that animals which had been bled nearly to death were benefited by the administration of oxygen, and he demonstrated an apparatus by means of which the intravenous injection of saline solution and the giving of oxygen could be combined.

**Health Report.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended August 8, 1903:

SMALLPOX—UNITED STATES.

| | | Cases. | Deaths. |
|---|---|---|---|
| Alabama, Mobile | July 25–Aug. 1 | 3 | .. |
| California, Los Angeles | July 18–25 | 5 | .. |
| Illinois, Chicago | July 25–Aug. 1 | 4 | .. |
| Danville | July 25–Aug. 1 | 1 | .. |
| Louisiana, New Orleans | July 25–Aug. 1 | 3 | .. |
| Maryland, Cumberland | July 1–31 | 7 | 1 |
| Massachusetts, Fall River | July 25–Aug. 1 | 7 | 1 |
| Michigan, Grand Rapids | July 31–Aug. 1 | 1 | .. |
| Missouri, St. Louis | July 25–Aug. 1 | 2 | .. |
| New Hampshire, Manchester | July 31–Aug. 1 | 2 | .. |
| New Jersey, Camden | July 31–Aug. 1 | 1 | .. |
| Ohio, Cincinnati | July 24–31 | 1 | .. |
| Toledo | July 25–Aug. 1 | 1 | .. |
| Pennsylvania, Scranton | July 25–Aug. 1 | 3 | .. |
| Utah, Salt Lake City | July 31–Aug. 1 | 2 | .. |
| Wisconsin, Milwaukee | July 13–Aug. 1 | 14 | .. |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Austria, Prague | July 11–18 | 2 | .. |
| Belgium, Brussels | July 11–18 | .. | 4 |
| Brazil, Rio de Janeiro | June 29–July 5 | .. | 4 |
| | July 5–12 | .. | 10 |
| Colombia, Bocas del Toro | July 14–21 | 1 | 1 |
| Ecuador, Guayaquil | July 4–11 | .. | 1 (sporadic) |
| Germany, Bremen | Aug. 1 | 1 (on SS. Bremen) | .. |
| Great Britain, Dublin | July 11–18 | 6 | 1 |
| Manchester | July 11–18 | 2 | 1 |
| New Castle-on-Tyne | July 11–18 | 4 | .. |
| India, Bombay | June 23–July 7 | .. | 28 |
| Calcutta | June 27–July 4 | .. | 1 |
| Mexico, Tampico | July 18–25 | .. | 1 |
| Russia, Moscow | July 4–11 | 4 | 3 |
| Riga | May 1–31 | .. | 24 |
| St. Petersburg | July 4–11 | 20 | 3 |
| | July 11–18 | 17 | .. |
| Spain, Barcelona | June 20–July 4 | .. | 4 |

YELLOW FEVER.

| | | | |
|---|---|---|---|
| Colombia, Panama | July 13–27 | 7 | 2 |
| Costa Rica, Limon | July 16–23 | 9 | 4 |
| Mexico, Coatzacoalcos | July 18–25 | 2 | .. |
| San Luis Potosi | July 13 | | (Present) |
| Tampico | July 18–25 | .. | 40 |
| Vera Cruz | July 18–25 | 34 | 17 |
| Yucatan | July 15 | | (Present) |

CHOLERA.

| | | | |
|---|---|---|---|
| India, Bombay | June 30–July 7 | .. | 1 |
| Calcutta | June 27–July 4 | .. | 27 |

PLAGUE—UNITED STATES.

| | | | |
|---|---|---|---|
| California, San Francisco | July 19 | .. | 1 |

PLAGUE—FOREIGN.

| | | | |
|---|---|---|---|
| Africa, Cape Colony | June 6–13 | 5 | 4 |
| China, Amoy | June 20. (50 deaths daily, estimated) | | |
| Egypt, Alexandria | June 27–July 4 | 4 | 1 |
| Port Said | June 27–July 4 | 1 | .. |
| Tantah | June 27–July 4 | 2 | 2 |
| French Indo-China, Tonquin | June 10–23 | .. | 5 |
| India, Bombay | June 23–July 7 | .. | 178 |
| Calcutta | June 27–July 4 | .. | 15 |
| Karachi | June 14–21 | 9 | 8 |
| Japan, Yokohama | June 20–27 | .. | 1 |

# Medical Record

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## Original Articles.

### CASE OF SPLENOMEDULLARY LEUKÆMIA SUCCESSFULLY TREATED BY THE USE OF THE RÖNTGEN RAY.

BY NICHOLAS SENN, M.D.,
CHICAGO, ILL.

PROFESSOR OF SURGERY, RUSH MEDICAL COLLEGE; SURGEON-IN-CHIEF, ST. JOSEPH'S HOSPITAL; ATTENDING SURGEON, PRESBYTERIAN HOSPITAL.

IN the *New York Medical Journal* for April 25, 1903, I reported two cases of pseudoleukæmia that recovered under the *x*-ray treatment and have continued in excellent health since. Not long after this favorable experience with this new therapeutic resource, a typical case of splenomedullary leukæmia entered my surgical clinic in the expectation that I would condescend to remove the enormously enlarged spleen.

The patient is a foreign-born Jewess, twenty-nine years of age, married, and resides at present at Pittsburgh, Pa. Family history does not show any predisposition to malignant or chronic infectious diseases. Parents are both living and in good health, with the exception that her father has been the subject of a chronic affection of the middle ear, which has resulted in partial deafness, and at present complains of symptoms indicative of prostatic enlargement. Of her ten brothers, five died during childhood from unknown causes, the others are in vigorous health. She passed through the usual diseases of childhood —mumps, measles, and whooping-cough. When twelve years of age, the cervical glands became enlarged, some of them to the size of a filbert. These swellings were at first hard, but later softened when they were incised by a physician. The discharge of yellowish white pus continued for some time, when it ceased and the abscesses healed, leaving as many white atrophic scars. About the same time a chronic otitis media developed on both sides, which eventually led to perforation of the membrana tympani. There has been a discharge from the ears since that time and impairment of hearing. Several small ulcers of the right leg made their appearance about the same time, four inches below the knee. These ulcers were slow in healing but left no permanent ill results. Menstruation, of the twenty-eight-day type, appeared at the age of twelve years. She married at the age of seventeen years, and is the mother of five healthy children, all girls. No miscarriages or pelvic complications. With the beginning of the present illness menstruation was suspended. About fourteen months ago the patient became conscious of an increasing weakness, which became particularly noticeable on the slightest exertion and in the morning on leaving the bed. Three months later she discovered that the abdomen had become greatly enlarged. She then consulted a physician, who informed her that she was in the ninth month of pregnancy. The abdomen continued to increase in size gradually until the present time.

One year ago she began to experience a sharp pain at varying intervals in the left hypochondriac region, attended by a sense of fulness and weight in the same locality. This was soon followed by a dull, aching pain in the lower end of the sternum and the epiphyseal extremities of the large long bones. She has been subject to attacks of severe occipital headache since early childhood, but these attacks have been more severe since the commencement of the present illness, and at the present time the pain is almost constant. No epistaxis or hemorrhage from any of the mucous surfaces.

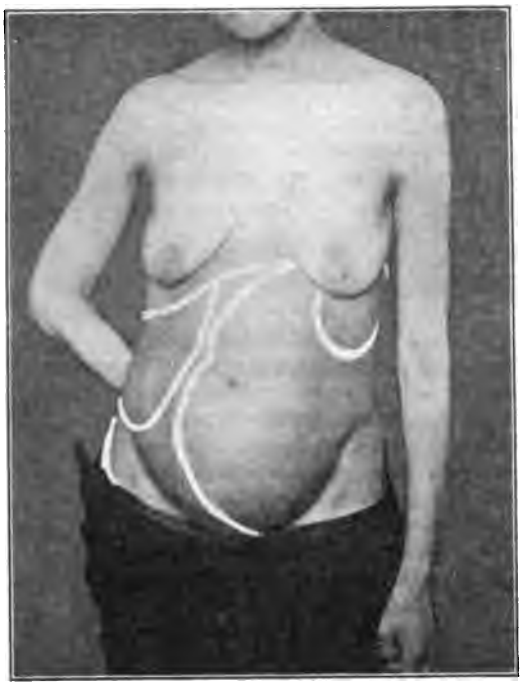
Two months ago she applied to one of the hospitals in Pittsburgh for relief, where, after examination, she was informed that her case was hopel ss and that she had but a short time to live.

The patient was admitted to the Presbyterian Hospital, Chicago, January 1, 1903, and was assigned to my service. The patient is a woman above average height, somewhat emaciated and profoundly anæmic. The face is not only very pale, but the pallor is combined with a yellowish tinge. Ophthalmoscopic examination negative. Scanty serous discharge from ears. Both membrana tympani are in a state of chronic inflammation and a perforation in the right lower quadrant of the left one. Decided impairment of hearing, especially on the left side. Tongue very pallid, flabby, and coated. A number of small white scars over the anterior and lateral surfaces of the neck indicate the location of the glandular affection from which she suffered during childhood. No general glandular hyperplasia or any other indications of acquired or hereditary syphilis.

Physical examination of the chest revealed nothing abnormal except a point of exquisite tenderness over the junction of the gladiolus and ensiform cartilage of the sternum. Abdomen very much enlarged, the prominence being more pronounced on the left than on the right side of the linea alba. The marked separation or diastasis of the recti abdominis muscles adds greatly to the facility of the examination of the intraabdominal swelling by palpation. By percussion and palpation it was easy to outline the enormously enlarged spleen, which nearly reached the pubes below and extended two inches beyond the median line on a level with the umbilicus. The margin of the palpable part of the spleen is rounded and deeply notched in two places two and a half inches apart in the umbilical region. The splenic dulness extends in an upward direction as far as the sixth rib. The spleen is tender on deep pressure and the patient complains of a sense of weight and discomfort, undoubtedly due to the enormous increase in the size and weight of the organ. Liver enlarged, palpable below the costal arch. Urine, daily quantity, 1,200 c.c. Specific gravity 1.015, amber colored and slightly cloudy, trace of albumin. Microscopic examination shows numerous leucocytes, few epithelial cells, but no casts.

Patient has a slight cough, but examination of the viscid sputum for tubercle bacilli has proved negative. The temperature varies from normal to 100° F.; the slight rise in the temperature was especially noticeable toward evening. Pulse rate from 90 to

110. The slightest exertion caused shortness of breath and rapid pulse. Appetite variable, at times ravenous then followed by loathing for all kinds of food. Carbonate of iron, in the form of Blaud's pills, and Fowler's solution of arsenic were prescribed, and this treatment was continued faithfully for three weeks without making any noticeable impression on the progress of the disease. For the distressing headache the bromides and different coal-tar preparations were administered but gave no relief. The case appeared hopeless when, as a last resort, the *x*-ray treatment was commenced about three weeks after her admission to the hospital. The spleen, the lower end of the sternum, and the epiphyseal extremities of the long bones were exposed to the action of the rays daily for from ten to twenty minutes. When this treatment was begun February 3 the blood examination yielded the following result: erythrocytes, 3,500,000. Leucocytes, myelocytes and eosinophiles, 64,800. Hæmoglobin, 56 per cent. The eosinophiles were numerous and the poikilocytosis was very pronounced. During the course of the treatment the use of the *x*-ray had to be suspended for a day or two on several occasions owing to high temperature and other symptoms of intoxication. The constitutional symptoms became very prominent at the time the spleen first presented indications of progressive decrease in its size, about three weeks after the beginning of the treatment. The blood examinations were repeated at intervals of a few days and it was noticed that improvement kept pace with the reduction in the volume of the spleen. The first decided changes observed were the gradual disappearance of the myelocytes and eosinophiles, and the return of the erythrocytes to their normal shape. An examination of the blood made April 12 showed no myelocytes and only a very few eosinophiles and very little poikilocytosis. March 12 the patient left the hospital, but was treated daily in the outdoor department. The photograph was taken during the second week in June. It gives a correct idea of the area of liver dulness and the size of the spleen before and after the *x*-ray treatment. The patient returned to her home a few days later in excellent health. Menstruation, suspended for a year, had recently returned at regular intervals, and the last blood examination revealed no abnormalities in the structure and relative number of red corpuscles and leucocytes. The patient remained somewhat anæmic, and for that reason was advised to continue the use of a simple iron preparation for an additional number of weeks. I have seen many cases of the different varieties of leukæmia, but this is the only one that has recovered, and this exceptional result I attribute entirely to the prolonged use of the *x*-ray. We have been less fortunate with this new therapeutic resource in the treatment of malignant diseases. I have so far not seen a single case of either carcinoma or sarcoma benefited by this treatment. There can be no longer any doubt in reference to the microbic origin of leukæmia nor of the antimicrobic action of the Röntgen ray. The transillumination of the affected bones undoubtedly accomplished its share in destroying the microbes of the general infective process, as the pain and tenderness disappeared entirely, as well as the occipital headache, during the early part of the treatment. It appears to me that the microbes of splenomedullary leukæmia are very susceptible to the destructive action of the *x*-ray, as the response to this treatment is very prompt and often violent, followed by a speedy return to normal of the spleen, medullary tissue, and the histologic constituents of the blood. The curative power of the *x*-ray in pseudoleukæmia and genuine leukæmia promises to accomplish what heretofore has not been obtained by any kind of medication, and seems to prove that etiologically at least both affections are analogous or at any rate closely allied.



Splenomedullary Leukæmia. Outline of the spleen before and after treatment with the *x*-rays.

532 Dearborn Ave.

## THE MANAGEMENT OF CASES OF PULMONARY TUBERCULOSIS IN THE DISPENSARY.

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The problem which here confronts us is a very familiar one to all who have had any experience in medical dispensary work. It is a very general opinion that these cases of pulmonary tuberculosis are the most discouraging and the most hopeless, as well as the most common, with which the dispensary physician has to deal.

That interest in them should, therefore, be comparatively slight is very natural, and we need not be surprised to find it confined largely to sympathy for their misfortune and curiosity as to their physical signs.

The first thought is to send these patients to the country, and when this is found to be impracticable, their treatment settles into a perfunctory routine, and the patient subsides into the dreary dispensary habit, encouraged only by the hopes arising from a strange optimism.

We are hearing a great deal nowadays of the "Combat with Tuberculosis," and there certainly is a scientific and philanthropic interest in this disease, more widespread than at any previous time. Its terrifying prevalence is at least becoming recognized, and the hope of an absolute recovery from it in favorable cases has been better established. Our knowledge of the conditions under which it thrives, and, on the other hand, of the requirements necessary for its prevention and cure, has been widely extended. Results of such increased knowledge must surely follow, and we see them already in more efficient sanitary legislation, in tenement-house reform, in lectures and circulars for the education of the people, in a constantly increasing number of sanatoria and hospitals for these patients, and in

organizations especially designed to investigate and prevent the spread of this disease.

All of this work should be heartily supported and extended as far as possible, and no one can fail to appreciate the enormous importance of sustained efforts in these directions.

In the struggle against tuberculosis there is, however, one weak point in the plan of attack, as it has been thus far developed. This, it appears to me, is the unfortunate state of affairs existing in the dispensaries, in regard to these patients. That the dispensary treatment of these cases in New York City is almost universally unsatisfactory, both to the patients and to the physicians, will, I think, be very generally conceded without further discussion. With two or three exceptions, there is no especial care or attention given to these patients in any dispensary of the city. At the Post-Graduate Hospital an excellent work is being done, the published reports of which give very satisfactory grounds for congratulation on the part of those directly interested in it, and for encouragement to those who may hope for equally good results along similar lines in other institutions. It appears to us, however, that even this most excellent work can be very materially widened in its scope when it is applied to dispensaries in general. We believe that the responsibility of the proper dispensary management of pulmonary tuberculosis should not cease with the marked improvement in health of a selected number of such patients, but should include every patient who applies for treatment, and should extend also to a strict regulation and supervision of the home surroundings and personal habits of all these patients. In this way the spread of this disease may be more effectually checked, and the patient, with all his family, enter into cordial and intelligent coöperation with the efforts which are exerted in his behalf.

Since the beginning of the current year an attempt has been made upon a gradually increasing scale to carry out these ideas at the Vanderbilt Clinic. It is the object of this communication to describe these efforts in some detail, and to give a preliminary report of the results thus far obtained.

At the very outset it must be understood that we are here dealing solely with those patients who, for one reason or another, are unable to avail themselves of what is generally acknowledged to be the ideal treatment of their disease. We now know this to be an open-air life, in a favorable climate, with freedom from actual physical or mental exertion, an abundance of the most nourishing food, and under the careful supervision of an experienced medical adviser. All of these conditions we find only in a well-conducted sanatorium. Such sanatoria, however, are unfortunately so inadequate in number and in size, and are regulated by such stringent requirements for admission, that we actually find the whole great mass of the tuberculous poor, for whom there is no provision, relying upon the dispensaries for whatever medical attention they may receive.

When this fact is taken into proper consideration, the great importance of making this dispensary treatment as effectual and careful as possible, is apparent to all who are interested in the eventual solution of this great tuberculosis problem. That such is not the condition of affairs at present may be gathered from what has already been said, and from the general experience of all physicians active in dispensary work.

It is the aim and purpose of the present movement instituted at the Vanderbilt Clinic, to at least make a beginning in the right direction, and gradually to develop a careful and intelligent system of management of these cases of tuberculosis, until such time when public and private philanthropy shall have provided sufficient sanatoria to accommodate all such patients, and thus relieve us of our responsibility toward them. In spite of the very considerable activity now being directed toward that end, we can not but realize that the prospect of any such happy state of affairs is still very remote. We offer our plan as a practical suggestion to dispensary physicians, in the firm conviction that it is possible so to improve upon our ordinary methods of management in such cases, that marked results will be shown in the condition of the patients, in the diminished dangers of transmission of the disease, and in the increasing interest afforded to the attending physician. Moreover, we hope to demonstrate that these results may be obtained with very little increased expense on the part of the dispensary, and that, therefore, no available funds will be diverted from the cause of new sanatoria.

We will consider our subject under two main divisions: (1) The treatment of the patient. (2) The inspection and regulation of the homes.

*The Treatment of the Patient.*—After it is decided in each individual case that proper sanatorium or hospital treatment is not practicable, we accept the responsibility of its management, and our general plan is, as far as possible, to adapt sanatorium methods to the conditions existing at home.

A thorough mutual understanding between physician and patient is essential at the very outset, for in no other way can the necessary coöperation be secured.

The patient should be informed of the nature of his disease, and every legitimate encouragement for ultimate recovery should be given him, but never should he be allowed to forget the seriousness of the situation. A false sense of security is very dangerous, but very common among these patients, and especially is this true of the early cases in young people, whose symptoms are so slight that they find it very hard to realize the underlying dangerous possibilities.

Discouragement, even to extreme mental depression, is also very frequent, and the appreciation and proper management of the state of mind in each patient is very essential to their successful treatment. The danger of infection must be carefully explained, but emphasis should be placed upon the fact that all such dangers may be avoided by the proper care of the expectoration. In the Vanderbilt Clinic each patient is supplied with suitable pocket cuspidors, which have been especially devised for our purpose, and they are also given printed circulars of information concerning their disease, and the general principles of its treatment. The important points are explained carefully to each patient, and upon the results of this first talk will, very often, depend what sort of a patient he is to make, and, therefore, the importance of devoting time and thoughtful attention to it cannot be too strongly emphasized.

The actual treatment rests upon four underlying principles: (1) Rest, (2) Fresh air, (3) Food, (4) Drugs.

The application of these principles to the treatment of tuberculosis in general, is too well known to require repetition, but the modifications of them which are necessary in our dispensary dilemma, will here be considered.

*Rest.*—Among the people of this class, freedom from physical exertion is unknown and generally is impossible. They must live, and in order to live they must work. This is a proposition which admits of very little argument. Rest, however, is a com-

parative term, and there is seldom a case in which a great deal more of it may not be introduced into the daily routine than has heretofore been customary. If the disease is in an active stage, it is of the greatest advantage to give the patient at least two weeks of absolute rest, and if there is fever, this rest should be strictly in bed. In other cases, an easy or reclining chair on the fire-escape or roof is a very satisfactory method of obtaining rest in the open air.

The effect of even so short a time as two weeks spent in this way is often remarkable, and is shown by the subsidence of the fever and by the general improvement of the patient; moreover, there are comparatively few patients who are not able and willing to give up this time for that purpose. When the time comes that they must resume work, they are instructed to avoid all unnecessary exertion or exercise, to rest at odd moments whenever possible, and to rest absolutely after working hours. Whenever the character of their work is evidently having an injurious effect, a change of occupation is advised, and, if possible, actual assistance is rendered toward that end. Employment requiring little physical exertion, and preferably in the open air, is the condition desired, and several of our patients have secured positions as watchmen, janitors, ticket choppers, transfer agents, etc., as the result of our advice. All patients are instructed to rest in the open air as much as possible, to avoid exercise which produces fatigue or shortness of breath and to spend from eight to ten hours of each twenty-four in bed. When a determined effort is made, it is often possible to effect a very fair "rest cure," even while a patient is engaged in active occupation, and, perhaps, supporting a family.

*Fresh Air.*—Methods of obtaining fresh air in connection with rest have already been mentioned. In addition, the patient should sleep in the lightest and best ventilated room of the home, and, when practicable, he should be its sole occupant. In any case a separate bed is absolutely essential. This bed should be so placed that draughts will be avoided, and the window should be kept open continually, provided that the bed covering is sufficient to keep the patient warm. By means of an inexpensive steamer chair and suitable wraps, the patient may rest out of doors, on the roof or fire-escapes, very comfortably, and should sleep there during the summer months. The nearest park should be utilized in favorable weather, as opportunity offers, and all crowded places of amusement or wherever bad ventilation might be expected should be avoided. There is a growing sentiment that the value of any particular climate in the treatment of pulmonary tuberculosis has been greatly exaggerated. While we are not yet disposed to think of New York City as an ideal health resort, nevertheless, the open air even here is certainly beneficial, and we should endeavor to make every possible use of it for these cases. In this connection there is need to protest against indiscriminately sending consumptives to the country, for many localities previously free from this disease have become infected by such patients, who have been ignorant or untrained in the necessary sanitary precautions. No patient should be sent away, unless placed under the direct supervision of a competent physician, until he has demonstrated his willingness and ability to properly respect the health of others.

*Food.*—This aspect of the question is very important but often very troublesome in our work. Gastric disturbances are such a marked feature of this disease, that even under the best of conditions, proper digestion and assimilation are often difficult to obtain. When to this difficulty is added the inability to pay for proper food, and the wretched cooking of that which is procured, the condition of affairs, as regards many of our patients, is accurately described. Our first object should be to correct any digestive disturbance. Rest is again a valuable aid here, and by careful and judicious regulation of the diet, good results may generally be obtained. Much harm is often done by overfeeding before the digestive system is properly prepared for it, and we should carefully and gradually feel our way, until the desired condition of a good appetite and a perfect digestion of a large abundance of food is obtained.

For purposes of superalimentation, milk and raw eggs are the best articles of diet. We gradually accustom our patients to the ingestion of two or three quarts of milk and from six to ten raw eggs every day, in addition to a regular diet of simple food.

The increased expense which this involves is considerable, but many of our patients are able to meet it. How best to supply those patients who are unable to do so for themselves, is a question that has occupied a great deal of thought and attention. We have attempted arrangements with the Diet Kitchen and with grocers, by which fresh milk and eggs should be delivered to our patients at reduced rates, but the practical operation of these arrangements has not been satisfactory.

It is our habit at present to report all these cases to the Committee of the Charity Organization Society for the Prevention of Tuberculosis, and up to this time they have been able to supply all such patients according to the necessity existing in each instance. Our experience leads us to believe that this plan will be found more satisfactory than for the dispensary to attempt an independent means of supply for its own patients, and it has the compensating advantage to the Charity Organization Society in the knowledge that their money is being expended under strict medical supervision.

*Drugs.*—Under this heading would be included the greater part of the treatment ordinarily given to tuberculous patients in the dispensary. Under our plan of management, on the contrary, it is considered of the least importance of all, and the majority of our patients receive no medication whatsoever. Cod-liver oil, to be sure, is largely used during the winter months, but is to be regarded more as a valuable form of food than as a drug. Cathartics must be freely prescribed, as constipation is disastrous during the process of overfeeding, but with this exception, the exhibition of drugs should be carefully restricted, and they should only be used to meet specific indications, such as pain, excessive cough, nausea, anæmia, etc. The stomach is rarely in a condition to bear excessive medication, and the promiscuous use of creosote and similar preparations is to be condemned. In general, less harm is done by too little medication than by too much, and if we err at all, it is preferable to do so upon the safer side.

*Inspection and Regulation of the Homes.*—We consider that this portion of our work is quite equal in importance to the care of the patients themselves. Even should there be no apparent improvement in the condition of the patients, we should still maintain that our efforts would be well repaid by the great benefit to the community derived from this work in their homes alone.

The services of a regularly trained nurse are our mainstay for this purpose. Each new case is referred to her, with any especial instructions or information that may be thought advisable, and after

a thorough inspection of the home, a report is made out by her upon printed forms provided for the purpose and submitted to the physician in charge of the case, together with any suggestions which may occur to her as the result of her visit.

Our general plan is to arrange the whole domestic economy to the best interests of the patient and to provide against the dangers of infection to his household and associates. Careful and detailed instructions are given as to ventilation and the principles of the fresh-air treatment, and practical demonstration is made of the proper method of disinfection of the bed clothing, eating utensils, and personal linen of the patient; also any necessary suggestions are made along the lines of general cleanliness and better hygiene. Thorough inquiry is made concerning the care which the patient habitually takes of his expectoration, and notice taken of the general attitude of the whole household toward the instructions given at the clinic. Carelessness is reprimanded, misunderstandings corrected, and a cordial spirit of coöperation is requested and almost invariably obtained. The daily habits of the patient, the duration and character of his work, his rest, his exercises and his sleep, with the effects of each upon his condition, are ascertained and noted. General destitution, as well as any especial need, is reported, and the attention of a suitable charitable society or institution is directed to it. Particular information is obtained in regard to the patient's diet, his appetite and the nature and cooking of his food. Many digestive disturbances which had taxed the ingenuity and efforts of the physician, are often corrected by a few practical suggestions from the nurse. Investigation is made into the available facilities for taking a "rest cure" out of doors, and the fire-escape, the roof, and the nearest park are all considered from this point of view, and the results incorporated in the report. Sometimes the "home" appears entirely unsuited for our purpose. This may be due to lack of sufficient light or air, to dampness or filth, or because of the distance from the place of work. Under these circumstances, a change is advised and frequently effected, even if aid from the Charity Organization Society or elsewhere is necessary for the purpose. Other members of the household who have coughs, or otherwise excite suspicion, are sent to the clinic for examination, and thus many cases come under our treatment much earlier than would otherwise have been the case.

The nurse is also of great assistance to the physician in her endeavors to explain to these patients and their associates just how great and in what particulars lies the danger of infection to others. The facts must be stated strongly enough really to frighten them from carelessness in regard to their expectoration, but it must be just as strongly emphasized that the freedom from danger is absolute when proper care is uniformly exercised. It would be a most unfortunate consequence of our efforts should our patients be shunned as outcasts by their associates, and both from this misfortune, and from the dangers of infection, we hope to save them and their friends, through their accurate knowledge of the subject. By frequent inspections a general supervision is maintained and assurance is given that the instructions given by the physician are carefully followed. How necessary this is among the class of people with which we are dealing, is a matter of common knowledge.

This cursory review of the part performed by the nurse in our general scheme, needs little discussion to demonstrate its value. It is certainly true, that a woman, trained in nursing, who has the energy, interest and ability necessary for this kind of work can do much more than any physician toward ascertaining the exact condition of affairs and correcting the evils existing in these homes. In no other way could this work be at all complete or satisfactory to the physician, to the patient or to the community, and that these patients themselves appreciate this fact, is evidenced by the warm reception given to our nurse, as a friend and welcome visitor in their homes. We, therefore, consider that she is an indispensable factor in the correct solution of this problem, and as a result of her efforts we can at least say, that each case thus visited is converted from a dangerous focus of infection into a source of accurate and intelligent knowledge in regard to this disease.

Although, as has been elsewhere said, the success of this work is by no means to be measured safely by the percentage of cases which improve or are actually cured, nevertheless it may be of interest to know something of the results thus far obtained as shown by the condition of the patients themselves.

During the months of January, February, and March the plan of management of cases of pulmonary tuberculosis which has been above described was systematically carried out in one of the medical rooms of the Vanderbilt Clinic, representing one-eighth of the total number of patients who applied for treatment in the department of General Medicine. In this room during these three months there were forty-six cases of pulmonary tuberculosis. Eleven of the patients were seen at the clinic only once, and are, therefore, not included in this report. There remain thirty-five cases in which we have had an opportunity to judge of any results of treatment, and these may be classified according to the stage of their disease into: early cases, eight; moderately advanced cases, six; advanced cases, twenty-one.

Of the total number, twenty-two patients have increased in weight, ten have lost weight, and three have shown no change. The average increase per patient in those who have gained weight, is four pounds. The average loss per patient in those losing weight is two and three-quarter pounds. The greatest gain in any one patient is twelve pounds, and the greatest loss is five pounds.

Of the twenty-two patients who gained in weight, seven were early cases, five were moderately advanced, and ten were advanced cases.

Of the ten who lost weight, all were advanced cases and the three cases in which the weight remained stationary represented equally the three stages of the disease. Expressed in percentages, we find improvement in 63 per cent. of all our cases, in 87 per cent. of the early cases, in 83 per cent. of the moderately advanced cases, and in 47 per cent of the advanced cases. In regard to the use of the body weight as an indication of the progress of this disease, it can only be said that this factor is generally regarded to be the best single criterion, and that, while many other conditions must, of course, be considered, the limits of this report render their exclusion necessary at this time. It may be stated, however, that as far as we are able to judge from the clinical manifestations, the changes in body weight furnish a very honest expression of the general condition of these patients.

This incomplete report does not attempt to be in any degree conclusive, because of the small number of cases and of the short time that they have been under observation. Nevertheless, it must be admitted that these results afford encouragement to us in the further prosecution of this work, and they are only presented here in order

to demonstrate that our plans are not entirely idealistic or impracticable, and to stimulate, if possible, a greater interest in these cases upon the part of others.

The object of this communication has been accomplished if it directs attention from the physicians active in dispensary work to the problems which are here considered. Although the work in itself is comparatively inconsiderable, we feel that it is a good beginning in a somewhat neglected field, and if all the dispensaries in the city should be aroused to a similar interest and activity, we would immediately have a tremendous force applied to the solution of the tuberculous problem and one that is not dependent upon large public subscriptions for its execution.

The writer wishes to express his sense of deep obligation to Dr. Edward L. Trudeau, to whom is due his especial interest in this whole subject, and to Prof. Walter B. James, without whose invaluable coöperation and generous support this particular work would have been impossible.

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## SECRET POISONS AND THEIR USES IN ANCIENT TIMES.

By J. W. WAINWRIGHT, M.D.,
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Reference as to what is known of the poisons used in secret by the ancients, as well as those of the sixteenth and seventeenth centuries, including some historical illustrations, it is thought will prove of interest, not only to those having to do with medicines, such as physicians and pharmacists, but to those interested in ancient and medieval history as well.

Because of a fear of extending the practice of using secret poisons to rid one of an enemy, an objectionable husband, creditor, or such persons as were thought to interfere with the advancement of one's person or interests, governments, when they came to a knowledge of the substances used, endeavored by all means to suppress the information, and this accounts in a large measure for the meager information obtainable. Poisons were used, however, as history tells us, very freely; even as early as in the times of the ancient Greeks and Romans. That they were then so successfully and skilfully used, would indicate that their action has been understood for many years previous to their times.

Poisons were known to and used by the ancient citizens of Greece and Rome, and it is claimed in such a manner as to occasion death at a previously determined time. In the light of our present knowledge of the action of poisons, it is not understood how this could have been literally true; or, if it was measurably so, the knowledge of the professional poisoner of those times and the substances used is lost to us of to-day, for we know that so many factors enter into the action of poisons, idiosyncrasies, resistance, susceptibility, and other features, that with all of the knowledge of to-day the most experienced practitioner of medicine cannot always determine just what the effect will be when remedies classed as poisons are administered for therapeutic purposes. We have numerous instances of whole families or companies partaking of the same food with disastrous results to some, only temporary effect on others, while there were those who escaped injury. To mention a classic case in illustration: Pope Alexander VI died in 1503 from partaking of poison at a banquet, while Cæsar Borgia, his son, recovered without loss of health, although he had drank through mistake of the bottle containing the poison intended for the guests.

Plutarch, Quintilian, and others of the earlier writers described the effects of these poisons, Plutarch in particular stating that "a slow poison, which occasioned heat, a cough, spitting of blood, consumption, and a weakness of intellect was administered to Aratus of Sicyon." This poison was not speedy or violent in its action, Aratus lingering for some time; on an occasion when he spit blood, he remarked, "This is the effect of royal friendship." Quintilian in his declamations speaks of this poison in a way to impress one that it was well known. A knowledge of chemistry was not necessary to prepare these poisons, as we know that all savages and particularly the American aborigines were acquainted with such substances, and often employed them with such skill that it was impossible to guard against treachery, the victim invariably dying after a lingering illness, sometimes at the expiration of months or years.

Theophrastus, who lived some two hundred and fifty to three hundred years B. C., and who was a pupil of Plato and afterward of Aristotle, in his "History of Plants," one of the earliest works extant on botany, writes of "a poison which could in its use be so moderated as to affect the victim in two or three months, or even at the end of one or two years," and states that "the death, the more lingering it was, the more miserable." This poison, according to this Greek philosopher, was prepared from aconite, which, because of its death-dealing properties, was forbidden to be handled by the people, or to be found in their possession under the penalty of capital punishment. He also states that other plants were in use in the preparation of poisons, and cites a discovery of Thrasyas of a method of preparing a poison which when given in drachm doses, occasioned an easy but certain death, without pain, and whose action could be controlled for long periods without causing suspicion. This was the poison so much used in Rome about two hundred years before the Christian era. A number of persons of distinction died within a short period of time with like symptoms of poisoning, and an inquiry was instituted, which resulted in the conviction and punishment of more than one hundred and fifty ladies of the first families, the evidence being procured through a maid servant.[1] But so many had learned the art, that it was found impossible to suppress it, as the knowledge was continually possessed by those willing to risk its practice.

Sejanus caused a secret poison to be administered to Drusus Cæsar, a quæster of the people of Rome, A. D. 22, by a eunuch at the command of Livia, the wife of Sejanus and mistress of Drusus. Drusus gradually declined as by a consumptive disorder, and finally died. Agrippina, the mother of Nero, being desirous of disposing of Claudius for political reasons, caused a poison to be prepared by an expert poisoner, Locusta, who had been already condemned to death for her infamous practices, but saved that her nefarious art might be employed. The poison was given the emperor in a dish of mushrooms. This same Locusta prepared the poison with which Nero dispatched Britannicus, the son of Agrippina and his half-brother, whom his father, Claudius, desired to succeed him as emperor. This poison, we are told, caused the death of Britannicus as soon as taken.[2] For this service the emperor pardoned Locusta, rewarded her liberally, and gave her pupils to instruct in her art in order that it might not be lost.

"This poison, whatever it may have been," says John Beckmann in his "History of Inventions and

Discoveries," London, Vol. I, p. 50, from which history I have largely drawn in preparing this essay, "was known in Carthage, for Tuditanus, whose work is now lost, but who is quoted by Aulus Gellius, Lib. VI, c. 4, declares that Marcus Attilius Regulus, a famous Roman general, who, after numerous victories over the Carthaginians, was finally taken prisoner by them, and later sent to Rome to effect an exchange of himself for some Carthaginian prisoners. His captors had, however, taken the precaution to administer to him a poison which would soon, after the exchange was made, render him useless to his countrymen, by death. Knowing this before leaving Carthage, and that he would be of no further use to Rome, he advised strenuously against the exchange, appearing in the Senate for that purpose. Refusing a parole, he returned to Carthage, when in revenge for his advising against the exchange, he was cruelly tortured to death, the action of the poison not being sufficiently energetic to save him from the torture, besides such a death was regarded by his enemies as too mild a punishment.

We are reasonably certain that these poisons were made from plants, such as aconite, hemlock, and poppy, particularly the latter, although Philostratus[3] declares that some were made from animal substances, mention being especially made of one prepared from the sea-hare (aplysia), a mollusk remarkable for the function of secreting a fluid of violet color, due to the presence of iodin, which they discharge when molested. Its administration is said to have caused speedy and inevitable death to man. What part of the mollusk was used, or that it was the violet-colored fluid, does not appear.

This was the poison, according to Philostratus, which was used by Domitian to dispatch Titus. Dioscorides, Galen, Nicander, Aëtius, Aelian,[4] Pliny,[5] and others mention it in their writings.

Its use, however, produced peculiar symptoms, which were readily recognized, thus leading to detection.

We do not think that it was, therefore, very extensively used.

That the ancients made use of a form of arsenic known as orpiment (arsenic trisulphide) is reasonably certain, but it was not until the seventeenth and eighteenth centuries that the powerfully destructive corrosive metallic arsenous oxid or acid became the principal ingredient in the secret poisons which were used with such diabolical perfection in France and Italy.

In the seventeenth century, secret poisoning developed into an epidemic, spreading rapidly over western Europe. It became a regular branch of education, and was practised by those who professed a knowledge of chemistry, magic or astrology. The practice became very lucrative not only in the sale of the poisons, but of the secret of their composition as well. The art was practised in England to a considerable extent as well as in France and Italy. In King Henry VIII's reign, an act was passed by Parliament declaring the employment of secret poisons to be high treason and inflicting a penalty of being boiled to death for those found guilty of making use of the same.

Sir Thomas Overbury was poisoned by Viscount Rochester in the reign of King James VI. Some writers assert that King James I was a victim of secret poisoning by the Duke of Buckingham. In fact, we are told that a "Doctor Lamb," a conjurer and quack, was believed to have furnished the poison to the duke for the purpose, and that he was, therefore, beaten and stoned to death by the angry populace in Cheapside.

In Italy, the use of secret poisons was regarded as a justifiable procedure to rid one of a rival or enemy. Italian history informs us that poisoning was the favorite weapon of the oppressed and the oppressor, not only for protection but for revenge. The notorious family of Borgias is referred to more frequently than others, but they were by no means alone in this practice. Cæsar Borgia and his sister Lucrezia were children of Rodrigo Borgia, afterward Pope Alexander VI, by a Roman woman, Vanozza by name. Alexander VI died from partaking of poison, as elsewhere stated, at a banquet which he and his son Cæsar an active military adventurer and cruel despot, had prepared for twelve cardinals. Father and son had long been familiar with this mode of dispatching those who stood in the way of their ambition, or whose wealth they desired to obtain. Cæsar Borgia had received from his father, the Pope, high ecclesiastical preferment, in fact, being invested with the purple. He became envious of his brother Giovanni's good fortune and caused his assassination, resigned from the Church, and gave himself up to his ambitious designs. Lucrezia, the sister, was popularly believed to have been the most active in ridding herself of her enemies, through the means of secret poison, but recent investigations have demonstrated that she was a too pliant instrument in the hands of her father and brother. She died June 24, 1519, enjoying the respect of her subjects. Assassination was, in these times, regarded as an unpardonable crime, but poisoning, if not justifiable, at least excusable.

The Roman Church was made acquainted, through the confessional during the papacy of Alexander VII (1659), with the frequency of the crime in Rome. Young widows were extremely numerous and unhappy marriages were rapidly put an end to through sickness followed by death of the husband. Inquiry resulted in the discovery of a secret society, of young wives which met at the home of one Hieronyma Spara, an old hag who was regarded as a witch, and who ostensibly earned a living by telling fortunes. The whole society were arrested through a woman of distinction presenting herself and representing a desire for some of the drops with which she wished to rid herself of a cruel and tyrannical husband. All were put to the torture. As a measure of warning to those who practised secret poisoning, Spara, her assistant, Gratiosa, and thirteen other women were publicly hanged. Later other members of the society were whipped naked through the streets, whilst some were banished from Rome. Notwithstanding these heroic measures, the crime of secret poisoning prevailed.

Some fifty years after Spara's (sometimes written La Spara) exposure a similar organization was discovered in Naples, presided over by an old woman named Toffania, formerly of Palermo, and by many believed to be a pupil of Spara, who manufactured a poison similar to that used by Spara. This was sold extensively in Naples, as well as charitably given to those who wished to rid themselves of their husbands, under the name of aqua Toffania, or aqua della Toffania, aquitta di Napoli and aquitta. From four to six drops were sufficient to destroy a man (doses are never given for women, for the reason, perhaps, that they were not required to take the stuff, the men being the only sufferers), and the claim was made that the dose could be so regulated that it would operate only and surely at a certain fixed time. This leads me to remark that with the exceptions of Pope Alexander VI and his son Cæsar Borgia, the poisoners of history have been women. This poison was sent to all parts of Italy as Manna of St. Nicholas

of Bari, this being the name also of an oil renowned for its miraculous cures of many diseases, which was procured from the dropping from the tomb of St. Nicholas at Bari, a popular saint of the Church, whose feast is still honored, especially in Russia and Germany, the patron saint of children, and the same as Santa Claus or St. Nicholas of our Christmas time. The supposed relics of St. Nicholas were conveyed from the East to Bari in the Kingdom of Naples toward the close of the eleventh century.

The reputed sanctity of this oil (?) and its large use prevented the authorities from a close examination of the poison. Toffania—or as sometimes spelled Tophania—was at length suspected (1709), when she fled from one to another convent, where she claimed and received immunity from arrest because of the ecclesiastical protection given those who sought the sanctity of these places. She was finally seized, however, and thrown into prison. Being put to the rack, she confessed to having herself caused the death of more than six hundred persons, and named those who patronized her. She was finally strangled to death in 1719. Those whom she named in her confession as patrons were apprehended, some at their devotions in churches, some in monasteries or convents and others in their homes. This did not, however, put a stop to secret poisoning, for Keysler says that it was still in vogue in Naples in 1730. The art of poisoning was brought to light in France in 1670,[8] the agents being, as in Rome, Italy, and elsewhere, married women, and the victims their unfortunate husbands and lovers. This knowledge was made known to the authorities, also, as in Rome, through the confessional. Margaret, wife of the Marquis de Brinvillier, through her paramour, Godin de Sainte Croix, became possessed of the secrets of preparing poisons, Sainte Croix securing his information from a fellow-prisoner while in the Bastile at the instigation of Margaret's father. She assumed the apparel of a nun, visited the sick in the Hôtel-Dieu and gave them her poisons in lieu of medicines for the purpose of testing their strength. She also caused poison to be given her father, brother, and sister, hoping by their deaths to better her own and Sainte Croix's circumstances through acquiring their property. The father and brother succumbed, but the sister, who had become suspicious, did not take the poison intended for her.

This Sainte Croix, while preparing his poisons, was accustomed to wear a glass mask. Through an accident one day while at work in his laboratory this mask dropped off, when he was suffocated to death. Being without family, the Government took possession of his effects, and upon examining the articles in the laboratory, discovered a box containing a number of bottles of poisons with labels on each, telling of their effects on animals. This box was directed to the Marchioness de Brinvillier and written instructions left to either deliver to her or destroy the contents. Upon this becoming known to the Marchioness, she fled, as usual in such cases, to a convent. She was, however, in time enticed from this privileged place by a detective, disguised as an abbé, and thrown into prison, where she confessed, was tried, convicted, beheaded, and afterward her body burned.

Secret poisoning continued in France notwithstanding this example, many persons dying under suspicious circumstances. Again the clergy gave warning to the authorities that many persons of high as well as of humble rank confessed the crime, and a court of inquiry was instituted in 1679, known as the *Chambre Ardente*. This court exposed two women who were carrying on a great traffic in poisons, named La Vigoreux and La Voisin, the latter a midwife. Both were fortune-tellers as well as vendors of poisons to those desirous of being rid of cruel husbands or recreant lovers. Ladies of the first rank, and even some belonging to the court, patronized these wretches. In the possession of La Voisin was found a list of such women as had consulted her and purchased poison. La Vigoreux and La Voisin were burnt alive on the 22d of February, 1680, after their hands had been bored through with red hot irons and cut off. Several of the patrons of ordinary rank were publicly hanged. Those of higher rank were set at liberty.

The crime of secret poisoning has been practised in other countries than those mentioned. Count Corfitz de Ulfeld of Denmark was suspected of giving the king poison, while Charles XI, King of Sweden, died from the effects of poison April 15, 1697. During his illness he asked his physician what was the cause of his distress, and was told that: "Your majesty has been loaded with too many maledictions."

Aside from the reference made to King James I and Sir Thomas Overbury's deaths from poison in the earlier parts of this essay, we have no positive historical knowledge of the practice in England. It is true that Shakespeare refers to secret poisoning in several of his plays, notably in "The Tempest," Act III, Sc. 3, when Gonzalo remarks:

> "Like poison given to work a great time after,
> Now 'gins to bite the spirits."

Here we have the idea elsewhere referred to, that poison could be given without those taking it being aware of having done so, and that it would work at some remote and determined period.

Again in King John, Act V, Sc. 7,

> *Hubert:* The king, I fear, is poisoned by a monk:
> I left him almost speechless, and broke out
> T' acquaint you with this evil; that you might
> The better arm you to the sudden time,
> Than if you had at leisure known of this.
> *Bastard:* How did he take it? Who did taste to him?
> *Hubert:* A monk, I tell you; a resolved villain,
> Whose bowels suddenly burst out: (diarrhœa) the king
> Yet speaks, and, peradventure, may recover.
> . . . . . .
> *King John:* There is so hot a summer in my bosom,
> That all my bowels crumble up to dust:
> I am a scribbled form, drawn with a pen
> Upon a parchment; and against this fire
> Do I shrink up.
> *Prince Henry:* How fares your majesty?
> . . . . . .
> *King John:* Poisoned—ill fare—dead, forsook, cast off;
> And none of you will bid the winter come,
> To thrust his icy fingers in my maw;
> Nor let my kingdom's rivers take their course.
> Through my burnt bosom; nor entreat the north
> To make his bleak winds kiss my parched lips,
> And comfort me with cold.

This is, I think, clearly a case of arsenical poisoning.

In Winter's Tale, Act 1, Sc. 2, Camillo says:

> Sir, my lord,
> I could do this; and that with no rash portion
> But with a ling'ring drachm, that should not work
> Maliciously like poison.

And in Cymbeline, Act V, Sc. 5:

> *Cornelius:* She did confess she had
> For you a mortal mineral; which, being took,
> Should by the minute feed on life, and ling'ring
> By inches waste you.

The learned class in Shakespeare's time and for ages before were much given to the study of chemistry, and in a way, pharmacy; chemistry in the hopes, largely, of securing fame and fortune, phar-

macy more for the poisonous substances than the curative remedies. Here is even a queen engaged in the study of poisons under the tutelage of good doctor Cornelius.

Then we have the classic speech of Friar Lawrence in "Romeo and Juliet," Act II, Sc. 3:

*Friar Lawrence:* "Now, ere the sun advance his burning eye,
The day to cheer and night's dank dew to dry,
I must up-fill this osier cage of ours
With baleful weeds, and precious-juiced flowers

Many for many virtues excellent,
None but for some, and yet all different,
O, mickle is the powerful grace that lies
In herbs, plants, stones, and their true qualities:

Within the infant rind of this weak flower
Poison hath residence and med'cine power:
For this, being smelt, with that part cheers each part,
Being tasted, slays all senses with the heart."

The apothecary to Romeo:

*Apothecary* "Put this in any liquid thing you will,
And drink it off; and, if you had the strength
Of twenty men, it would dispatch you straight."
—Romeo and Juliet, Act V, Sc. 1.

In "Hamlet" reference is made to the poisonous effects of hemlock, as well as of poison so powerful that when applied to a scratch in even infinitesimal quantity certain death follows. There is warrant for this statement, as it is well known that South-American natives point their arrows with curare. No authoritative records are obtainable to show the anatomical lesions produced by these poisons, and much of our information is therefore empirical; still, enough is at hand to show that both irritants and narcotic substances were used. That Toffania, that modern Medea, used a solution of neutral salts of arsenic seems to have been established by Hahnemann.[9] Garelli thinks that it was a crystallized arsenic (arsenious acid) dissolved in water. This solution was, at all events, colorless, and "acted by destroying the appetite and the respiratory organs." Pitaval describes the symptoms occurring before and lesions found after death in the case of these slow poisons. "After having languished for a long time, he was seized with a loathing for every kind of food; the vomitings continued until nature being at length exhausted he expired without fever. During the last few days the victim wasted very much, became extremely shrunken and complained of great heat in the stomach. When, after death, the viscera was examined, part of the duodenum was found to be black and sloughed off in pieces (gangrene); the liver was mortified and, as it were, burnt." These symptoms and lesions clearly point to arsenical poisoning, the length of time intervening before death being doubtless due to the small and frequent dose.

Aquafortis (nitromuriatic acid) was thought to form the principal ingredient in some of the poisons and was therefore forbidden in Rome. I, however, regard this highly improbable, as the intensely acid taste of aquafortis would disclose a foreign substance in food or drink. In Paris it was believed that finely powdered diamond dust was the so-called succession powder—so named because of its use in royal households to secure a successor to the reigning king. Baldinger, on the other hand, has no doubt but that the succession powder of the French and Italians owed its poisonous properties to sugar of lead. In the casket of Sainte Croix, referred to elsewhere in this essay, were found corrosive sublimate, opium, regulus of antimony (antimony sulfid), vitriol (zinc sulfate), and a number of poisons ready prepared, the ingredients of which the physicians who examined the contents of the box were ignorant. Toad-flax, a common perennial weed, also called devil's flax, flaxweed, butter and eggs, etc., has been mentioned as a poison used secretly, but I think if it were used at all, it was probably to disguise other and more active ingredients. A mixture of opium and cantharides has been referred to by numerous writers as producing extremely poisonous effects. In proper proportions it is said to form a solution without taste or color. Abbé Gagliani[9] declares "this liquid to be as limpid as rock water; that its effects are slow and imperceptible when given a few drops in tea, chocolate, or soup." It is from this mixture that the dauphin, father of Louis XVI, died on December 20, 1765, and the dauphiness in 1767. Continuing, the Abbé declares that "there is not a lady in Naples who has not some of this poisonous mixture lying carelessly on her toilet table with her smelling bottle. She alone knows the phial. Even the waiting woman, who is her confidant, is not in the secret, and takes this phial for distilled water, which is used to moderate my lady's perfumes when too strong. The effects of this poison are very simple. A general indisposition is at first felt in the whole frame. The physician examining you, and perceiving no symptoms of disease, either external or internal, no obstructions or humors, no inflammations, orders detergents, regimen, and evacuation. The dose of poison is then secretly doubled, and the same indisposition continues without being more characterized. The physician who can see in this nothing extraordinary, ascribes the state of the patient to vicious and peccant humors, which have not been sufficiently carried off by the first evacuation. He orders a second—a third dose—a third evacuation—a fourth dose. He then sees that the disease, whatever it may be, has escaped him; that he has mistaken it, and that the cause cannot be discovered, but by changing the régimen. In a word, the nobler parts lose their tone; become relaxed and affected, the lungs particularly, as the most delicate of all, and one of the most employed in the functions of the animal economy. The first illness then carries you off, because the critical accumulation settles in the weaker part, and consequently on the lobes of the lungs; pus then fixes itself and the disease becomes incurable. By this method they follow one as they choose, for months or for years. Robust constitutions resist for a long time. In fact, it is not the liquor that kills, it is rather the different remedies which alter and then destroy the temperament, exhaust the strength, extenuate and render one incapable of supporting the first indisposition that comes."

The Abbé declares the aqua Toffania a compound of opium and cantharides.

Garelli,[10] who was physician to the emperor Charles VI, king of the two Sicilies at the time of Toffania's career, wrote to Hoffmann in 1718 of "a poison, slow in its action, which was nothing else than a solution of crystallized arsenic in a large quantity of a decoction of cymbalaria." This was the poison used by that infamous Toffania, a fact communicated to the emperor through the judicial procedure of convicting this female, confirmed by a confession. Upward of six hundred persons perished through this woman. It will be seen that there is conflicting testimony as to the active ingredient used by Toffania in the preparation bearing her name, and this can be accounted for through the efforts of the authorites to keep the secret from the public, all information being, as a rule, destroyed with the convicted poisoner.

A poison was used in the East Indies[11] under the name of *powst*, which is said to have been made by steeping the juice of poppies from which opium is obtained over night in water. It was given in the morning while fasting, and particularly to those whom it was desired should perish without violence. It is said to effect the victim slowly, death being ushered in with the classic symptoms of opium poisoning. So, I repeat, absolute knowledge of the particular substance used in secret poisoning in ancient times is not accessible. Formulas when found were usually burned with the criminal. Then the lack of accurate pathological action, symptoms, and anatomical lesions leaves us wholly unable to determine the article. Irritant poisons occasion, when taken in toxic doses, vomiting, purging, and severe abdominal pain. They act chiefly upon the stomach and intestines, causing destruction of tissue, perforation or gangrene. There are, however, articles classed as irritant poisons which do not exert a distinctive chemical action on the tissues with which they come in contact; cantharides and lead salts are notable examples. Narcotics act especially on the brain and spinal cord, the symptoms being vertigo, headache, loss of, or double, vision, stupor, loss of power of the voluntary muscles, convulsions, and finally coma. Special characteristic symptoms often accompany the use of narcotic poisons resembling special diseases. Thus coma from a toxic dose of opium closely resembles apoplexy, while strychnia gives rise to convulsions resembling those of epilepsy.

We have also the narcotico-irritants which have a mixed action. At first they produce vomiting and purging like the irritants. This is soon followed by stupor, coma, paralysis, and convulsions. Familiar examples of this class are aconite, and the ptomains found in decayed meat, fish, and mushrooms. Any one of these classes may be, and doubtless were, used in the early secret poisoning, or, indeed, a mixture such as opium and cantharides so prominently mentioned may have been as largely used as indicated above. That secret poisoning prevailed to a frightful extent is certain. Happily, it is rarely practised now, although a case recently came to light in Massachusetts in which a professional female nurse confessed to having caused the death of sixteen persons whom she was employed to attend, by administering morphine in repeated small doses.

Other cases might be mentioned, but would, I think, be out of place in an essay treating of ancient poisons and poisonings.

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**The British Imperial Service Medal for a Nurse.**—According to the London *Hospital*, there has been the name of but one nurse, in the long list of recipients of the Imperial Service medal, namely, Mrs. Margaret O'Regan. Until she was pensioned Mrs. O'Regan served at Kilmainham Hospital, Dublin.

## PURPURA HÆMORRHAGICA FULMINANS, WITH REPORT OF A CASE.

By HENRY GRAHAM MacADAM, M.D.,
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The term purpura is applied to certain morbid conditions, characterized by multiple hemorrhages into the skin, the cause of which is more or less a matter of speculation. Schacher, in 1723, described two forms of this affection: Purpura maligna, occurring in malignant fevers, and purpura benigna, a mild form without fever. Sauvages, in "Nosologia Methodica," in 1769, describes purpura senilis under the name ecchymoma melasma, and refers back to the time of Galen. Previous to Sauvage's writing, however, Werlhof, a physician to George III in Hanover, presented (1735) a detailed description of purpura hæmorrhagica, and this condition has since that day been recognized very generally under the name morbus maculosus Werlhofii.

*Etiology.*—There are many well-known conditions in which cutaneous hemorrhages occur with or without hemorrhages from mucous membranes and into internal viscera. Among such are the exanthemata, pyæmia, septicæmia, and malignant endocarditis, in which it is supposed the blood vessels are, in part, destroyed by the toxins excreted.

Purpura is also seen in certain cases during the administration of drugs, as potassium iodide, phosphorus, copaiba, quinine, belladonna, mercury, and ergot. Again, we may have it in snake poison, pernicious anæmia, leukæmia, tropical diarrhœa, scurvy, cancer, tuberculosis, Hodgkin's disease, Bright's disease, in association with jaundice and in old age. Lastly, it is seen in the course of certain neurotic affections, such as locomotor ataxia, myelitis, and neuralgia.

In these various conditions the bleeding is known to be a symptom, which is usually, but by no means always, of comparatively minor importance. And it is possible that, in the condition of which we are treating, the purpura is only a symptom of an acute infectious disease. In the type known as purpura hæmorrhagica, however, the hemorrhages constitute the most obvious symptom. But, as will be seen, we are practically ignorant of the pathological conditions giving rise thereto.

Many classifications of purpura have been adopted, and it has been found exceedingly difficult to get at any that is entirely satisfactory; but for purposes of description, and having particularly in view the object of this article, the division made by Osler, apart from its intrinsic merit, will be found most convenient: (*a*) symptomatic, (*b*) arthritic, (*c*) hemorrhagic.

This article is not intended to traverse the field of purpura at large, but is addressed specifically to the type marked C in above category, and to that type we will now, as far as feasible, confine ourselves: Purpura hæmorrhagica, in which hemorrhage is the predominant, if not the only, feature. Many microorganisms have been described as occurring in this form of purpura, and numerous theories as to its etiology advanced.

William Koch believes it to be allied to scorbutus and other hemorrhagic affections. Ajello and Schwab regard it as an acute infection—a form of toxæmia. Kolb, Tizzoni, Babes, and Claisse have found various bacteria in the blood in fatal cases. Lebreton and others have isolated streptococci and staphylococci from the blood of patients having the hemorrhagic purpura. Claim to have isolated a specific bacillus—the bacillus purpuræ—which closely resembles the bacillus of anthrax, was made by Letzerich, as early as 1889. Petrone and others claim that the subcutaneous injection into rabbits

of the blood from patients with hemorrhagic purpura will cause a like affection in these animals.

Strümpel, in the last edition of "A Text Book of Medicine," says "it is not impossible that continued investigation will deprive morbus maculosus of its individuality as a specific form of disease and show that it is merely a special form of profound sepsis."

The term fulminating is applied to cases characterized by great malignancy and suddenness of onset and development, death often occurring within a few hours. This form usually occurs in young and apparently healthy children—more frequently in girls. Occasionally it is seen in adults. It is never epidemic. Jacobi, in "The Therapeutics of Infancy and Childhood," says: "The suspicion appears justified that the fulminating type of purpura is an acute infectious disease." In view of the researches of these keen observers, the uncertainty of their conclusions and the divergence of opinions among them, we must confess that the origin of this disease, or symptom, if you please, is at the present time unknown. We can say only this, that purpura hæmorrhagica fulminans is a rare affection, and generally results fatally.

*Pathology.*—Hemorrhages, from the size of the head of a pin (petechiæ) to that of a silver dollar (ecchymoses), are found in various parts of the body, in all the stages of discoloration which extravasated blood passes through. In the fatal cases smaller or larger extravasations are also found in all the viscera and in the serous and mucous surfaces. There is usually marked anæmia as a result of the severe hemorrhage, and often nephritis is present. Swelling of one or more joints has been recorded, but this is infrequently seen. Endocarditis may be present. In a few rare instances intestinal ulceration with perforation and consequent peritonitis has been observed. There may also be present an acute enlargement of the spleen and liver.

*Symptoms.*—In the fulminating type of hæmorrhagic purpura the invasion is generally rapid and severe, the bleeding taking place not only into the skin, but into the mucous membranes and all the internal organs and tissues. The bleeding from the nose is especially severe and at times uncontrollable. Hemorrhage from the gums and palate has long been recognized as characteristic of the disease. The patient is usually overwhelmed by the hemorrhages, and dies from within a few hours to two days.

Holt says it is almost invariably fatal. In certain cases there is a short prodromal period, characterized by loss of appetite, general malaise, and indefinite pain for one or two days previous to the bleeding. The temperature usually rises even as high as 105°, but often there is no fever at all. Death may ensue merely from the loss of blood or from exhaustion, œdema of the lungs, or apoplexy. A severe hemorrhage may occur into the viscera without any external evidences and death result in a short time. Occasionally the hemorrhages cease, and the patient gradually recovers; convalescence sometimes being prolonged over a number of months.

*Diagnosis.*—There is no recorded condition that can be mistaken for the typical fulminating hæmorrhagic purpura. The sudden and violent invasion, with or without a rapid rise of temperature, bleeding into practically every tissue and organ in the body, with consequent marked anæmia, and the waxy skin, and rapid labored breathing, with or without unconsciousness, combine to make a picture so strikingly characteristic that once seen it is never forgotten. In a few cases, however, the onset is preceded by one or two days of lassitude and loss of appetite, with occasional petechiæ appearing on the skin and mucous surfaces. In these cases it is difficult to make a positive diagnosis until the severe hemorrhages make their appearance. In the mild cases it may be distinguished from leukæmia by the swollen glands seen in the latter, together with what is revealed by an examination of the blood.

Differentiation from scurvy is made by the affection of the gums and history of a faulty diet. It may be difficult in some cases to exclude hæmophilia, but usually the family history and a consideration of all the facts will be sufficient to make the diagnosis clear. The malignant forms of fevers, particularly measles and smallpox are distinguished by the prodroma and the higher temperature.

*Prognosis.*—While in symptomatic and arthritic purpura, the prognosis is favorable, recovery taking place commonly in a few weeks, the general view is that in hæmorrhagic purpura the prognosis should be guarded.

As to the fulminating type of hæmorrhagic purpura, however, a review of authorities leaves much to be desired, a condition arising undoubtedly from the fact that cases of the fulminating type are exceedingly rare. Holt says that in cases of this class, "the prognosis is almost invariably fatal." Osler makes the statement that "these cases may prove fatal within twenty-four hours." Many authors, without explicitly mentioning the fulminating type, join in the view that in purpura hæmorrhagica the prognosis should be guarded, but qualify by observing that while in general there are fair chances of recovery, those cases in which hemorrhage into the internal viscera appears usually have a fatal termination.

It will be seen that this qualification practically puts in a class by themselves the cases which verge upon, or which are actually included in, the type distinguished as purpura fulminans. So that there is practically a consensus of opinion that in cases of the fulminating type the prognosis is fatal. Whether this view may be modified by consideration of the case about to be described is for the reader to determine.

*Treatment.*—The general treatment consists of confinement in bed with absolute rest; care being taken to avoid any exposure. The slightest injury or pressure on any part of the body way be sufficient to cause an increased hemorrhage. In medication, locally and constitutionally, drugs almost innumerable have been employed, prominent among them being: hydrastis, aromatic sulphuric acid, hamamelis, ergot, gallic and tannic acids, arsenic, oil of turpentine, antifebrin, calcium chloride, perchloride and persulphate of iron, and acetate of lead. It is manifest from the well-nigh interminable category that the medical profession has been seeking the constitutional hæmostatic with anxiety, but without determinative result. Osler says: "We are still without a trustworthy medicine which can always be relied upon to control purpura—the whole series of hæmostatics may be tried in succession without any benefit."

CASE. January 10, 1903. Mary D., age five years. Family history good, except phthisis on father's side; one brother dying of consumption. Child's father and mother have always been in perfect health. Four other children, health normal. There has never been a case of hæmophilia or purpura in the family. I was called to see the child on January 10 at 11 A.M. The mother gave the following history: The child has always been unusually well, strong and robust, and full of mischief, never had any ailment, with the exception of an uncomplicated attack of scarlet fever two years ago.

On Friday, January 9, the mother noticed that the child was "drowsy and heavy" in the morning. In the afternoon three black and blue spots made their appearance on the child's forehead. At this time she was very much brighter than she had been in the

morning. The mother inquired if the child had met with an accident, but could get no history, so concluded to call a physician. At 11 A.M., January 10, when I saw the child first, it was bright, rosy-cheeked, playing around the room with the cat. Being stripped, she was seen to be covered with petechiæ, and there were some half dozen ecchymotic spots on the body. The condition was recognized as purpura, and the mother was told of the possibility of its being one of those rare types of purpura, namely, the fulminating, and accordingly advised to take the child to the hospital.

At 11.30 A.M., I was sent for hurriedly, and being unable to attend, another physician was sent in my place. The child was found almost moribund—unconscious, ashy-white, bleeding from the nose, stomach, lungs, bowels, kidneys, etc., head thrown back, mouth opened, breathing rapidly and laboriously; no pulse perceptible. The child had vomited several pints of blood. Local applications of adrenalin chloride 1-1000 were made to the nose only, and the mother was told that it was useless to take the child to the hospital, as she was practically dead. On call of a neighbor, an ambulance came, but the surgeon refused to take the case, stating that the child could live but a short while.

I saw the patient again within an hour, and the child had been vomiting blood since my previous visit. The case looked hopeless. However, chancing an heroic measure, I administered twenty drops of adrenalin solution in a tablespoonful of water internally. At the end of fifteen minutes the child regained consciousness. A little color appeared in the cheeks and the pulse was perceptible at the wrist. I gave ten drops of adrenalin. The child continued to show evidences of improvement. Then I had the child taken to the Post-Graduate Hospital. She remained there from Saturday, January 10, until the following Tuesday. At the hospital she received ten minims of adrenalin every three hours in orange-juice, no nourishment being permitted.

January 10, 1903. On admission to the Post-Graduate Hospital, the rectal temperature was 98.6°, pulse 140, and respiration 28. Examination revealed large purpura spots, three on right arm and two on the left arm, size of a quarter of a dollar; two on back, size of a half dollar, and small spots of various sizes over the entire body. In the left sclera two bluish spots external to cornea one-quarter inch. Stools normal; no hemorrhage from the vagina or rectum.

January 11, urine, specific gravity, 1026; acid. No sediment; albumin present; no sugar; no indican; hyaline casts were present; few pus cells, no blood, bladder epithelium; no crystals; some mucus.

January 12, 12.30 A.M. Hemorrhage occurred from the right nostril, which was packed.

January 13, 2 P.M., slight oozing from right nostril; repacked. Discharged at mother's risk at 3 P.M. January 13, I saw the patient in her home at 5.30 P.M.; her rectal temperature was 99.4°, pulse 120, respiration 24.

January 14, at 10 A.M., the temperature was 99.4°, pulse 122, respiration 22, and at 5 P.M., temperature was 99.6°, pulse 124, and respiration 26. The patient had, in addition to the adrenalin in orange-juice, one teaspoonful of meat-juice at 11 A.M., 3 P.M., and 6 P.M.

January 15, the temperature, pulse, and respiration remained the same. Another teaspoonful of meat-juice and two ounces of a milk preparation was added to the nourishment.

January 17, the temperature rose to 101°, pulse 130, and the respiration 28. Two ounces of peptonized milk was added to the diet.

January 18, at 9 A.M., the temperature was 102.5° pulse 140, and respiration 28. Citrate of magnesi in three-ounce doses was given at 9 A.M., 9.30 A.M. and 10 A.M. At 12.30 P.M. there was a copiou evacuation of the bowels without any hemorrhage

An increased amount of peptonized milk wa added to the child's nourishment during the day At 4 P.M. the temperature was normal, and she wa permitted to sit up in bed for a half hour.

January 19, temperature normal, pulse 100, an respiration 22. Patient sat up for half the day Milk was given as follows: 4 ounces at 8.30, 4 ounce at 10.30, 4 ounces at 12.30, with one soft-boiled egg and 4 ounces at 6 P.M., with another soft-boiled egg

January 21, an increased amount of milk, togethe with thin beef soup was permitted. From this tim on, the temperature remained normal and the puls gradually came down to 85, and the respiration t 20, where things have remained stationary.

January 23, fish added to diet, and on Januar 25 a little chicken.

On January 31 the adrenalin was discontinue and the child permitted to walk on the street wit her parents. In another week she was allowed t play at pleasure with her child associates and to ea with the family.

At the present writing she eats and sleeps well apparently none the worse for her narrow escape and but for a slight anæmia, is as well as ever.

Careful search of medical literature by this write has failed to reveal a single case of the treatment o purpura hæmorrhagica with adrenal-gland prepara tions. The drug has heretofore been used ver largely in local hemorrhagic conditions, although number of reports of its use in intestinal hemorrhag during typhoid fever have been published. It i our opinion that in adrenal-gland preparation w have a certain and reliable constitutional hæmo static. And if this be true, it will readily beseen what a broad field is opened for its useful application

325 WEST FIFTY-FIFTH STREET.

## A STUDY OF A SCARLET-FEVER EPIDEMIC

BY ALFRED C. HAVEN, M.D.,
LAKE FOREST, ILL.

LAKE FOREST is Chicago's most aristocrati suburb. No town in the West can challenge her fo beauty, both natural and acquired. It is the sea of a university, the location of Chicago's most pre tentious country club, the Onwentsia; abounding i beautiful country homes of Chicago's millionaires, th grounds are acres in extent, and not suited to th spread of contagion. The town has twenty miles o paved roads, good sewerage system, including septic tank, water supply from Lake Michigan, an no expense has been spared to make it a mode suburb, with all the conveniences of a city combine with the attractions of the country. It is locate on a high bluff, intersected with deep ravines, an in the midst of an ancient forest of oaks. One would have looked for an epidemic almost anywhere els rather than in this beautiful sanitary spot. Th epidemic was peculiar in many respects, and a recita of its chief characteristics, I think, will be of interest The first case originated in November, 1902, in a lad who sold papers at the station; he was promptly removed to the isolation ward of Lake Forest Hospital, a modern cottage hospital built and equipped with every convenience, and a gift complete from Mrs. H. C. Durand. This first case was uneventful, except for a mild nephritis. Two or three cases per month were reported till February, 1903, when ten per week, and one week fifteen appeared. Then vigorous measures were adopted by the local Board of Health. The public and private schools, con

taining some 500 pupils, were ordered closed. The university was quarantined on its large grounds of sixty acres and allowed to remain open.

No children were allowed on the streets, all visiting was prohibited, all public gatherings in churches, Sunday schools, and lodges, and parties were positively interdicted. And, as an extra precaution, all stray dogs and cats were ordered shot on sight.

A house to house inspection was instituted. All sore throats were ordered reported to some physician. Every case was promptly isolated, the home placarded and the patient was not allowed to regain his liberty until all desquamation had ceased, ordinarily taking from four to six weeks, after which the place was thoroughly fumigated by formaldehyde gas and steam, by our own public disinfector, who was empowered to burn all mattresses and whatever else he deemed wise to destroy. All patients were transported in the hospital ambulance, which was thoroughly fumigated each time. A temporary auxiliary hospital was organized for scarlet fever, the mayor of the city loaning us his gardener's cottage, and two large additions thereto were hastily constructed. Trained nurses were secured. Also special police were sworn in to see that all regulations were obeyed.

Even with these rigorous measures, the epidemic persisted for two months longer, six altogether, and 108 cases were reported in a normal population of 3,400, which was greatly reduced by wholesale departures of families.

The cause of the epidemic seemed difficult to discover. Experts were consulted, the milk supply was investigated, with negative results. Representatives of both the State Board of Health and the Chicago Board of Health offered us valuable aid. It was noted early in the history of the epidemic that an unusual number of sore throats were prevalent; some of these were thoroughly characteristic of scarlatina, and others could not be distinguished from ordinary tonsillitis.

We recognized at once that these sore throats were really the manifestation of scarlet fever in immunes. No other symptoms of the disease appeared, but these cases were contagious, and were as dangerous to the community as any other cases of the disease. And when we could apprehend them they were isolated until all throat symptoms had disappeared. But, unfortunately, many of these cases never offered themselves for inspection, but scattered the disease right and left, wherever they wandered and expectorated. It soon became known that such cases were isolated, and poor, weak human nature was foolish or evil enough to conceal them. Free inspection was offered, but very rarely accepted.

These sore throats were the most prolific source of the spread of the contagion. Another cause of the extension of the epidemic was the fact that many of the cases were exceedingly mild. Often they deemed it almost persecution to be sent to bed, and, of course, some escaped.

Another peculiarity of the epidemic which served to spread the trouble was the unusual number of young adult cases. Most of our textbooks tell us that scarlet fever is peculiarly a disease of childhood, and generally infer safety after fifteen years of age, except in rare instances. But this was not our experience; fully one-third of all the cases were young adults over fifteen years of age, and no age up to forty seemed exempt.

One case was that of a professor in Lake Forest University, age forty. A typical case, high fever, brilliant efflorescence, angina, enlarged cervical glands, and most thorough desquamation. His case was associated with much mental depression.

Another patient was the Episcopal rector, aged thirty-eight. His two children and himself presented symptoms simultaneously, the children's were mild, his were quite severe, complicated with rheumatism and neuralgia. His desquamation was most vigorous. Great glove-like casts were exfoliated from both hands and feet. His recovery was uneventful, save that he slowly regained his strength. One adult, during the period of efflorescence and angina, chopped down a large tree and cut it into cord wood, and when captured later was visiting with a roomful of guests, who were drinking his health, as his marriage was appointed for a near day. This he was obliged to postpone, as he was brilliantly red with the punctate rash of scarlatina, and he acknowledged that two days previously he had had a "beastly" sore throat. Another case walked into my office with the rash in full bloom, a perfect picture of the disease. She had, as part of her duties, exercised a valuable dog on the streets for days, probably to the benefit of the dog, but I am doubtful as to the benefit derived by the community. Two adults undoubtedly owe the cause of the disease to their own carelessness; one deliberately entered the scarlet fever hospital, while delivering a package, and another, a young student, approached the hospital and laid two books on the window ledge and six days later joined his companions as a patient. I mention these cases, not only because they are interesting cases of adult scarlet fever, but also to show that they explain the spread of the epidemic.

Before they were aware of the nature of the disease they were suffering with, they passed it on to others, often deeming it merely an unusually aggravated sore throat.

Then, too, as the epidemic wore on, we repeatedly heard of indigestion (?) rashes, evanescent, not severe enough to call a physician, but probably adding their mite to swell the wave of contagion.

Cultures from throats were collected on sterilized blood serum and sent to Dr. J. W. Class of Chicago, who has made an extensive study of scarlatina, and who announces that he has discovered the specific germ of the disease, a giant diplococcus.

These were present in the specimens examined, although one interesting case, of which there was difficulty in diagnosis, did not show them early, but later gave typical results. Dr. Class believes his diplococcus to be pathognomonic; if so, the future diagnosis of scarlet fever will become far more scientific.

I do not see how scarlet fever and measles or rötheln are often confused. Scarlet fever is a much finer rash, more punctate, with small red spots separated, which later coalesce, and does not begin on the face. Measles has a much coarser exanthem and appears on the face first. There is difficulty with some forms of erythema in infants, due to digestive disorders. The high fever, vomiting and peculiar rash, are only suggestive of scarlatina. But a dose of calomel or castor oil and twenty-four hours' delay, usually clears up the diagnosis, as the erythema disappears, and the scarlatina persists. During the height of our epidemic, the daily papers of Chicago sought to dispute the diagnosis of scarlet fever, and invented a new disease which they christened "Philippine itch," claiming that the soldiers had imported it from our new colony to Ft. Sheridan, two miles from Lake Forest.

Our local board met this suggestion by inviting Dr. Geo. W. Webster, the President of the Illinois State Board of Health, and Dr. W. S. Christopher

of Chicago, to visit Lake Forest, and personally inspect the cases. They were both positive in their reports as to the disease being scarlatina and the Philippine itch bubble exploded. Surgeon Ives of Ft. Sheridan remarked that it was superlatively strange that this rare disease had escaped his observation. The mortality of our epidemic has been surprisingly small, only two deaths in 108 cases. One a feeble infant of three years of age, and one a young girl of sixteen, who, five years before, had had a typical case of scarlet fever, and severe nephritis; this second attack was moderately severe, but nephritis again developed with uræmia, convulsions and death, in spite of diuretics, salines, hypodermoclysis, heat, dry and moist, baths and packs. But the fact remains that the mortality was less than 2 per cent. We had some atypical cases, such as hyperpyrexia, delayed rash for four or five days. Some with hardly a trace of sore throat, and others severe anginas; some with brilliant rash, and some with only evanescent efflorescence. Some with only very moderate temperature. One, in whom no rash was ever discovered, who developed severe nephritis; a few that desquamated hardly perceptibly, and many so severely that the dried skin could be collected in handfuls. Enlarged cervical glands and otitis media, quinsy; one developed quinsy during the fifth week of the disease. Scarlatinal synovitis, rheumatism and neuralgias. One developed uræmia without a trace of albumin, the urine being reduced to eight or ten ounces in twenty-four hours, and other more common sequences were noted.

The epidemic vanished much more quickly than it appeared, and April 15 witnessed the last case. Severe measures were used, yet we feel the conditions warranted them, and that the abrupt termination was due to these measures, and we believe the thorough disinfection of homes will preclude a further visitation. The epidemic is already well-nigh forgotten and the annual hegira of Chicago summer visitors is taking place as usual.

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## A PRELIMINARY REPORT ON SOME EXPERIMENTS WITH THE McGRAW ELASTIC LIGATURE.*

By M. S. KAKELS, M.D.

In the performance of a successful intestinal approximation the following requisites are essential: (1) Simplicity of application; (2) celerity; (3) uniform coaptation of peritoneal surfaces of the entire circumference of the approximated ends; (4) arrest of hemorrhage at point of approximation; (5) formation of a cicatrix that will contract as little as possible without being deleterious; (6) exact juxtaposition, as nearly as possible, of the histological structures; (7) the production of a minimum number of lesions.

Of all methods of intestinal anastomosis the Murphy button and suture seem to hold first place. Surgeons to-day seem to prefer these to all others. But do they include all these requisites? None of the methods up to the present time equal the ingenious device of McGraw's elastic ligature. Its advantage over all others is that (1) It is the simplest of all known methods. (2) It is the quickest of all operations for intestinal anastomosis. (3) There is a uniform coaptation of the peritoneal surfaces of the entire circumference of the approximated ends. (4) There is no incision of the bowel, and consequently no blood lost. (5) There is no escape of fæces, and therefore no exposure to peritoneal infection from bowel contents. (6) A cicatrix results that will not contract to a deleterious degree. (7) The operation, on account of its safety, is followed by a minimum of shock. (8) There is anastomosis by first intention. (9) There are but very few lesions made. (10) The bowel does not slough under the ligature, but undergoes a process of absorption in a few days without any raw surface whatsoever.

Besides these a very important fact is the advantage that the surgeon has in making the opening of any length he desires. These are McGraw's conclusions.

In order to verify the same I have made a number of experiments and have brought the specimens to show the results of the operation.

A number of dogs were taken. Seven gastroenterostomies and three enteroenterostomies were made. All the dogs survived except one which died from starvation and exhaustion at the end of the twentieth hour (an enteroenterostomy).

The dogs were killed by cyanide of potassium.

| | | | | | | |
|---|---|---|---|---|---|---|
| One | on the | third | day, or | 72 | hours | after (an enteroenterostomy) |
| " | " | fourth | " | 96 | " | " (gastroenterostomies) |
| Three | " | fifth | " | 120 | " | " |
| One | " | seventh | day, | 168 | " | " (a gastroenterostomy) |
| " | " | eighth | " | 192 | " | " (an enteroenterostomy) |

Two dogs upon which gastroenterostomy was performed on March 6 were still living on March 9.

In three cases only of the eight autopsies made did the ligature completely cut through. The round elastic ligature of 2 mm. thickness was taken in three enteroenterostomies and three gastroenterostomies. The ligature of 3 mm. thickness in two gastroenterostomies, and the ligature of 4 mm. thickness in two gastroenterostomies. The operation was performed exactly as described by McGraw. All aseptic precautions were taken and every case ran an afebrile course. No case developed sepsis or peritonitis, and after twenty-four hours the animals resumed their natural condition and showed no signs of distress whatsoever.

My conclusions thus far from these preliminary experiments are as follows:

1. For rapidity it is one of the quickest of all known methods. I made one anastomosis with the interrupted sutures within fifteen minutes. With the continuous sutures I am sure this time can be materially shortened.

2. There is no loss of blood except the slight amount produced by the Lembert sutures on the serous surfaces.

3. I found it as simple as, if not simpler than the Murphy button.

4. There is absolutely no escape of intestinal contents, and therefore no exposure to infection of the peritoneum from this source.

5. There is no shock, on account of short exposure and little handling of viscera.

6. There seems to be a uniform coaptation of peritoneal surfaces of the entire circumference of the approximated ends.

7. Very few lesions are made.

8. The bowel seems to have been cut through without sloughing.

McGraw states that three or four days is sufficient time to provide for a free opening.

Of the eight cases, in two upon which an autopsy was made (one on the third day and one on the fourth) there was only a partial cutting through, while in one (that examined on the eighth day, or 192 hours after an enteroenterostomy) and two gastroenterostomies examined on the fifth day, or 120 hours after, there was a complete opening and disappearance of ligature, while three gastroenterostomies show only a commencing severance.

The non-successful production of a complete

*Paper read and specimens presented before the Surgical Section of the New York Academy of Medicine.

opening in some of the cases I cannot ascribe to any faulty technique, as all the cases were operated upon in the method described by McGraw. The failure to cut through, from my experience in these few cases, I attribute, in the first place, to too thin a ligature, and, secondly, to a greater thickness of the dog's stomach and intestine than that of man. Perhaps in the human being a ligature of 2 mm. thickness will cut through in a shorter time than eight days.

If we look carefully at some of the specimens, it seems that only about ¼ inch of tissue was included in the ligatures, when, in fact, in no case was less than one inch taken. This was sufficient when we take into consideration the small lumen of the dog's intestine.

In conclusion, I would like to say that for man, in order to obtain a free opening within three or four days, it would be much safer to use a ligature of three or four mm. thickness, even if it makes a clumsy knot, and that we should not hesitate to take more than an inch and a half of tissue in the ligature (especially in gastroenterostomies), as I believe that the more tissue and the thicker the ligature, the more pressure will be brought to bear and the quicker will it cut through.

Finally, that this method, barring the disadvantages caused by its slow action in cutting through, is far superior to all others for simplicity, rapidity, and efficiency, admits of no doubt.

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## POISONING WITH A SMALL DOSE OF QUININE.*

By M. GOLTMAN, C.M., M.D.,
MEMPHIS, TENN.

In this section, where quinine is so largely given and often indiscriminately, the relation of the following case may be not without interest: In the early morning of October 7, 1902, I was called to the Gayosa Hotel to see C. M., aged thirty-five years, who is a traveling saleman and lives in New Orleans, La. There was nothing peculiar in the personal history, with the exception of an unusual susceptibility and reaction to quinine. Family history was negative. The evening before the patient had dined with a few friends at a leading restaurant, and not feeling satisfied about the freshness of one of the articles ingested, thought it well to take a mild purgative.

One of his friends offered a laxative pill which he knew to be efficacious. Being assured there was no quinine in the pill, the patient swallowed it. Within twenty minutes he felt a peculiar tingling sensation which he knew, from experience, to be due to the effects of quinine. The tingling was quickly followed by the appearance of large wheals in different parts of the body, which quickly coalesced. These wheals became redder and redder until they had a purplish appearance.

When I saw the patient he was swollen and unsightly, and his suffering required morphine, which soon, however, brought relief.

He then told me that he had yet to go through his worst experience, that the wheals would be converted into large "blisters," and that after the fluid from these would be absorbed the skin would peel off and leave his body raw and sore; that this process was always worse about the genitals, and he looked forward to what was in store for him with great dread.

The genitals were as yet free from wheals, at which the patient marvelled, and he begged me to exert my best endeavor to prevent their formation.

I prescribed a paste of zinc oxide, starch, bismuth, carbolic acid and lanolin, to be spread thickly over the body, with strychnine and morphine internally.

The next morning bullæ were forming over the affected parts, but the genitals remained unaffected.

On October 9 the bullous formation was marked, and in places the surfaces were already raw, just as the patient had predicted. The pulse was 112 to the minute, and the temperature 101½° F. Suffering was great and required morphine hypodermatically. I opened a great many bullæ at their lowest points, expelled their contents, but preserved the epidermis, and almost without exception, wherever I did this no rawness resulted. The genitals never became involved, and in a few days the patient was practically well. No other members of his family have this idiosyncrasy. Dr. William Krauss of this city saw the case with me and evinced much interest in it.

The condition was no doubt a toxic angioneurosis, and while I have many times seen urticaria after giving quinine, I never saw anything like this before, and never thought it possible for such to occur from such a cause. The question of food poisoning can, I think, be eliminated. Some of the single bullæ were as large as the palm of the hand. The hands, feet, and thighs were most affected, the fat especially being enormously swollen.

The dose of quinine must have been very small, because the pill swallowed was itself quite small.

In the Medical Record of April 4, 1903, I note the report of a case by Dr. Lewis Conner of almost fatal poisoning by six grains of quinine. In Dr. Conner's case the heart seemed to suffer most. In my case it was the skin. I recall a number of patients who cannot take quinine per os on account of the urticaria it produces, but who take it hypodermically without any such effect. I believe the urticaria in these cases is the result of gastric irritation and is not a toxic influence.

In the case here reported the same severe symptoms followed when oleate of quinine was rubbed into the skin several years ago during an attack of fever, thus showing that the condition is due to quinine intoxication. Other drugs, like phenacetin, belladonna, and morphine he stands as well as anybody.

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*Reported before the Memphis and Shelby Co. Medical Society.

## STRANGULATED OBLIQUE INGUINAL HERNIA IN A CHILD ELEVEN DAYS OLD; OPERATION.

By J. HUTCHINGS WHITE, M.D.,
MUSKOGEE, I. T.

I was engaged to take care of Mrs. W. during her confinement, which proved to be normal, a healthy, apparently normal child of eight pounds being born. Everything progressed favorably until the fifth day, when, during my visit, my attention was called to a "lump" in the child's right groin. Upon examination it proved to be a hernia. I set about to reduce this by applying taxis for a short time without anæsthesia. Being unsuccessful, chloroform was given and reduction easily effected. The hernia came down during a crying spell at 8 A.M. and was reduced at 11.30 A.M.

The necessary precautions to guard against a recurrence were taken and detail instructions were given nurse what to do with child during crying spells. Notwithstanding this, however, on the eleventh day I was called during the afternoon to

see the same child. The hernia had been down since 9 A.M. Taxis with and without chloroform and placing the child in an inverted position with flexed thigh all proved fruitless. Hot compresses were placed on the hernia and the child allowed to rest until evening. No vomiting occurred and, with the exception of being a little fretful, the child seemed rather free from pain.

During the evening I consulted with Dr. Frank M. Tiffany of Stamford, Conn., and again taxis was tried; this proving ineffectual we decided to operate. Herniotomy was performed at 10 P.M. We found a much congested gut, which was very blue. The use of hot applications, however, put new life into it. Reduction was effected, sac tied and cut off and abdomen closed. The little one's condition was critical for a few days, but he rallied and made a favorable and complete recovery.

Certainly this child's condition was critical, as proven by the condition of the gut, yet there was an absence of vomiting and very little pain. The conclusions are, therefore, that it is not always wise to wait for urgent symptoms, but in those cases in which it is impossible to reduce, under anæsthesia, a recent hernia, especially in young children, operation is indicated. Congestion is increased on standing, and gangrene may take place in one hour, or it may not take place for twenty-four hours.

This, I believe, is the youngest herniotomy case recorded. In England the records show a case in a child seventeen days old.

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**A Bloodless Case of Placenta Prævia.**—N. G. Moore reports the case of a young woman who had had three miscarriages. A third pregnancy occurred, and the patient had intermittent bleeding of insignificant character. At the seventh month labor pains set in, and the presenting bag of waters seemed only slightly thickened. The sound of a bursting sac was heard, and on examination a half placenta, with about four inches of cord could be seen outside, and the head could be felt against the perineum. There was no hemorrhage, and the next pain delivered a living child. The other half of the placenta was found adherent to the os uteri, and was removed without difficulty, and with no hemorrhage. The patient made a perfect recovery. The author believes the case to be unique. His theory in explanation of the case is that there was a central implantation of the placenta, which, being thinner than usual, was sufficiently elastic to allow the small head to engage in the dilating os, where it acted as a stopper until the placenta ruptured, permitting the body to follow it until delivery was completed.—*St. Louis Courier of Medicine.*

**Rheumatism in Childhood.**—Alfred Friedlander inclines to the theory that the exciting cause of this disease belongs to the pyogenic group of bacteria. It is probable that in the majority of cases the tonsil is the primary seat of infection. Streptococci have recently been demonstrated in the peritonsillar tissue in rheumatism which is of importance as showing that infection may occur not only through the lymphatic circulation, but also through the general systemic circulation. In this light rheumatism may be regarded as a true septicæmia. The author discusses the differences in the clinical manifestations of rheumatism in children and in adults. Arthritis is at its minimum, endocarditis at its maximum in childhood; peliosis rheumatica is common, rheumatic nodules occur more often, and recurrent epistaxis is frequent. The administration of small doses of salicylates at intervals (say during one week each month) for long periods of time has been successful in many cases. But the therapy of rheumatism in childhood is not a matter of drugs alone. Proper clothing, regulation of exercise, avoidance of exposure, prevention of anæmia and attention to the condition of nutrition by the enforcement of a properly regulated diet will be found to be the most reliable aids in the management of a condition always troublesome and frequently serious.—*The Cleveland Medical Journal.*

**Acetone and Diacetic Acid as a Cause of Persistent Recurrent Vomiting of Children.**—Edward L. Pierson has, during the past year, carefully examined the urine of children suffering from cyclic vomiting and has in three cases found the diacetic acid present either just preceding or in the early stages of an attack. He has successfully prevented and aborted attacks by the administration of bicarbonate of soda dissolved in whey made from skim milk. In the case of a child who had vomited eighty-seven times in forty-four hours in one attack and fifty-two times in thirty-seven hours in a second attack, soda was given in ten-grain doses three times a day for three months. At the end of that time the customary symptoms of an attack appeared, including a certain recognized color and facies, a peevish state and sudden lack of appetite, with a rise in the temperature. The soda was immediately increased to over 100 grains a day, and the urine examined, but no diacetic acid was present, as the urine was very alkaline. The author believes that this would have been a genuine attack, if the soda had not been at once largely increased in amount. As to diet, when attacks are imminent, he puts the child at once on whey, which also acts as a diuretic, giving also a little scraped beef, and increases the soda to 125 grains in the twenty-four hours. This diet, with the soda, is kept up for two days, when the food is gradually increased, and the soda diminished.—*Archives of Pediatrics.*

**A Suggestion for the Treatment of Acute Sepsis.**—J. Wernitz believes that advance in the treatment of acute septic conditions is to be made not along the lines of serum therapy but through methods of stimulating elimination of toxins from the blood. Free action of the skin and kidneys is the object aimed at, but the customary means employed, viz., subcutaneous or intravenous infusion of saline solution, has several disadvantages. In septic processes the heart muscle is weakened and the rapid introduction of a large volume of fluid is apt to overwhelm it, producing a paralysis which may be permanent. The administrations of infusions is troublesome and painful, and the temptation is to give them less often but in dangerously large amounts. Owing to the complicated nature of the procedure, it is often postponed till a stage of the disease when it is too late to do good and is not without risk. The author recommends a form of colon irrigation which is very simple and can easily be carried out by the laity after a single demonstration by the physician. The patient is disturbed very little, and there is no danger of overtaxing the heart through too sudden introduction of fluid. An ordinary rectal tube is introduced into the rectum as far as possible without causing pain. It is connected with an irrigator containing one per cent. salt-solution and the fluid is allowed to flow very gently. As soon as peristalsis is excited the irrigator is lowered and the solution is allowed to flow back, usually bringing with it large amounts of fecal matter and accompanied by the expulsion of gas. This procedure is kept up until the intestine is thoroughly cleansed, the solution being replaced by fresh as often as necessary. As soon as the gut has been well cleansed it is ready for absorption, and similar irrigations may be given at hourly intervals, each irrigation taking about an hour. When the least discomfort or feeling of fulness is caused the irrigator is lowered or the current interrupted for a time. The results are speedily evident in a falling temperature, profuse diaphoresis and diuresis, less thirst, the skin and mucous membranes become moist, and the patient's general condition undergoes improvement. That this is due to the irrigations may be shown by omitting them and noting the return to the previous condition sure to occur.—*Volkmann's klinische Vorträge*, No. 352.

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## THE PHYSIOLOGICAL ACTION, INDICATIONS, AND TECHNIQUE OF SALINE INFUSION.

DR. P. BERMBACH gives, in the *Sammlung klinischer Vorträge* (No. 350, 1903), a valuable résumé and critique of this question. The changes effected in the blood of animals by saline infusions resolve themselves into two stages, that of hydration, and that of reconcentration (with a third, relatively unimportant one, of return to the normal). The stage of hydræmia lasts, according to Biernacki, who injected subcutaneously, one to two days, the maximum being reached within twenty-four hours, and the normal being regained first on the fourth day. During this stage the organic matters are always infranormal, but always over 50 per cent. The diminution in the morphologic elements is always greater, but their regeneration is more rapid (Biernacki places the beginning of the increase of the red cells at four hours, and the duration of the increase at twenty hours). No matter how great the amount infused, the salinity never surpasses 0.4 per cent.

The stage of reconcentration lasts, according to Biernacki, one to two days. The water content and the white cells are reduced, while the red cells, hæmoglobin content, and the inorganic constituents of the blood. are above normal. On the fourth day the number of the red cells and the water content are again normal, but the specific gravity and the saline content are still above normal. The changes in the urine proceed parallel with those in the blood; the first one to two days, polyuria with a corresponding diminution of content and specific gravity, but an increase in the absolute amount of the solids; increase in chlorides, phosphates, and sulphates. The second or third day the amount decreases, to normal on the fourth. During this decrease the chlorides are absolutely and percentually decreased, some salt thus being retained in the organs and modifying excretion for six or seven days. Phosphates and sulphates also decrease, but the sulphates show a secondary rise when the urine returns to normal. Synchronously with this secondary rise twice on the third day, transient hæmoglobinuria was observed. Following intravenous injections of cultures of bacillus coli Bosc and Vedel observed hemorrhages into the intestines and kidneys, gastrointestinal disturbances, heart weakness, and fever; and they found that saline infusions promoted elimination by diuresis and cataphoresis, increased hæmogenic function, lessening of the globulicidal action of the pathogenic serum, and increased and heightened phagocyte action. But Dastre and Loye failed to save animals infected with splenic fever, glanders, bacillus pyogenes, and diphtheria toxin.

Therapeutically, infusions are now generally employed in cases of hemorrhage. We now know that death in such cases occurs from cardiac paralysis due to fighting a vacuum, so to speak. In this condition stimulants are without effect, while infusions almost immediately strengthen and slow the pulse and the respiration, raise the temperature, and soon effect striking improvement in the general condition. Schwarz injects 250 c.c. during one and one-half to two minutes, and then allows an interval, after which he repeats the injection, so that in twenty minutes 1 liter is introduced. Used for the relief of anæmia the effect is permanent, except when the anæmia is secondary to a deleterious underlying disease. The operation is devoid of danger, the few reported cases of death which followed some days later being clearly referable to the original disease. Mikulicz, however, recommends not to inject too much for fear of starting secondary hemorrhage. Infusions have been resorted to in cases of iodoform intoxication, and mercurial and carbonic oxide poisoning without clearly demonstrable favorable effects, they having, in most cases, been combined with venesection, which renders difficult the apportionment of the credit for the observed favorable influencing of the condition. In uræmia, however, some rather decided results have been attained, mostly along with diuresis. In the "typhoid state," even though diuresis should not occur, the pulse and general condition improve, the tongue cleans, and the temperature lowers. The place of infusions in the treatment of cholera is assured. Here, as the injections must be repeated ten or fifteen times during the stage of asphyxia, the intravenous method should be avoided for fear of phlebitis and consequent embolism. The site selected should be preferably the belly wall and the inner surfaces of the thighs, as the circulation in the extremities is poor or nil. Improvement is to be looked for only when the stage of asphyxia has lasted but a short time, and injections should be repeated a few seconds apart. The condition in cholera infantum being identical, many children that now die might undoubtedly be saved by infusion treatment.

The indications for infusions are then the necessity of replacing lost fluid, or bodily heat, or the removal of toxic substances. Bermbach adds, the prevention of toxic nephritis, the type being scarlatinal nephritis. In scarlatina infusions should be used as early as possible, from about the time of the fading of the rash, at intervals of four to five days, in quantities of $\frac{1}{100}$ to $\frac{1}{75}$ of the body weight. Enemata are quite commonly substituted for infusions, but this is wrong, as in many cases the absorptive power of the intestine is small or absent, and the entrance of the fluid into the vessels is consequently much slower than with infusions. Contraindications to infusions are the presence of infective foci liable to be discharged into the circulation by the operation. Sahli adds the presence of marked dropsy, cardiac insufficiency, cyanosis or pulmonary œdema; but with considerable dropsy one may infuse provided the heart muscle is tolerably competent, as with slight valvular lesions. Under these conditions,

however, constant observation of the patient (as during the administration of chloroform) is necessary.

Respecting the technique, the quantity depends upon the case; in acute anæmia Schwarz recommends 1.5-2 liters; Bischoff uses after hemorrhage 50-60 per cent. of the blood mass (2.7-3.24 liters), but Bermbach considers 1.5-2 liters sufficient, more being used later if necessary. The exact composition of the fluid does not so much matter; a much more important point is that it shall not injure the blood cells. The usual composition is 0.6 per cent. salt-solution alkalinized by two drops of sodium hydrate (or 0.1 per cent. of sodium carbonate) to the liter. The fluid must be freshly prepared, as it soon becomes moldy. The temperature should be 38-40°C., and it is of great importance that it remain constant throughout the whole of the operation. The necessary armamentarium consists of an irrigator (or a glass funnel) with tubes and a not too fine needle. The interior of the apparatus must be free from detachable particles which could become emboli. The respective merits of the intravascular and the intracellular routes are as follows: With the latter blood hydration takes place more gradually, Cohnheim having observed a dilution of only 6-7 per cent., and Biernacki one of only 2.79 per cent. after the infusion of 4.5 per cent. of the blood mass. When the danger is immediate, and the desideratum an instant effect, the intravascular route will naturally be selected. The intracellular method has the disadvantage that when absorption lags behind introduction, very painful water-boils form, whence the necessity for selecting the loosest subcutaneous tissue. To diminish the size of the boils Sahli injects simultaneously by five tubes, into the breast, belly, and thighs. In intracellular infusion there is always a blanching of the part, but this soon disappears if the pressure is not too great. Of the intravascular routes the intravenous should supplant the intraarterial, as the latter requires a preliminary dissection under an anæsthetic, besides involving other dangers (notably the use of greater pressure). The intravenous method is free from danger. The entrance of air must be avoided, but the imminence of this danger has been somewhat overrated. In all cases, intracellular and intravenous, but especially the latter, the pressure must be kept low (never more than 1 meter, and less in the intravenous method). High pressure is capable of doing great damage. Finally the necessity for rigorous asepsis need not be emphasized.

## THE PRESENT STATUS OF MÉNIÈRE'S DISEASE.

Upon the basis of a critical study of the literature, and of a personal observation of some fifty cases, Dr. Gustav Heermann reviews this subject *in extenso* in the *Sammlung zwangloser Abhandlungen*. The great variation in the symptomatology, and especially the facts that no definite uniformity of symptoms corresponds to a given set of lesions, and conversely that no uniformity of lesions answers to a given group of symptoms, go to show that the affection is not a pathological unity, but that it is merely a syndrome. Regarding the pathological changes present it may be said that the necropsy in persons who have exhibited Ménière's symptom complex, always reveals alterations in the ears (which alterations may have their seat in the labyrinth or in the middle ear), or in the auditory nerve and its nuclei, or the parts of the cerebrum adjacent to the ear, or in the cerebellum. With a view to clearness of conception, Heermann defines the affection as follows: "Ménière's symptom complex is the external expression of an irritation or a damaging which has at some point affected the central or peripheral elements of the organ of audition." The nature of the irritation, and the place at which it has operated, can frequently be determined directly, or can be inferred from the accompanying pathological findings. In some cases, however, we are not in a position to pronounce upon it. In its complete development Ménière's symptom complex includes the triune symptomatology of: Disturbances of equilibrium sickness (with or without vomiting), and entotic sensations. These symptoms may be present in their entirety, or as individuals, and in the most varying degrees of intensity. The intensity of the subjective disturbances does not depend upon the severity of the irritation or damage, but above all upon the bodily and psychical resistive power of the individual, which can be subject to great and even momentous fluctuations. Certainly, however, the functional disturbances which, other things equal, can be all the greater where an ear which has already suffered in its function, is concerned appear to be dependent upon the magnitude of the irritation and the place at which it operates. We are thus to consider as having Ménière's syndrome, all cases which present the above triune symptomatology. Whether or not apoplectiform attacks occur, matters not. There is no valid reason for separating the cases with them, and of the author's fifty cases, thirty showed them. Equally it matters not whether the symptoms mentioned possess only slight intensity; the case none the less falls in the present category. Considering the multiformity of facies of the cases, a uniformity of prognosis would naturally not be expected. The most favorable cases are those which present a fundamental removable lesion. The severity of the symptoms does not, in itself, warrant an unfavorable prognosis, and the same may be said as to the previous duration, as neither of these factors gives a clue to the location of the lesion. Still in the first attack the prognosis may be said to be doubtful; and when repeated attacks have occurred extreme reserve is necessary. The author goes quite thoroughly into the question of therapeutics. His experience warrants the conclusion that specialistic treatment alone only brings lasting results in rare cases, but that in combination with general measures directed toward the other pathological conditions present, it is capable of yielding satisfactory results. The keynote of successful treatment is the removal of the irritation, and to this the exact investigation of the ear is an indispensable prerequisite. It goes without saying that this includes thorough local treatment of the nose and throat, including all necessary operations, such as upon deflected septa, etc. The same is true as regards all digestive disturbances, especially constipation. During the

paroxysm the anxious patient who feels himself about to die, should be reassured; the vertigo combated by the recumbent position; if the patient feels as though he were about to fall out of bed the head should be turned toward the south side, and if as though the room were whirling round him, the eyes should be kept closed. Hypersensitiveness to sounds can be best combated by tamponing the ears with wadding moistened with glycerin. When thrown back upon the pharmacopœia, what can we do? As regards the numerous remedies in the literature, it usually happens that they acted in the one case reported, and when subjected to careful tests, prove valueless. Also many derive their warrant from the authority of some name, without having any real virtue, or even rational basis. Of this number is quinine, which was introduced by Charcot. This is a "very dangerous remedy, and from the standpoint of the otologist must be absolutely execrated." In the author's experience it never did any good, but repeatedly acted directly unfavoiably. The same is true of the salicylates. Electricity Heermann has tried, but he has never seen in it any certainty of favorable action. The bromides yielded no results. Sulfonal, however, in some cases worked "wonderfully" on the subjective entotic disturbances, and he places it in the first rank as a sedative. One of his cases took it almost daily for five years. Toward pilocarpine he avows himself not nearly so sceptical as toward quinine. It is, however, quite uncertain in its action. The results as regards function are often very satisfactory, though inconstant. Finally in the cases seen in caisson workers (in which the lesion is with the greatest probability to be sought in the brain) the treatment consists in restoring them to a compressed-air environment, under which condition the symptoms rapidly disappear, and then exercising great care in the graduation of the release.

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## TEMPERANCE INSTRUCTION IN THE PUBLIC SCHOOLS.

A WORK has been published recently, which may be said to contain the latest scientific facts bearing upon physiological aspects of the liquor problem. The work consists of investigations made by and under the direction of W. O. Atwater, John S. Billings, R. H. Chittenden, and W. H. Welch, who composed the sub-committee of the committee of fifty to investigate the liquor problem. The report on the present method of instruction regarding the physiological action of alcohol is valuable and interesting, and throws much needed light upon the mode in which this form of instruction is carried on in many parts of the United States. The compilers of the report obtained their information from the following sources: First, standard textbooks in common use in colleges, universities, and medical schools. Second, letters received from prominent physiologists, both in this country and Europe, giving their opinions on this subject. Third, textbooks "indorsed and approved" by the "Department of Scientific Temperance Instruction" of the Woman's Christian Temperance Union for use in the public schools. Fourth, answers of public school-teachers in reply to questions as to fitness and value of the books and results of so-called "scientific" temperance instruction.

The mass of information thus gathered together has been arranged and dealt with by the authors in the above order. The first part of the report is taken up with a consideration of the various opinions held by physiologists and expressed in textbooks, upon the fundamental question of the food value of alcohol and its influence upon the processes and organs of digestion. This subject has been so frequently and so fully discussed of late that it will be of more general interest if the facts collected with regard to the public school textbooks are somewhat briefly surveyed. What is known as "scientific temperance instruction" was first introduced into the United States by Mrs. Mary H. Hunt in 1879, and has gained a strong foothold in the public-school curriculum throughout the country. "The true character of the movement," says the report, "is well set forth in one of the publications of the Woman's Christian Temperance Union," which runs as follows: "This is not a physiological but a temperance movement." In all grades below the high school this instruction should contain only physiology enough to make the hygiene of temperance and other laws of health intelligible. Temperance should be the chief and not the subordinate topic and should occupy at least one-fourth the space in textbooks for these grades." Laws drawn up with the view of carrying out the foregoing ideas have been enforced in almost every State of the Union, differing only in the relative stringency of their enactments. New York State has an especially stringent law. After a trial of fourteen years, public opinion in Massachusetts declared itself against more strenuous legislation, and the teachers and educators of that State expressed themselves in favor of a less exacting measure. The object of this general movement to inculcate habits of temperance among the rising generation of America is excellent, but the methods adopted to reach these ends are by no means so deserving of commendation. It is stated that, almost without exception, textbooks on physiology and hygiene in use in public schools are, when not trivial, misleading. The report quotes from a large number in order to drive home the truth of this assertion. It would seem indeed as if many of these books were written with the intention of so thoroughly frightening the younger children and of imbuing them with such a horror of alcohol, that they will decide not to use it under any circumstances. The report, however, points out that this object is likely to be defeated, on account of the natural reaction of healthy children, and especially of boys, to too highly colored statements of this nature.

As to the view taken by teachers with respect to the manner of teaching physiology in public schools, the answers received by the sub-committee in response to certain questions propounded tend to show that opinions more or less at variance with those favoring so-called scientific education are held by a majority of the teachers.

The conclusion come to by the sub-committee as regards "Scientific Temperance Instruction" is that under this name "there has been grafted upon the public school system of nearly all our States an educational scheme relating to alcohol which is neither

scientific, nor temperate, nor instructive. Failing to observe the distinction between the diametrically opposite conceptions of use and abuse, some of its advocates have not hesitated to teach our children that the terrible results of a prolonged abuse of alcohol may be expected to follow any departure from the strict rules of total abstinence. The success which has attended the efforts of the Woman's Christian Temperance Union to secure the desired legislation may be readily explained by the sympathy sure to be felt by all intelligent people for any sincere attempt to combat one of the most gigantic evils of modern times. There can be no doubt that the abuse of alcohol is a threat to our civilization, and any honest effort to diminish its consumption is certain to be welcomed without any very critical examination of the methods employed. That the originators of this educational scheme were honest in their intentions there is no reason to doubt, but they have violated sound principles of pedagogy in forcing subjects upon the attention of children at an age when their minds cannot possibly be adapted to comprehend them, and have shown themselves absolutely indifferent to the demoralization of our educational system resulting from forcing teachers to give instruction in a way which their experience has shown them to be ill adapted to accomplish the ends in view, and from compelling children to memorize statements sure to be contradicted by the experience of their later lives."

Regarded then from the view point of the scientist and the lover of accuracy in statement, it is to be regretted that if science be taught to children, it should not deal with absolute facts. The kind of scientific instruction which children are given in the public schools of the United States is intended rather as a means of fighting the curse of alcoholism than for the purpose of providing valuable mental pabulum. The ambition to check the evils of drink is a laudable one, but the methods adopted to reach this result are at least open to criticism.

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### Medical Care of the Newfoundland Fishermen.

The *New York Post-Graduate*, in its July issue, calls attention to an article which appeared in the New York *Tribune*, June 12. The article in question treats of the medical and surgical service with which the Newfoundland and French fishermen on the Grand Banks are provided, and the lack of any such provision for the fishing fleet of the United States in the same waters. The result of this neglect being, says the *Tribune*, that "the fishermen of this country have to depend on the ministrations of the medical services of their rivals, or else suffer great loss of time from business in landing to place sick men under proper care." The British established the Newfoundland Medical Mission, which has three hospitals, one on the French shore and two on the Labrador coast, each with a resident doctor, a trained nurse, a staff of assistants from neighboring districts, and a steam launch for conveyance of patients. Lord Strathcona, too, has presented the mission with a steamer of 600 tons which cruises every season from the Grand Banks to Hudson. The Superintendent of the mission is Dr. Grenfell, who treats all who come to him for aid regardless of race or class or condition. Twenty thousand dollars a year are spent in this mission. There were 110 house-patients during 1902, and more than 2,600 out-patients.

The hospital service for the French fishermen was established in 1899, by the Société des Ouvres de Mer. The first vessel fitted out was lost, but in 1901 the French fisheries secured a steamer of 720 tons, 300 horse power and 10 knots an hour speed. This vessel is splendidly equipped for the purpose and is an ideal hospital ship. She has beds for thirty-six persons, including two physicians, four male nurses, and a priest. The work performed by both the British and French medical services has been splendid, and its value hardly to be gauged at its true worth. The *Post-Graduate* says: "Both the British and French missions are maintained by private associations and both are aided by Government grants. Certainly the United States should not be behind in this very important matter. The attention of the President and Congress ought to be brought to it. If we are the first nation of the world we cannot afford to be behindhand in such a benevolent enterprise as this.

The fishery is regarded as a training school for sailors, and on this ground alone the United States ought to do its share toward preserving their health and lives." With the preceding sentiments we are in complete accord. It is not right that a country so great and rich as this is, should overlook its manifest duty toward a deserving class of citizens like the brave and hardy fishermen. Furthermore, the position is derogatory for the United States to have to rely for medical aid on the charity of foreign nations.

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### Gout in the United States.

Gout is generally supposed to be of rare occurrence in the United States. Nearly all the writers of textbooks on medicine, both American and British, state that the inhabitants of this country and Canada appear to possess a considerable degree of immunity from gout. Those who take this comforting view of the matter will, by reading an article in the July *Practitioner*, receive a somewhat severe shock. The number to which reference is made is given over to a symposium on gout, contributed to by many of the best known British authorities. The first article, however, is written by Mr. Thomas B. Futcher, M.B., Associate Professor of Medicine at the Johns Hopkins Medical School, and is entitled the "Occurrence of Gout in the United States." The authors oppose the popular belief that the disease is rarely met with on this side of the Atlantic and demonstrates its fallacy by convincing statistics. He says there is no question but that the malady is much more prevalent here than physicians suppose, and he holds that the failure on the part of medical men to recognize the condition is chiefly responsible for the notion that gout does not frequently attack Americans. Mr. Futcher is of the opinion that "the best method of determining the relative frequency of the disease in the United States as compared with Southern England, where cases are more numerous than in any other part of the world, is to compare the number of cases admitted to a general hospital in a large American city with the number of cases admitted to a similar institution in London. Thus, for the first fourteen years since the Johns Hopkins Hospital was opened, there were forty-one cases of gout admitted to Dr. Osler's wards, out of a total of 15,697 medical admissions, or, in other words, 0.26 per cent. of the cases. For a similar period of fourteen years, there were admitted to the medical wards of St. Bartholomew's Hospital, London, out of a total

of 33,356 admissions, or 0.37 per cent. of the medical admissions. That is, in London, the home of gout, the cases are a little less than one-third more frequent than they are in Baltimore."

As to the nationality of the victims of gout admitted to Johns Hopkins Hospital, 32 of the 42 patients were native-born Americans, 5 were born in Germany, 3 in Ireland, and 1 each in Canada and Finland. The negro, according to Mr. Futcher, would seem to possess a relative immunity. All the patients who were admitted in the period of fourteen years to the Johns Hopkins Hospital were, with one exception, whites. If then the statistics gathered in Baltimore are to be considered as representing more or less accurately the situation as regards the occurrence of gout throughout the United States, the conclusion is reached that the idea so long prevalent that the affection is rare in this country must be set aside as a mistaken one. Mr. Futcher emphasizes the point that the cause of this erroneous belief is the failure on the part of the medical profession to recognize the malady. The affection is usually confounded with rheumatism.

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### Results of Vaginal Hysterectomy for Cancer.

In the *Transactions of the Mississipi Valley Medical Association* for 1902, Dr. Emory Lanphear gives the results of 362 cases in his own practice, and those of "263 other cures by 76 operators in the Mississippi Valley." And he adds some statistics. The population of the valley being 41,113,000, and that of New York and Pennsylvania 13,500,000, the census reports show only 679 deaths from cancer in the former territory, as against 1,101 in the latter. This is not explicable as due to a greater frequency of cancer in New York and Pennsylvania. For cancers of the breast (which are always operated upon), those of the stomach (which are never operated upon), and those of the uterus (which are operated upon in the West but not in the East), compare as follows:

| | Deaths from breast cancer. | Deaths from stomach cancer. | Deaths from uterine cancer. |
|---|---|---|---|
| Miss. Valley... | 874 | 3776 | 679 |
| N. Y. and Pa. | 613 | 1785 | 1101 |

The greater mortality in the less populous area applies then only to carcinoma uteri. The greater frequency of hysterectomy in the West must then result in: (*a*) a large proportion of cures; (*b*) a large proportion of post-operative deaths credited in statistics to shock, etc., instead of cancer; or (*c*) recurrences elsewhere. To determine the magnitude of the first factor, letters were sent to 200 operators in the valley, requesting the number of non-recurrences five years after operation for undoubted carcinoma uteri. A large number could report no cures, but 78 operators reported 291 cases free after five years. In most instances the diagnosis had been confirmed by microscopical examination.

Lanphear's own series comprised 362 cases. Faithful efforts were made to follow up the patients after operation, but they were, of course, not entirely successful. It was, however, known that one-fourth died of recurrence, and if the facts were available it is probable that one-third would be found to have died from internal cancer. More than a hundred, however, survived over three years, and it is definitely known that twenty-eight remained free from recurrence after five years. Moreover, a large number of later cases promise even better results. These statistics lead Dr. Lanphear to make a strong plea for the operation, and a somewhat unflattering comparison between certain sections of the country which shall be nameless.

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### The Habits of the Yellow-Fever Mosquito.

Drs. Parker, Beyer, and Pothier, give in Bulletin 13 of the Yellow Fever Institute (Government Printing Office, 1903) the results of their studies of the yellow-fever question at Vera Cruz. Since 1509, when a Spanish command of 780 men lost there 720 men within fifteen months (400 in the first few days), the city has probably never been free from yellow fever, the yearly mortality since 1866 having ranged between 747 and 2. The sewerage is primitive, each house having its cesspool. All fluids from the houses drain along an open gutter with a fall of but four feet to the Gulf. Many of the older houses have cisterns exposed or loosely covered with boards, but the great majority of the people, especially the poor, catch rain water in barrels, or keep water brought from the public taps uncovered around the house. The mosquito *Stegomyia fasciata*, being a purely domestic form, finds natural breeding places in these vessels, and examination invariably revealed several to many thousand larvæ in every uncovered receptacle. This species is probably more widely distributed than any other throughout the tropics and up into the temperate zone. Formerly supposed to be a coast form, it has spread inward along lines of commercial communication wherever it has found a breeding place. Broadly speaking, this is the house or city which, during the time of the insect's flight (March to November on the Gulf Coast) stores its water supply in unprotected receptacles. These conditions supplied, even supposing the insect once exterminated, it is only a question of time till commerce reintroduces it. Though formerly none of our coast cities was exempt from yellow fever, improved sanitary science has pushed the disease beyond our borders. Still our "infectible territory" comprises all the region from Charleston to the Mexican border (all the region, that is, where stegomyia finds its natural breeding places), and inward from these centers of distribution along the lines of railroad and water communication. In Mexico this form of mosquito has actually followed two railroads to altitudes of 3,000 and 4,500 feet, and simultaneously yellow fever has accompanied it into the new ground. The authors found the mosquitos breeding on one schooner, and the adult forms on a number of iron ships. No larvæ were, however, found, and their transfer on iron ships is regarded as rare. But sailing vessels almost always afford opportunity for the females to deposit eggs, in the way of water stored somewhere on deck, and two or three females will infect the vessel. The development of the larvæ and pupæ appears, however, to be inhibited by the constant agitation of the water. The insect deposits from 40 to 150 eggs, which mature in ten to twelve days. If the water in which the larvæ and pupæ live be agitated the insects immediately scurry to the bottom, so that nearly all the water can be dipped out without getting any insects. Indeed, the barrel may be turned on its side and 80 per cent. will remain in the last few ounces of water. Therefore the last few ounces should be kerosened. But the larvæ are as quickly killed by being emptied on to the ground. Stegomyia is a day flyer, with a characteristic insidiousness and pertinacity in attack. Infection is aided also by the fact that the inhabitants of Vera Cruz devote from noon to two P.M. to the siesta, and by the absence of nets, the bite of the mosquito not causing troublesome irritation. The hands, face,

and ankles (unprotected by the low shoes and thin socks) are the principal places bitten. While many foreigners and better class Mexicans succumb, the principal fuel is the mountain Indian who lodges in the street or in large boarding-houses, which are rarely free from infection (one contributed seventeen deaths to the monthly quota of fifty-three).

## News of the Week.

**Victims of the Alps.**—The "playground of Europe," as the Alpine region has been called, is annually the graveyard of many adventuresome tourists. This year the death roll has been even above the average, for already there have been recorded more than three hundred accidents resulting in the death of one hundred and fifty visitors. The causes of this unprecedentedly large number of accidents have been two—cold and stormy weather and the foolhardiness of attempting dangerous ascents without guides. In addition to the loss of life from accidents, not a few deaths occur, according to Professor Zangger of Zürich, from cardiac thrombosis and pulmonary embolism in elderly persons who avail themselves of the supposedly safe means of reaching great altitudes afforded by the railways.

**Röntgen Ray Injuries.**—Numerous instances have been reported recently in both the medical and the lay press of serious and even fatal *x*-ray dermatitis. One of Edison's laboratory assistants has suffered in this way, and two members of the medical staff of the London Hospital were compelled for the same reason to give up their work in radiotherapy. The death of Dr. Blacker is recalled by the announcement that his widow has been granted a pension of £120 by the not too grateful British Government. It will be remembered that Dr. Blacker was reported to have acquired *x*-ray dermatitis of the arm while treating King Edward for rodent ulcer. The King was cured but the doctor died, a malignant growth supervening upon the dermatitis and advancing so rapidly as to baffle the therapeutic endeavors of Sir Frederick Treves and others.

**The Latest Weapon Directed against the Much Hunted Mosquito** is the *x*-ray. A Newark, N. J., physician announces that the Röntgen ray traversing the body of one of the *Culicidæ* will at once convert it into a harmless corpse. It is not said whether one must catch the mosquito and hold him in the track of the rays, or whether a simple announcement that a machine is in operation will suffice to bring the victims without further invitation.

**Chinese Barred from Mexico.**—The Mexican Government has issued an order prohibiting Chinese immigrants from landing on the west coast of the country and at ports in the Gulf of California. The reason given for this order of exclusion is the danger of the importation of plague

**A Plague of Dogs at Molokai.**—It has been the custom hitherto to allow the lepers at Molokai to take their dogs with them in exile, and as a result of this permission there are now about five thousand four-footed colonists, or five times as many dogs as lepers. The expense of feeding this great herd of animals is greater than that of providing for the lepers, and the Board of Health has therefore ordered that most of the dogs must be killed, but each leper will be permitted to retain one.

**New Gift to the Eye and Ear Infirmary.**—Dr. Richard H. Derby of the board of directors of the New York Eye and Ear Infirmary announces that the daughters of the late William C. Schermerhorn have supplemented their father's gift to the hospital of a building for an ophthalmic ward by providing for the complete furnishing and surgical equipment of the new building.

**Dr R. Melville Cramer** of this city was painfully injured on August 9 in a stage coach accident in the Thunder Mountain district of Utah. Accompanied by three other travelers and a guide, he was journeying to the Thunder Mountain gold fields, and when some distance up the mountain the stage was overturned by a snowslide and rolled down the hillside for nearly a mile. One of the party was killed, another suffered a fractured arm, and Dr. Cramer was badly bruised, but fortunately escaped fatal injuries.

**Ankylostomiasis in Germany.**—It is stated that the efforts of the German health authorities to check ankylostomiasis among the mine operatives in the Essen district have proved unsuccessful. The latest reports indicate that the disease is spreading. Its presence has just been discovered in the collieries of Franziska and Bergmann, in the middle of the Ruhr region, which hitherto has been exempted from the disease.

**An Alleged Cure for Tetanus.**—The daily papers announce that a Chicago physician has cured a boy in the midst of the most violent tetanic spasms by "an entirely venous injection of salts, chloride, and potassium, made in the lower arm."

**A Medical Pole Seeker.**—Dr. Jean Charcot, son of the late Dr. J. M. Charcot, has organized an expedition of antartic discovery which sailed a few days ago from Havre. The vessel carrying the party, called the *Français*, will make stops at Madeira, Buenos Aires, and Punta Arenas in the Strait of Magellan, and from this point will proceed to the antartic regions.

**Antiseptic Barbers.**—Under the new law of this State all barbers must be licensed and must conduct their business under certain rules of antiseptic treatment of implements. These rules forbid the use of powder puff, enforce that of clean towels, and require treatment of razors, scissors, and clippers with boiling water. About 15,000 barbers have registered in this city and have received their license. The penalty of practising without a license is $25 for the first offence and possibly imprisonment for from ten days to three months.

**The Medical Directory of the City of New York for 1903,** published by the Medical Society of the County of New York, has made its annual appearance. Among the changes made in this edition is the incorporation of the list of members of the Kings County Society with the general list of registered physicians in Brooklyn Borough. This is a most commendable change and we hope the list of physicians practising in Manhattan and The Bronx will be similarly amalgamated in the next edition. There is no advantage in publishing two lists of practitioners in the same city, and it sorely tries the patience of one who chances to turn to the wrong list in searching for a name. In this we disagree with the editor of the directory who commends himself for having retained a double list of Manhattan doctors. There are the usual lists of physicians in New York State, New Jersey, and Connecticut, street lists of physicians and pharmacists in Manhattan and Brooklyn, and miscellaneous information.

**Obituary Notes.**—Dr. W. S. PLAYFAIR, the well-known obstetrician and gynecologist, died at St. Andrews, Scotland, on August 13. He was born in 1836, his father being Inspector General of Hospitals in Bengal. He was educated at St. Andrew's and Edinburgh, taking his M.D. at the latter university in 1856. He entered the Bengal

medical service, serving in Oude during the mutiny, and also serving as professor of surgery in the Medical College at Calcutta. Because of ill-health he was obliged to leave India, and in 1863 began practice in London as an obstetric physician, being attached to King's College Hospital. For twenty-five years he was Professor of Obstetric Medicine in King's College, retiring in 1898, after which he was consulting physician to the General Lying-in Hospital and to the Evalina Hospital for Children. He was the author of many works and journal articles on gynecology and obstetrics. He was a Fellow of the Royal College of Physicians of London and of the Royal College of Surgeons of Edinburgh, as well as an LL.D. of St. Andrews. He served as physician-accoucheur to the Dutchess of Saxe-Coburg and Gotha (Dutchess of Edinburgh), to the Dutchess of Connaught, and to the Crown Princess of Roumania. He was a brother of Lord Playfair and Sir Lambert Playfair. In 1896 Dr. Playfair was sued by a woman for divulging certain facts reflecting upon her character which he had learned while she was under his professional care. At the trial the question of the truth or falsity of the charges was not considered, and the jury found for the plaintiff, awarding her damages to the unprecedented amount of $60,000. The decision established the principle that a physician was not justified under any circumstances in revealing a professional secret, and if he did so it was at his own peril.

Dr. JANNAT ERNESTINE HILLS died at the Willard State Hospital, New York, on July 11, 1903. She had been a member of the medical staff of the hospital since November, 1895. She was born in Auburn, N. Y., in 1861, and was a graduate of the Women's Medical College of Pennsylvania in 1893. After graduating she was for fourteen months an interne at the Sheltering Arms Hospital in Philadelphia, and was afterward on the staff of the New York City Asylum for the Insane at Hart's Island. Dr. Hills was a member of the Seneca County Medical Association and of the New York State Medical Association.

Dr. JOHN GLEISES of this city died on August 14, at his country place at Brookside, near Saratoga. He was fifty years of age and was graduated from the Bellevue Hospital Medical School in the class of 1877.

Dr. MICHAEL F. MCGRATH died on August 11, at Fishkill Landing, N. Y., of pulmonary tuberculosis. He was thirty-five years old and was a graduate of the College of Physicians and Surgeons, New York.

Dr. CHARLES JOHN GARITEE died in Philadelphia, on August 12, at the age of thirty years. He was graduated from the Medical Department of the University of Pennsylvania in 1894 and became a resident physician in the Episcopal Hospital. Death resulted from septicæmia.

Dr. FRANCIS M. POWELL died in Chicago August 16, at the Mercy Hospital, after an operation. He was born fifty-five years ago, and was graduated from the Starling Medical College, Columbus, Ohio, in 1875. He was for twenty-two years superintendent of the State Institution for Feeble-Minded Children at Glenwood, Ia., and was the author of many medical textbooks.

Dr. J. MUIR CORBETT, of Glasgow, surgeon on the steamship *Astoria* of the Anchor Line, was drowned, probably on August 13. He was last seen on that day, and his body was found in the North River at the foot of Fifty-second Street on August 19, after his ship had sailed without him. He was formerly a minister of the Scotch Church.

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

ROYAL VISITS TO THE HOSPITALS—PRINCE OF WALES—HENRY VAUGHAN, POET AND DOCTOR—ASYLUM NURSING—AMALGAMATION OF HOSPITALS—ST. BARTHOLOMEW'S INQUIRY—MR. HUTCHINSON—CAMBRIDGE UNIVERSITY—PHARMACEUTICAL CONFERENCE—SMALLPOX—LONDON MORTALITY.

LONDON, July 31, 1903.

THE royal tour through Ireland—a veritable triumph—has been marked by the great interest evinced by both the King and the Queen in hospitals and the medical profession. In Dublin the University, Colleges of Physicians and Surgeons, and other corporations presented addresses and received recognition. Hospitals were also visited. In Belfast the new Royal Victoria Hospital, erected in memory of the late Queen was formally opened by the King, with whom was the Queen. Every possible honor was paid to their majesties by the public as well as the officials—in fact, it is said, Belfast was determined to eclipse Dublin in its manifestations of loyalty. This splendid hospital occupies a site of six acres, and contains every modern device for the benefit of patients and the promotion of medical education. The corridor is over a quarter of a mile long, and from it open eighteen wards, nine medical, nine surgical, while a nineteenth at the end is for ophthalmic cases. Taking the place of the older building this new hospital may be said to be the oldest charity in the Province of Ulster. On arrival at Londonderry, one of the first visits of their majesties was to the infirmary, where the address presented expressed gratitude for the support abundantly given to the efforts to combat disease, and the King, in reply, declared it afforded him "great gratification to be, in any way, instrumental in promoting the interests of such institutions." A memorial stone was laid by the King, and their majesties visited all the wards and chatted with many of the patients.

While so many doctors are in South Wales (Siluria), it is interesting to observe that a little volume has just appeared containing the prose works of a doctor, of long ago, and who has, though very late, won a place among English poets—Henry Vaughan, born 1621, died 1695. The Oxford University Press will shortly publish his poems. Meanwhile we have this little contribution of antique, but modern sounding prose. Vaughan was a considerable scholar, a philosopher, a patriot, a churchman, a loyalist, and, withal, a physician. He took part in the Civil War, and when his cause was lost retired to his loved Silurian hills and practised as a doctor while he gave his spare time to the muses. The little volume before me contains the "Mount of Olives," including the "Man in Darkness, or a Discourse on Death," and the "Life of St. Paulinus, Bishop of Nola." These works have only been reprinted once during the 250 years that have passed since he wrote them. But with this and the poems the silurist doctor will become known to this generation. If you like George Herbert or Sir Thomas Browne, look into Henry Vaughan.

At the annual meeting of the Medico-Psychological Association, a paper was read on "Female Nursing of the Male Insane." The author, Dr. A. R. Turnbull, described a visit he had made in company with Sir John Sibbald, Dr Fraser, and Dr. Robertson to the Meerenberg Asylum, near Haarlem, and the Wilhemina Hospital, Amsterdam. The former provides for 1,300 lunatics, of whom 600 are males. The staff consists of 57 females and 46 males. Two wards for restless cases were served by males only, but in all the other male wards the staff was mixed male and female. Dr. Turnbull narrated the details of the administration and working. The Wilhemina Hospital has a block for medical cases, another for surgical, and a third for mental, male and female cases. The restless cases are nursed by men and there are a few small rooms for noisy or violent patients. Dr. Turnbull said he had adopted the plan, to some extent, at the Fife and Kinross Asylum, and with results which induced him to advocate its extension. The president of the association, Dr. Ernest W. White, said he had employed a few female nurses in the male sick room of his asylum, and intended to extend the plan. Dr. Rob. Jones thought the presence of females had a soothing influence on sick lunatics, who would become restless under male nursing. Dr. Thompson of the Norwich Asylum disapproved altogether of employing female nurses in the male wards of lunatic asylums. He regarded the plan as undesirable from an administrative point of view, not to mention decency. There was some further discussion. The mere suggestion shows how, of late, female nursing has been pushed into every possible opening. Personally, I agree with Dr. Thompson, and with no little experience

of male nursing, cannot but regret that any one should propose to supersede them in the male wards of lunatic asylums. Any one conversant with lunatics, would I should have thought, refused to make the experiment. The fact is, that in England the self-appointed advocates of nursing as a woman's profession have been too energetic, and have found in some sections of the press a good deal of encouragement and maudlin nonsense. Consequently, male nursing has been at a discount and our surgeons have mistrusted it, even in cases in which common decency demands it. Our hospitals, too, are to blame in this matter. Hardly any of them train men to the work. The female staff have too much influence.

I do not feel at all sure that amalgamation of hospitals will come off as easily as was supposed, although the influence of the King's Fund is very great. The newspapers announced lately that the amalgamation of the orthopœdic hospitals was decided on. That statement is premature. The principal may be admitted, but the details must offer many difficulties. The site bought by the Royal will have to be disposed of, the enlargement of the National completed, and the union of the managing authorities arranged. Some must resign or be left out, the chairman of the Royal, Mr. Marks, for example, who, after his recent appearance in the law courts and the remarks of the judge, would have done well to retire. The staff of the amalgamated hospital could not but offer other difficulties, especially since the questions that have arisen at the Royal where the senior has been practically dismissed, as is believed illegally, and where other things have been done in defiance of the by-laws. Another danger is, that any attempt to force the matter may lead to the establishment of another hospital by a section of the governors. Then again, the question suggests itself whether the King's Fund—raised to support all the hospitals—is justified in devoting a considerable sum to promote the amalgamation. I doubt it. In this case the amount seems too large to spend in this way, and the result is by no means certain to prove satisfactory.

Over the managers. A good example of this occurred years ago at the London Hospital, which is always urgently crying out for money. A deputation waited on the committee with a proposal from the late Miss Hamilton to endow a men's ward, to be nursed by men, and made a training school for male nurses. The committee hesitated until they had consulted their matron, and then declined and, of course, lost the money.

The Mansion House Committee appointed to inquire into St. Bartholomew's Hospital has issued its report, which is altogether in favor of the proposal to remain on the present site. It is recommended to rebuild by degrees, as the money comes in. The committee consider that the hospital authorities are fully justified in appealing to the public for funds, and they are of the opinion that the administration has been conducted by the governors in a wise and enlightened spirit, with a due regard to economy, and in the best interests of the patients. A statement of the committee's proceedings and of the evidence taken is attached to the report. After this we may take it for granted that "Old Bart's" will remain in its present position and will gradually be converted into New Bart's, and become equipped with everything necessary to maintain its great reputation.

On the 23d ult. some of Mr. Hutchinson's friends gave him a complimentary dinner on the occasion of his seventy-fifth birthday. As a clinical observer and industrious accumulator of facts, this many-sided surgeon has always had numerous admirers, and the dinner was, therefore, bound to be a success. His London Hospital colleagues were not present in full force. Perhaps some had started for their holidays. In replying to the toast of the occasion, Mr Hutchinson spoke of his early training among the Quakers, to which he was indebted. It laid the foundation of his work since, and inspired him with a desire to see the truth of every question, to seek facts rather than theory. He also alluded to the question of leprosy, and expressed his pity for the lepers confined on Robin's Island for no fault or crime against society, and, in his opinion, without any necessity for such imprisonment.

Cambridge University has at last elected a professor of surgery. Mr. Howard Marsh takes the chair which has been left vacant since the death of Sir George M. Humphrey in 1896.

The Pharmaceutical Congress is being held at Bristol. The president, Mr. Idris, F.C.S., in his opening address said they were anxious for further restrictions in the sale of poisons. He held that the public needed more protection in the system of death certification. He also emphatically pronounced in favor of separating dispensing from prescribing.

Quite an epidemic of smallpox has been going on for some little time at Cambridge. At first it was held to be so slight as to call for no notice, except by the medical officer of health. But above one hundred cases have altogether occurred, with several deaths.

The mortality of London was, last week, lower than for many years. There were 513 fewer deaths than the average of the corresponding week for ten years. The annual rate per 1,000, which has been 13.9, 13.3, and 13 in the preceding three weeks, fell to 12.7 in comparison with 16.9, the average for the decade. In Greater London there were 679 fewer deaths registered than usual.

## INJECTION OF PARAFFIN OF HIGH MELTING POINT.

To the Editor of the Medical Record:

Sir: My attention has just been called to the paper by Drs. Hurd and Holden in your issue of July 11, in which they report a case of blindness following the injection of paraffin into the nose. I have recently become acquainted with the work of Dr. H. Eckstein of Berlin in this field, have seen several of his operations and operated cases, read his publications, and had the method demonstrated in some detail. I am much impressed with the results and with the care with which the method has been worked out to meet the indications, and to avoid complications. Dr. Eckstein has practised the subcutaneous injection of melted paraffin about a thousand times, and attributes his immunity from serious accidents almost entirely to the use of paraffin of high melting point, which, of course, solidifies more quickly and becomes harder. For the face, paraffin melting at 58 C. (136° F.) is used, but in other situations, one melting at 50° (122° F.) is sometimes employed.

This hard paraffin has the further advantage, as has been proved by clinical experience and by experiments on rabbits, that it does not soften, or become dislocated or absorbed; it may also be removed if desirable. The injection is made at a temperature about 10° C. above the melting point, and this is well tolerated by the tissues. Paraffin has so many advantages over vaselin, and the high melting point over the lower, that almost the only argument brought forward against it, is the difficulty of keeping it fluid during the injection. The technical difficulties have, however, been mastered by Dr. Eckstein in a very simple way, which I hope later to describe in detail, and he operates quite without fear of evil consequences.

Henry Ling Taylor, M.D.

Berlin, August 6, 1903.

## Progress of Medical Science.

*Boston Medical and Surgical Journal, August 13, 1903.*

**The Present State of the Surgery of the Prostate Gland.**—Paul Thorndike reviews the subject of prostatic hypertrophy and its treatment. He advises a resort to palliative measures when the condition is not so far advanced as to preclude any advantageous results from such procedures. For all those cases in which palliation is no longer possible his choice of operation would always be prostatectomy, in the absence of contraindications. The conclusions which he formulates are: (1) No prostatic should be allowed to suffer from lack of proper treatment. (2) There is still a place for the catheter in such treatment, and many patients can be made comfortable and can be kept so by its systematic and proper use. (3) All those who cannot be kept comfortable by palliative measures are fit subjects for some operation. (4) An operation is indicated immediately the inadequacy of palliative treatment becomes apparent. (5) The operation of choice is always prostatectomy, but patients over sixty or sixty-five years of age are rarely, owing to their lowered general condition, suitable objects for such a radical procedure. (6) To such as are not fit subjects for prostatectomy, the Bottini operation may be offered as one attended with little risk to life, followed by a short convalescence, and offering a fair promise of such a degree of improvement as will at least obviate any further necessity for the systematic use of the catheter.

**Five Cases of Renal Decapsulation.**—J. Bapst Blake presents a preliminary report of five cases of renal decapsulation performed in one of the services of the Boston City Hospital during a period of nine months. A final report upon the condition of these patients at the end of two years after operation is promised, but for the present only what may be called the immediate results can be recorded. The operation in each case was performed by two surgeons simultaneously, one decapsulating the right, the other the left kidney. The time of the operation was thus reduced by nearly one-half, and the patient did not appear to suffer from a noticeably increased amount of shock. In two cases the patients became cyanosed and suffered from a certain

degree of collapse on the table. This was thought to be due to interference with respiration caused by the pressure of the two large pads high up in the epigastrium, for there was no post-operative shock in these two cases. There was no marked increase of pre-existing renal elements of the urinary sediment following the operation. Red corpuscles were invariably present afterward, or if present before, were increased afterward. But casts and cells did not show any material numerical change. The writer concludes from this that the so-called ether nephritis is "largely a medical scarecrow"; for if it were ever to appear, he says, it would seem that pre-existing renal disease and actual operation on the kidney should favor its development. As to the present results: Two of the five are, for the practical purposes of business and occupation, well. Two have died, at intervals of four days and six months after the operation. One is not relieved.

*Journal of the American Medical Association, Aug.* 15, 1903.

**The Proper Perineal Prostatectomy Incision.**—Nicholas Senn points out that it is essential to success that the external incision shall expose the prostate to sight and touch freely as is consistent with safety, and shall provide for free drainage of the bladder and of the perineal wound, and adds that experience has taught him that neither the semilunar incision of Zuckerkandl nor the triangular incision of Kocher accomplishes these objects satisfactorily. The incision which the author advocates combines the median incision with two lateral ones representing in outline an inverted capital letter Y. The lateral incisions are carried from the lower angle of the median incision to a point half way between the anal margin and the tuberosity of the ischium, cutting through about the same structures as are involved in lateral lithotomy. The wound is deepened by blunt dissection, hemorrhage being controlled as it arises, until the rectum has been detached sufficiently to allow of the membranous portion of the urethra and the lower segment of the prostate being distinctly seen and felt. The margins of the wound being well retracted, the membranous portion of the urethra is incised upon a grooved staff and the grooved director of Wheelhouse is inserted into the bladder. With this as a guide the left index-finger dilates the prostatic portion of the urethra and acts as a blunt hook for drawing the prostate downward and forward. The capsule of the gland is then incised transversely, and with the opposite index-finger the enucleation of the left lobe is commenced. He usually finds it better to remove only one lobe of the prostate at a time. He favors preliminary cystotomy, and invariably drains the bladder until the condition of the urine warrants the discontinuance of intravesical medication.

*The Medical News, August* 15, 1903.

**Prevention of Rabies.**—Follen Cabot discusses the best methods of preventing rabies, especially the treatment of wounds caused by the bite of a rabic dog. The extent of the wound, he says, has much less significance than its position and after-treatment. Bites on the face are the most serious, and other exposed parts, as the hands and arms, come next in point of gravity. As to the size of the wound, one no deeper than a pin scratch may be the cause of an infection. In cases of wounds about the face and exposed parts, the patient should be put under a general anæsthetic, if necessary, and the wound scrubbed out with a brush, first with green soap, then with bichloride of mercury 1 to 1,000. This should be done as if for an operation. After this, fuming nitric acid should be carefully applied by means of a pointed glass rod. The wound should then be dressed surgically. If no anæsthetic has been given, Cabot uses first cocaine after the scrubbing, then pure carbolic acid followed by fuming nitric acid. This must be done as early as possible, but it is of value even as late as two days. In the absence of nitric acid the actual cautery is the best substitute, but it is sometimes difficult to reach each small point with this agent. This treatment of the wound within twenty-four hours of its infliction, the writer believes, is of more value than the Pasteur method, but he says that the latter should not be neglected, as it is undoubtedly of great efficacy if begun early.

*New York Medical Journal, August* 15, 1903.

**The Significance of Jaundice as a Symptom in Disease of the Biliary Tract.**—John B. Deaver naturally treats of this subject more particularly from the surgical standpoint. His conclusions are: (1) Jaundice is absent in the majority of cases of gallstone disease simply because in most instances the stone is situated in the gall-bladder. (2) Jaundice following acute gastrointestinal symptoms points to a catarrhal condition of the ducts, and may be followed by suppurative cholangeitis, in which case there will be deep jaundice, enlargement and tenderness of the liver, fever, sweating and chills, with gastric and intestinal disturbances. (3) Jaundice following chronic gastrointestinal symptoms is usually dependent upon chronic pancreatitis with induration and enlargement of the head of the pancreas. Gallstones may or may not be present. In the author's experience there has been some enlargement of the head of the pancreas in nearly one-fourth of the cases of gallstones. Malignancy must, of course, be excluded. (4) Acute obstruction of the common duct by a stone furnishes characteristic and easily recognizable symptoms, while chronic impaction is followed by the intermittent type of jaundice without enlargement of the gall-bladder, or else by no jaundice whatever. (5) Enlargement of the portal glands situated along the course of the common duct sometimes causes jaundice and simulates gallstone obstruction.

**Phlegmasia Alba Dolens and Its Treatment.**—Herbert Marion Stowe says that all authors admit the main factor in the etiology to be thrombophlebitis, but the unknown determining cause is probably, as Tilbury Fox has suggested, an obstructive lymphangeitis. Phlegmasia dolens in the puerperal woman may arise from three causes: (1) Thrombophlebitis of the main efferent vessels of an extremity, having its origin in the placental sinuses; (2) thrombophlebitis inflicted upon the pelvic veins and lymphatics, especially in difficult and tedious labors; (3) infection from the entrance into the blood of bacteria or their toxins. The condition of the blood must also be taken into account. Normally, thrombi fill the uterine sinuses only as far as the external coat, but if the uterus is relaxed, and its sinuses imperfectly closed by muscular contraction, a rapid absorption following a sudden loss of blood is apt to carry beyond the border line any clots or pieces of decidua that may lie detached in the uterus, and then it is but a step more for the thrombus to extend to the pampiniform plexus and through the internal iliac to the common iliac vein, and then attack the return circulation of the entire extremity. In the parturient canal one finds a large wound and absorbing surface and a morbid fluid ready to be absorbed. If, then, this fluid is infective it is to be expected that there will be phlebitis not only at the points predisposed, but in other parts of the body. The subject of treatment is embraced in the one word, prophylaxis. By preventing impoverishment of the blood during pregnancy, making use of such measures as will insure a proper coagulability of the blood, the avoidance of postpartum hemorrhage, of infection and the protection of the perineum from laceration, the occurrence of phlegmasia dolens will be reduced to a minimum. When it occurs, the limb should be placed on a slight incline in bed, and swathed in hot gauze compresses. After the first week gentle massage is indicated, but probably the best treatment for the subacute stage consists in subjecting the limb for an hour daily to a dry heat of 400°F.

*American Medicine, August* 15, 1903.

**Etiology of Enteroptosis.**—Thomas R. Brown discusses the various theories held regarding the causation of enteroptosis, grouping them as follows: (1) The condition is congenital and is due to an inherent weakness of the tissues which support the abdominal viscera; such factors as clothing, trauma, disease, etc., are not the primary causes of the condition, but simply contributory causes, which bring out and accentuate the inherited tendency. (2) The condition is due to the pressure of clothing, trauma, weakness of abdominal walls, various diseases associated with marked loss of strength or weight, various spinal and thoracic diseases, pregnancy, and parturition, abdominal tumors of various kinds; in other words, a number of conditions, each of which, however, has as its results the weakening of the various visceral supports, due in some cases to pressure, in other cases to adhesions, in other cases to trauma, and in still other cases to a marked diminution in the supporting power of the abdominal walls. (3) Each of the foregoing may be the primary causes of the condition; in other words, there is both an acquired and a congenital form of enteroptosis. A careful consideration of the various theories evolved and of the cases of enteroptosis described in the literature and met in his own experience inclines the writer to take this third view. As to the exact way in which the ptosis is produced there are a number of possibilities, but the suggestions of Keith, that the diaphragm is the most important factor in the production of this condition, he says, should receive most careful consideration.

*The Lancet, August* 8, 1903.

**Can the Respirable Products of Human Waste Hinder Development and Lower Vitality?**—John Hartley earnestly discusses this topic, which, he says, "must from its very nature be either utterly fatuous or of truly vital im-

portance." He takes the latter view of it, and endeavors to show by familiar scenes and experiences in the crowded out-patients departments of hospitals that the sallow, flabby, easily fatigued coming there are in this poor physical state because they have habitually inhaled an atmosphere made foul by the volatile products of human waste. These people are said to be as well fed on the average as the country poor. His argument is largely based on the ease and directness of absorption of such products as compared with the route by the stomach. Attention is directed to the well-known fact that muscular fatigue is coincident with the accumulation of muscle waste, and it is pertinently suggested that other people's waste is quite as capable of causing fatigue as our own. The author closes his interesting article with the thought that perhaps, after all, many of the ills usually ascribed to the high pressure of modern civilization may be more justly attributed to the effects of the toxins given off by our crowded population.

**A Case of Septicæmia.**—F. J. Strong Heaney reports this case because of the interesting group of symptoms and the fact that the favorable outcome seemed to be fairly attributable to the use of antistreptococcic serum. This is the more remarkable because, although the bacteriological examinations were far from complete and satisfactory, they failed to show the presence of streptococci, though staphylococci and diplococci were found in the blood. The patient was a woman of twenty-one, who a fortnight previously had injured the great toe, and, as a result, had developed a septicæmic process. On coming under observation, a little turbid fluid and a drop of pus were evacuated from under the injured nail, and a mass of inflamed, but not suppurating, glands was found in the groin. There were groups of herpetic vesicles on the forehead, upper and lower lips, and on both the lower eyelids; on the trunk and lower limbs were numerous pustules, while on the legs from the knees downward were lesions presenting the typical appearance of erythema nodosum. There was marked constitutional disturbance, but examination of the heart, lungs, and abdomen was negative. A short course of medication with the salicylates failed to give any relief. On the fourth day a scarlatiniform eruption appeared on the dorsum of each foot and on the legs, but subsequently became purulent. At this time a cardiac murmur was audible, which altered its character from time to time, evidently being dependent upon an acute endocarditis. On the evening of the fourth day 10 c.c. of antistreptococcic serum were injected, and this was repeated twice daily for three days, and once a day for two days more, when the temperature no longer rose. The cardiac murmur permanently disappeared two weeks later.

**Ichthyol in the Treatment of Pulmonary Disease.**—James Burnet, who has made an extensive study of the therapeutic properties of ichthyol, describes its action in thirteen cases of pulmonary tuberculosis of the ordinary slowly progressive type. Of this number, eleven were distinctly improved, the two failures occurring in very advanced cases. As a rule, the cough was markedly improved by the end of the first month, and this improvement was more noticeable after the second month, and was then associated with an improvement in and a diminution of the expectoration. No night sweats were seen after the fourth month, and in seven of the patients it ceased at the end of the third month. After the fourth month there was only slight cough with a scanty morning expectoration. By the end of the sixth month every one had gained in weight from three to seven pounds. Benefit from ichthyol was also noticed in a few cases of bronchiectasis, chronic bronchitis, and chronic pulmonary fibrosis of stone masons. The ichthyol was invariably given in capsules containing four grains of the remedy. At first two capsules were given four times a day, and this was gradually increased up to five capsules four times a day. Very few showed any repugnance to the medicine, and gastric irritation was never produced; indeed, the ichthyol was rather soothing than otherwise to the stomach. The author asserts that there is no evidence in support of the belief that the beneficial action of ichthyol in pulmonary tuberculosis is due to antiseptic properties. It unquestionably favorably modifies nutrition, but not so much because of its contained sulphur as from the influence of the sum total of the elements composing this definite chemical compound. Ichthyol is slightly antispasmodic, and in this way it relieves cough, but its chief action is as a vasoconstrictor, and by virtue of this property it prevents further exudation and inflammation.

*British Medical Journal, August* 8, 1903.

**Treatment of Brachial Neuralgia.**—Charles J. Whitby reports a case of brachial neuralgia following a fall from a horse. The injury was on the right side, and wasting of the biceps in particular was very marked. There was also tingling pain in the course of the ulnar nerve. Electrical stimulation very soon restored the wasted muscles to their normal bulk and enabled the patient to move the arm with comparative ease. The pain proved more lasting, shifting from point to point, but was always relieved for a time after treatment. The larger (negative) electrode was applied near the upper dorsal vertebræ, while the smaller (positive) one was moved over the painful parts of the shoulder and arm. The current was of just sufficient strength to cause a slight deflection (one or two milliamperes) of the needle of a galvanometer, while passing through the limb.

**Instances of Apparent Infection of Rheumatism.**—R. T. Turner reports three cases of this nature. One of his patients asked his brother, who was recovering from an attack of acute rheumatism contracted and treated in a neighboring town, to come and stay with him for some weeks. About a week after the arrival of his brother the host began to feel ill, had slight tonsillitis, followed by an affection of his legs, which appeared to be erythema nodosum, and a few days later developed a typical attack of acute rheumatism, which ran an ordinary course. I may say that the brother when he came down here had still remaining excessive perspiration and some stiffness of the joints, and presumably still had some of the rheumatic poison in his system. In a second case the writer was called to see a patient (aged twenty-two) in a village a few miles away, and found him to be suffering from acute typical rheumatism. He also found at the same time that the patient's sister was in bed with pains in her joints, and on examination he noted that she had marked rheumatic swelling of both ankles and one knee, and a temperature of 102.5° F. The brother is a railway porter, and lives in a small town. A fortnight before coming under observation he was attacked with acute rheumatism, and sent for his sister to nurse him. Exactly a week after her arrival she began to feel ill, had slight sore throat, and two days later had pain in her ankles. The third case was that of a young man aged nineteen living in lodgings, who was suffering from a very marked attack of acute rheumatism. His aunt, who lived in London, came down to help to nurse him. Three days after her arrival she complained of her legs causing her pain, and she soon developed an ordinary attack of acute rheumatism.

[*Münchener medicinische*] *Wochenschrift. July* 28, 1903.

**A New Operation for Old Ununited Fractures of the Patella.**—A. Schanz's operation consists in a transplantation of the insertion of the sartorius. This muscle is removed from its normal course in its lower third and brought anteriorly until it passes directly over the anterior surface of the patella and is reinserted upon the anterior border of the tibia. As this muscle passes over the patella the fractured edges of the latter are brought together and made fast to it. In this manner widely separated segments of the patella may be brought together, and in addition the quadriceps is made to exert its action and thus prevented from atrophy. The joint does not need to be opened during the operation.

**Spontaneous Recovery from an Invaginated Ileum Following Evacuation per Rectum of the Intussusepted Gut.**—Herm. Schridde had a patient, sixty years of age, a female, who was suddenly seized with a violent attack of abdominal colic. A diagnosis of intestinal occlusion was made. Seventeen days thereafter there was evacuated per rectum a section of the ileum 32 cm. long. Following this the symptoms rapidly subsided, and after eight days complete recovery had taken place. Four and a half months following death from a pulmonary trouble occurred. At the autopsy there was found a circular scar completely surrounding the ileum 36½ cm. from the ileocæcal value. The causation of these acute cases of invagination of the ileum is not entirely clear. Doubtless in many cases the cause is to be sought in the presence of a large foreign body. A lax mesentery is certainly an accelerating factor.

**Albuminuria in Aortic Insufficiency.**—V. Leuoe reports a case to show that albuminuria may occur in connection with aortic insufficiency not only in the stage of non-compensation and as a result of a venous congestion of the kidneys resulting therefrom, but at a time when compensation is perfect and no venous congestion is present. Such an albuminuria is peculiar to aortic insufficiency as opposed to other cardiac lesions. In old age such an albuminuria may be due to a general atheroma, but in young individuals, such as the case here reported, the cause is to be sought in the increased blood-pressure and marked variations of pressure which are present in aortic insufficiency in contradistinction to other cardiac lesions. In this manner there are pro-

duced changes in the walls of the blood vessels of the kidney and an increase in the interstitial tissue of the same. Thus there gradually arises an arterial induration of this organ. The epithelium of the glomeruli degenerates and albuminuria appears. Later the same occurs in the tubular epithelium and casts appear in the urine.

**Pathogenesis of Acute Psychoses.**—Hans Berger has endeavored to ascertain whether or not in the blood of acute psychotics toxins are present which stand in etiological relation to the disease. In a series of experiments he inoculated subcutaneously into himself the blood of several patients, and in one instance the spinal fluid. The latter experiment was entirely negative, as were also three of the five blood experiments. The remaining two, however, were apparently positive. In both of these the blood was taken from a fully developed case of dementia præcox. In one case 5 c.c. of blood was used and in the other three. Symptoms appeared in from one-quarter to three-quarters of an hour after the inoculations and consisted of dizziness, headache, and marked restlessness. In the first instance all symptoms vanished within twenty-four hours, but in the other recovery was prolonged for eight days. From this it is apparent that the presence of toxins in the blood of acute psychotics is at least highly probable. Animal experimentation was next instituted in order to demonstrate the development of cytotoxins under definite conditions. The most satisfactory results were obtained by the subcutaneous inoculation of goats with the brain substance of dogs. In this manner there is obtained a goat serum which is cytotoxic for dogs upon subcutaneous injection. Dogs thus treated regularly show an inflammation and degeneration of the brain tissue. The goat serum, however, becomes inactive if mixed with brain substance previous to inoculation. This shows, without doubt, that the cytotoxin is specific for the cerebral cells and becomes permanently united to them. The series of experiments is still underway, and a large amount of work is necessary before positive conclusions can be drawn.

*Deutsche medicinische Wochenschrift, July 23, 1903.*

**Diseases of the Vascular System Which Are Probably Nervous in Origin.**—T. L. v. Criegern reports a case which is of uncertain etiology, although it is extremely probable that the underlying cause was a general contraction of the vasomotor system due to effects upon the nervous system of a previous syphilitic infection. The clinical history may be divided into three groups of symptoms. The first group comprised hemorrhages—menorrhagia, epistaxis, and hemorrhagic nephritis. In the second group was the symptom-complex known as Raynaud's disease. Here the cyanotic and anæsthesic condition of the fingers was entirely characteristic of that affection. The third group was limited to petechiæ of the skin of the lower portion of the abdomen and back. These were late in appearance and very similar to that eruption known as morbus maculosus. There can be but little doubt that in this case the same etiological factor underlay the diversified clinical picture, and this consisted of a general contraction of the vasomotor system—in other words, a generalization of Raynaud's disease

**Bacteriological Diagnosis of Cholera and the Specificity of Koch's Comma Bacillus.**—W. Kolle and E. Gotschlich submit a review of the work done under their supervision during the recent epidemic in Egypt, by H. Hetsch, O. Lentz, and R. Otto. An absolute bacteriological diagnosis can be made in sixteen hours. To this end a portion of the specimen to be tested is cultivated according to Koch's method in pepton-water for eight hours. Plates are then made from this culture in agar and incubated for eight hours. From these plates the suspected colonies are then "fished," and the organisms thus obtained tested for agglutination against known cholera serum. By this method certain vibrio are frequently isolated which are very similar to Koch's organism in morphology and cultural characteristics, but which fail to agglutinate when tested with the cholera serum. Such organisms were isolated from the stools of sixteen of twenty-three clinical cases of cholera. In two of the sixteen Koch's vibrio was also isolated. In fifty-seven the latter alone was obtained. It is thus seen that in addition to developing a new and absolute bacteriological method of diagnosis the result of the work has confirmed the specificity of Koch's organism to this disease.

**Diabetes and Skin Diseases.**—Edmund Saalfeld reviews this subject and points out the value of the persistent appearance of various cutaneous diseases in the early diagnosis of diabetes mellitus. It should be particularly emphasized that in all cases of refractory cutaneous affections the urine should be carefully and frequently examined for the presence of sugar. In their relation to diabetes skin diseases may be divided into two classes: (1) those which occur only in connection with this disease and are therefore peculiar to it; (2) those which appear only as accidental accompaniments. The first class is very limited and includes xanthoma diabeticum, diabéte broncé, gangrena diabetica, gangrena diabetica bullosa serpiginosa, and dermatitis diabetica papilomatosa. The second class is very extensive. Here we have as the most prominent furunculosis, carbunculosis, eczema, the various forms of acne, paronychia, pruritus, urticaria, etc. The cutaneous symptoms of syphilis must also not escape notice in this connection, for it is well known that this disease is frequently an etiological factor in diabetes. Extensive experience has shown that the local treatment of cutaneous diseases appearing in unison with diabetes is futile, and that in order to obtain satisfactory results in any measure attention must be directed to the constitutional condition.

*French and Italian Journals*

**The Action of Red Light in Smallpox.**—Ch. Mongour reports a case in which red light appears to have hastened the desiccation of the confluent pustules on the face; on the rest of the body it did not prevent the transformation of the vesicles into pustules, but it probably prevented cicatrization. The author says that the treatment was not carried on with sufficient system to allow of definite conclusions, but suggests that further experimentation be made in this line.—*Gazette Hebdomadaire des Sciences Médicales*, July 26, 1903.

**The Action of Olive Oil on Microbes.**—An editorial calls attention to the value of olive oil when used in operations which leave freshened surfaces, when there is an effusion of lymph, or when there is irritation or inflammation of the pelvic or abdominal organs or the peritoneum. The results obtained have been excellent. Irritation and inflammation are allayed and adhesions are prevented. As to the action on microbes, it is found that microorganisms can and do live in oil, but perhaps do not act with their usual virulence. They multiply, but very slowly. The author says that although bacteriology does not give absolutely satisfactory data, clinical results have been so excellent that he has no choice except to persevere in the use of this agent.—*La Revue Médicale du Canada*, July 29, 1903.

**The Kidneys in Laennec's Cirrhosis of the Liver.**—G. Milian and Marcel Bassuet have found that out of eighty-nine cases of this affection albuminuria was found in only three. At autopsy a macroscopical examination showed the kidneys to be absolutely normal in nineteen cases; apparently normal but more or less hypertrophied in fifty-three cases. In seventeen cases only were there real lesions, five of sclerosis; four of congestion, three of atrophy, one of atrophy of one kidney and hypertrophy of the other, and one with a few cicatrices. Such microscopical examinations as were made confirmed the macroscopical findings.—*Bulletins et Mémoires de la Société Anatomique*, April, 1903.

**Pleural Eosinophilia.**—F. Barjon and A. Cade have found, by experimentation, that cytologically, two forms of eosinophilia are found in pleural effusions. The first is *relative* and in it the eosinophiles rarely go beyond 2—5 per cent. It is found most frequently in pleurisy which is proved by its clinical course, by inoculation, serum-diagnosis and cytology to be tuberculous. The other, which may be called *true eosinophilia*, varies from 10 to 74 per cent., and is found in pleurisies which are usually acute, with slight effusion, little tendency to reproduction, and not causing tuberculosis in a guinea-pig. Some cases are tuberculous and some are not, so that this form of eosinophilia cannot be absolute as to diagnosis; it does, however, indicate a light form of tuberculosis when there is any, and is therefore of value as to prognosis.—*Archives Générales de Médecine*, July 28, 1903.

**The Nerve Cell in Meningitis.**—Ezio Luisada believes that anatomico-pathologically no clear distinction can be made between meningitis and meningism, there being merely a difference in the localization of the morbid agent. From his researches he has found that the nerve cell is always affected in the various forms of meningitis. The lesion depends on the quality of the morbid agent, and the intensity and duration of its action as well as on the changes in the nutritive surroundings of the cell from inflammation of the tissues and alterations of the cell prolongations, and the amount of resistance possessed by the cell. The resistance offered by the new cell does not appear to depend upon its situation in relation to the distribution of the meningeal exudate. Although it is not yet possible to judge of the morbid cause of the disease from the species of cell lesion, we can often judge of the gravity of the infection, and sometimes of its duration.—*Rivista di Clinica Pediatrica*, July, 1903.

# Book Reviews.

HYGIENE AND PUBLIC HEALTH. By LOUIS PARKES, M.D., D.P.H. London Univ., and HENRY KENWOOD, M.B., D.P.H., F.C.S. Second Edition. Philadelphia: P. Blakiston's Son & Co., 1902.

THE authorship is in itself a guarantee that this treatise is comprehensive and scientific. and the need for a second edition within a year proves that it has been appreciated. The older and familiar book of Dr. Parkes has been practically recast, and the whole subject brought up to date. On disputed points the opinions expressed are critical, though conservative. For example, while admitting that bacteriological experiments point to the harmlessness of sewer air, the comment is made that this is not entirely in accord with practice. We could wish, however, that they had been somewhat more outspoken regarding the supposed relation of sewer air to puerperal fever, and had brought forward the "very considerable body of evidence" which they say is now being accumulated "to show that puerperal fever may be produced by sewer or drain emanations finding their way into the chamber of the lying-in woman." A careful perusal of the articles on house-plumbing, ventilation, the injurious effects of dusty occupations and industrial poisonings, and the method of investigating disease outbreaks will well repay any physician.

SURGICAL EMERGENCIES: THE SURGERY OF THE HEAD. By BAYARD HOLMES, B.S., M.D. New York: D. Appleton & Company, 1903.

THE volume before us is one of a series that is to deal with the commonly encountered surgical diseases. Commonness, and frequency of occurrence do not, however, class a surgical affection into the category of those that are by most of us considered as emergencies. The title of the *series* is misleading.

The author intends these books especially for the use of the general practitioner, and in the volume upon the surgery of the head he has very properly devoted most attention to pathology, symptomatology, diagnosis, and indications for treatment. The descriptions of diseases are much strengthened by reports of cases occurring in the author's own practice, or drawn from literature. Especially clear and accurate are the chapters upon cerebral compression, brain abscess, and sigmoid sinus thrombosis; their close study should be of much value to the general physician.

Though the author has not entered very much into the purely operative aspects of surgical diseases of the head, it is somewhat surprising that he makes no mention of the great value of paraffin injections for the improvement of nasal and other facial deformities.

The book is well illustrated and nicely printed. A short résumé of the literature is appended to each chapter.

DE LA GLYCÉRINE, PHYSIOLOGIE, THÉRAPEUTIQUE, PHARMACOLOGIE. Par A. CATILLON, President Honoraire de la Société des Pharmaciens de 1re Classe de Paris, Ex-Interne des Hôpitaux de Paris, Membre de la Société de Thérapeutique. Paris: C. Naud, 1903.

THIS monograph, treating upon the physiological, therapeutical, and pharmacological qualities of glycerin, is a welcome addition to our literature. There is not much original work incorporated into the little volume of 191 pages. Its value depends upon clearness of diction and the exhaustive and yet condensed treatment of the subject. The second part of the book, in which the physiological properties of glycerin are considered, is especially interesting

DISEASES OF THE HEART AND ARTERIAL SYSTEM. Designed to be a Practical Presentation of the Subject for the Use of Students and Practitioners of Medicine. By ROBERT H. BABCOCK, A.M., M.D. Professor of Clinical Medicine and Diseases of the Chest, College of Physicians and Surgeons (Medical Department of the Illinois State University), Chicago. New York and London: D. Appleton & Company, 1903.

THE volume before us bids fair to become one of the most popular works on circulatory diseases, notwithstanding the many rivals that have appeared. The author seems to recognize the difficulties which beset the student and practitioner, and proceeds to clear away these difficulties with the practised hand of the experienced teacher. From beginning to end the work is eminently practical and will be found well adapted to clinical workers. The writer makes no claims to originality, but for this very reason there is an absence of personal hobbies and an extremely fair exposition of the subject. Sufficient attention has been paid to the anatomy and physiology for all practical purposes, while the main part of the book is given up to diagnosis and treatment. Too much praise cannot be paid to these portions, for they are extremely helpful, instructive, and sound. The problems of exercise, occupation, habits, marriage, clothing, baths, food, illnesses, rest, diet, climate, the Schott-Nauheim treatment, etc., are discussed broadly and clearly. The bulk of the work is apportioned to the diseases of the endocardium and of the myocardium, at the same time sufficient space is afforded to pericardial, neurotic, and arterial abnormalities.

A short appendix describes some of the mechanical devices used in determining cardiac disease, such as the *x*-ray, the sphygmograph and Gaertner's tonometer. The incorporation of plates showing pathological conditions, diagrams explaining the various murmurs, and the different resistant movements of importance has served to make an exceptionally clear text very readily understood.

ESSAYS ON CLINICAL MEDICINE. Being Reprints of Papers Published at Various Times in the *American Journal of the Medical Sciences*. By BEVERLY ROBINSON, A.M., M.D. (Paris). Clinical Professor of Medicine at the University and Bellevue Hospital Medical College; Attending Physician to St. Luke's Hospital; Consulting Physician to the City (Charity) Hospital, New York. Philadelphia: William J. Dornan, 1903.

THE essays before us express the ideas of the author on many different subjects. Among them may be noted articles on uræmia, heart disease, cough, angina pectoris, cirrhosis of the liver, and tuberculous pericarditis. Drawing from a large experience in both private and hospital practice, the writer treats of subjects that are of every-day interest in a way that will appeal to the general practitioner. The problems which we all must meet seem to have been especially considered, and particularly those which have not received proper attention from the text-books. To make the points which the author advances more incisive, clinical histories and autopsy records have been added. Altogether the collection makes most interesting and instructive reading.

THÉRAPEUTIQUE CLINIQUE. Les Médicaments, par le Dr. ALFRED MARTINET, Ancien Interne des Hôpitaux de Paris. Paris: C. Naud, 1903.

IN this book of 284 pages a number of medicaments have found a rather novel but seemingly rational consideration. Particular stress has been laid upon the points when, why, and how a certain drug should be administered. Twelve remedies: arsenic, bromides, digitalis, ergotine, iron, iodides, mercury, quinine, phosphorous, opium, salicylates, and antidiphtheritic serum, and one class of medicaments;, the purgatives, are dwelled upon. The little work abounds in practical hints, the subject-matter is arranged in a logical manner, the language is simple and even readily understood by one who is not *au fait* in the French tongue.

A LABORATORY TEXTBOOK OF EMBRYOLOGY. By CHARLES SEDGWICK MINOT, LL.D., D.Sc., Professor of Histology and Human Embryology in the Harvard Medical School. With 218 illustrations. Philadelphia: P. Blakiston's Son & Co., 1903.

THE author has prepared this work for the use of students taking a practical laboratory course in embryology. He begins with a chapter on general conceptions, such as the vertebrate type of structure and its principal modifications, the relations of surface to mass, the law of unequal growth, the theory of heredity, etc. This is followed by chapters on the early development of mammals, the human embryo, study of pig embryos, of young chick embryos, the blastodermic vesicle, and segmentation of the ovum, and the uterus and fetal appendages in man. The last chapter deals with the methods which may be used advantageously in these embryological studies.

The student is expected to use the book in conjunction with specimens prepared for microscopical examination, and to verify the statements by actual observation. He will find descriptions of the structure of embryos at various stages of development, with some indication of the intermediate processes of differentiation and growth. The development of the human embryo is divided into thirteen stages up to the completion of the second month, and thereafter, by months.

The descriptions are clear, and well illustrated by the cuts, many of which are very beautifully executed.

A MANUAL OF MEDICAL JURISPRUDENCE, INSANITY, AND TOXICOLOGY. By HENRY C. CHAPMAN, M.D., etc. Third Edition, thoroughly revised. With 64 Illustrations and 4 Plates in Colors. Philadelphia, New York, London: W. B. Saunders & Co., 1903.

THE demand for Dr. Chapman's little book has led to the preparation of a third edition, although it contains little that is new. The chapter upon the investigation of blood is perhaps the best part of the book, but it is to be regretted that the modern transfusion tests are not presented. The manual is essentially practical, and is a useful guide for the general practitioner, besides possessing literary merit which makes it readable and interesting.

STUDIES IN THE PSYCHOLOGY OF SEX, Analysis of the Sexual Impulse, Love and Pain, the Sexual Impulse in Women. By Havelock Ellis. Philadelphia: F. A. Davis Co., 1903.

THIS volume is one of a series on the general subject of Psychology of Sex and deals with the analysis of the sexual impulse in man and animals, especially in its relations to pain and pleasure as incitive elements, and concludes with a discussion of the sexual impulse in women. The treatment of the different topics is dignifiedly scientific and singularly free from many of the objectionable features that frequently characterize works on similar subjects. The author has taken great pains in collecting his facts, and his analysis of their significance appeals to the logical sense of the reader. The study of the sexual impulse is, necessarily, that of a very complicated process, but the author quite successfully simplifies it by disposing of its separate component divisions in turn. The chapter is full of most interesting and instructive details, and affords the reader the broadest possible view of the universality of the sexual function and its different modes of manifestation in all the varied divisions of the animal kingdom.

The author believes that the chief key to the solution of the relationship between love and pain is to be found in animal courtship, the marriage by capture, and also in like exhibitions of brute force on the willing and responsively submissive female. The extremes of such conditions are duly detailed as typical instances of sadism and masochism. The accounts of the sexual instinct in savages are given in much detail, as are those of the instinct in the civilized female. The personal experiences of many voluntary correspondents detailing their various neuropathic tendencies also form a feature of the work.

LES PHÉNOMÈNES DE SUGGESTION ET D'AUTO-SUGGESTION. Par L. LEFÈVRE. Brussels: Henri Lamertin, 1903.

A CREDITABLE attempt has been made by this author to place the study of suggestion upon a material basis, which is most welcome, for the tendency of those who have written during the past few years is to write entirely from a purely psychological standpoint. The first part of the book is devoted to the psycho-physiological consideration of the subject, the cerebral mechanism of suggestion being illustrated by ingenious diagrams, which are, in many ways, better than speculative word painting, no matter how fascinating the latter may be. The reader will find the medicolegal chapter most attractive, for the relations of suggestion to crime are given their proper value. The bringing of charges of immoral assault as a result of autosuggestion by young girls are described, and a case is referred to. Heretofore it has been the tendency of criminologists and others to regard all these cases as "hysterical," and to take for granted the vicious motives of the subject. Blackmail is the inevitable conclusion. Dr. Lefèvre very clearly shows that the charge may be in every way an irresponsible one, in which conclusion the reviewer concurs.

ANATOMY OF THE BRAIN AND SPINAL CORD, with Especial Reference to the Grouping and Chaining of Neurones into Conductive Paths. By HARRIS E. SANTIE, M.D., Ph.D.; Chicago: E. H. Colegrove, 1903.

THE third edition of this useful work differs but little from those that have preceded it, except that extensive addenda have been added, bringing the book up to date. Its value depends upon its unusual lucidity, directness, and freedom from much of that terminal affectation so characteristic of the neurological literature of to-day. The terms used are those best known, or should be, to students of this branch of anatomy, and their Latin or Greek equivalents are placed as foot-notes. While much that the author says has been stated by others in more pretentious books, no English or American writer has made the subject of cerebrospinal anatomy more clear or readable, for he pictures neurone relations and typographical association and conduction in a way to be easily recalled and used. While the little book is unpretending, it contains most of the accepted views of advanced neurologists. An attractive feature is an excellent and copious index.

THE INTERNATIONAL MEDICAL ANNUAL: A Year Book of Treatment and Practitioner's Index. Twenty-first Year. New York and Chicago: E. B. Treat & Co., 1903.

THE first thing one notes on picking up this volume is that it outweighs its predecessors. In man a gain in weight is oft looked upon as an evidence of gain in health. Can we always argue that the heaviest books contain the most weighty matter?

The editors claim never to have posed as censors of medical opinion, and, in the twenty-one years of continued growth of this annual, have striven to present the conclusions of medical writers; condensed and elucidated, but not weighed nor appraised. We will, in turn, strive to appraise without actually weighing.

The work, on careful inspection, is found to be of the usual high order of compilation, and the list of contributors of original matter contains many well-known names.

There are many illustrations, and those bearing upon the newer methods of light-treatment seem to be in the majority.

We can only congratulate the editors on the Annual's attaining its majority, and trust it may continue to improve without putting on more avoirdupois.

ÜBER DIE WIRKUNG DER BORSÄURE UND DES BORAX. (EIN ZWEITES GUTACHTEN.) Von Dr. OSCAR LIEBREICH, o. ö. Professor der Universität Berlin und Geheimer Medicinalrath. Berlin: August Hirschwald, 1903.

LIEBREICH gives a most instructive résumé of the effects of boric acid and borax in their rôle of preservatives and therapeutic agents. In order to investigate the changes caused in the organism by these substances, he administers them to animals, which he later dissects. There are a number of colored plates appended, which represent the differences between the normal kidney and that organ after the injection of these substances. There are various clinical histories given of patients suffering from a variety of affections. These show the results of treatment by boric acid and borax. The monograph is full of interesting information.

MATERIA MEDICA FOR NURSES. By JOHN E. GROPP, Ph.G., Apothecary in the Rhode Island Hospital, Professor of Materia Medica, Botany, and Pharmacognosy in the Rhode Island College of Pharmacy. Second edition revised and rewritten. Philadelphia: P. Blakiston's Son & Co., 1903.

THE original abridged form of statement has been maintained in rewriting much of this guide for nurses. It is a compilation with arrangement of subjects to meet the requirements of those for whom it is intended. There has been some changes from the first edition, which improve the work.

DISEASES OF THE STOMACH. By FRANZ RIEGEL, Professor of Clinical Medicine in the University of Giessen. Edited with additions by CHARLES G. STOCKTON, M.D., Professor of Medicine in the University of Buffalo. Authorized Translation from the German, under the editorial supervision of ALFRED STENGEL, M.D., Professor of Clinical Medicine in the University of Pennsylvania. Nothnagel's Encyclopedia of Practical Medicine. American edition. Philadelphia, New York, London: W. B. Saunders & Co., 1903.

THIS volume of Nothnagel's Encyclopedia, dealing only with stomach diseases, has already made a reputation in Germany, and to praise it would be superfluous. One could not wish for a more complete exposition of the subject, nor for a less prejudiced work. The author throughout looks at his subject from the standpoint of the judge and not that of an advocate; for instance, acknowledging that the numerous quantitative examinations of free and combined hydrochloric acid have not been followed by the brilliant results which had been expected. Still, on the other hand, he claims the laurels won by those in his specialty, and truly proves that many formerly hopeless cases are now cured by the present methods.

The pathology, etiology, symptoms, prognosis, diagnosis, and treatment are all thoroughly considered, and in the most practical manner. The author aims to teach the reader, and we think succeeds. The relative values of the various chemical tests are carefully weighed and the benefit of the writer's experience added. The editor's part has been well performed, he having added such material as he deemed necessary, and assuming full responsibility by bracketing each alteration. Among these changes may be mentioned a few remarks on the subjects of diet in hyperacidity, digestion leucocytosis, benign tumors, operative procedures, congenital stenosis, etc.

THE MANUAL TREATMENT OF THE DISEASES OF WOMEN. By GUSTAF NORSTRÖM, M.D., of the Faculty of Stockholm. New York and London: E. G. Stechert, 1903.

THE author treats his subject in a most enthusiastic manner and awakens interest in this method by his presentation of it. His first treatise, the first scientific work on this subject, was published in 1876. His experience in this line has extended over a period of more than thirty years. In the greater number of his patients, douches, pessaries, general treatment, cauterization, and curettage, had been employed. But none of these procedures was followed by lasting benefit. The condition of the patients was carefully noted at the beginning of the massage, which was the only treatment given. Enough of the patients have been seen for later examinations to speak well for this method, which is Brandt's proceeding modified. The descriptions of technique are plentifully interspersed with histories of cases.

# Society Reports.

## AMERICAN MEDICAL ASSOCIATION.

### SECTION ON DISEASES OF CHILDREN.

*Tuesday, May 5—First Day.*

**Address of Chairman: "The Development and Care of Children."**—Dr. JOHN C. COOK of Chicago delivered this address. He said that while in the fœtus the heart represented 0.89 of the whole, in adult life it was only 0.52. The changes in the nervous system from birth to maturity furnished many examples of the difference between the child and the adult. The fibers of the spinal cord, the medulla oblongata, the corpora quadragemina and pons Varolii were, in early life, mainly somatic. It was our duty to guard and conserve every atom of energy during this period of budding life, realizing that they were bundles of possibilities unsolidified. The speaker then considered the child-labor question, and what had been done by the different States to protect children. Massachusetts was one of the first to move in this direction, and at the present time no child under thirteen was allowed to work. All States having labor laws took the age of the child as the basis, and the parents' affidavit was considered all-sufficient. Herein was the great defect. It was estimated that there were in the United States no less than 1,750,000 wage-earners under the age of fifteen years, and that the number had increased a hundred-fold in the past ten years. The State could better afford to support and educate a child than it could to support and discipline criminals among adults. It was not labor that made or marred character, but the environment during the developing period. It was within the province of the medical profession to see that children who must work be provided during the day with 250 cubic feet of air, and the night workers with 400 cubic feet, and that the entire air be changed every hour. The speaker recommended that each State have a commission of five members, at least two of whom should be physicians, and that this commission have jurisdiction over all matters of education and labor, this commission to be appointed by the Supreme Court judges of the State, and they, in turn, to appoint or nominate inspectors, so that the question of child labor should be forever removed from petty politics and vicious contract labor.

**Anatomical and Physiological Correspondence of Child and Adult.**—Dr. WILLIAM T. ECKLEY of Chicago read this paper. He said that the child possessed mental and physical qualities of heredity only, whereas the adult possessed the same qualities modified by the activity of mind and body. Continuous stimulation tended to result in exhaustion; hence, adult doses, in comparison with doses suitable for children, represented not increased vigor, but the wane of receptivity. Idiosyncrasy was the survival in the adult of the normal susceptibility of stimulation in the child. This brought up the questions as to whether the physician was justified in beginning treatment with adult doses of powerful drugs, and whether idiosyncrasies should not be respected.

**Is the Study of Pediatrics Worthy the Attention It Gets, and Does It Get the Attention It Deserves?**—Dr. C. F. WARNER of Fort Madison, Iowa, read a paper with this title. He said that in view of the fact that few places outside of cities afforded the pediatrician full scope for his specialty, it followed that all physicians and surgeons should give more study to pediatrics. Practice among children opened up a good field for the young physician, because it introduced him into practice, winning for him the affection and respect of the mothers, and later making him the friend and confidential adviser of the family. The importance of having a good practical knowledge of pediatrics was evident from the fact that one-half of general practice was among children and adolescents, and this emphasized the need for more thorough instruction in this subject at our medical schools.

Dr. W. F. BOGGESS of Louisville, Ky., said that, as a teacher, he endeavored to impress upon his students the most optimistic views regarding the diseases of childhood, because of that large unknown quantity, resistance and recuperative power. The most discouraging cases could often be brought back to health.

**Acute Suppurative Cervical Adenitis of Infancy.**—Dr. THOMAS S. SOUTHWORTH of New York City was the author of this paper. He said that this was an affection which was peculiar to infancy, and resulted from the absorption through the lymphatics from the nasopharynx. The variation of the antero-posterior position of the tumor appeared to be due to the fact that one or both of two glands, lying on different planes, might become affected. Usually only one of these glands was affected. Personally, he had found it almost as frequent anteriorly as posteriorly. The child's head was thrown to the opposite shoulder, and a prominent mass was visible. Usually there was a temperature of from 101° to 103° F. associated with malaise. The mass was usually more or less tender, and when resolution occurred, decreased in size more or less rapidly after a few days. If suppuration developed, the outline of the mass became less sharply defined, and pointing would be noted after about two weeks. The fact that tuberculous adenitis rarely occurred before the beginning of the fourth year, and that the progress was rather a matter of months than of days, should prevent one from diagnosticating that variety when acute suppurative cervical adenitis was present. It was well to wait until pointing occurred, so that the scarring might be reduced to a minimum. The general surgical rule to lay open freely any pus cavity not having free drainage, had a notable exception in the cases under consideration. A small opening was necessary, and in this should be inserted the smallest possible drainage tube. Packing with gauze or the use of drainage wicks he had long since abandoned, as under their use the healing process had not been so satisfactory or so rapid. The child should be placed in a bright light, and the physician should then seek very carefully for one of the delicate lines marking the natural folds of the skin. Having found this landmark, an incision should be made at this point, without anæsthesia, for a distance of about ¼ of an inch, and then the evacuation of the pus favored by very gentle pressure. With the aid of a grooved director the cavity was thoroughly emptied, and then a fenestrated rubber drainage tube, about $\frac{1}{16}$ of an inch in diameter, and 1¼ to 1½ inches in length, should be introduced on a probe or director to the deepest part of the cavity. On the second day the length of the tube could usually be reduced one-half; on the second or third day there was usually very little discharge, so that the tube could be removed, and thereafter healing would be rapid. The abortive treatment was worthy of trial. He had tried ichthyol ointment as well as iodine, without avail. When there was fever, tablets containing ¼ minim each of tincture of aconite and tincture of belladonna and $\frac{1}{16}$ minim of camphor, should be given every two hours or oftener, according to the age of the child. Chlorate of potash had almost a specific action in limiting the pharyngeal inflammations of childhood. One or two grains should be given at intervals of two or three hours, and for cleansing purposes, Dobell's solution, or one made with Seiler's tablets, should be used. This sloution should be poured through the nose with a teaspoon every three hours. The results from this line of treatment had been immediate and extremely gratifying. In children over one year of age in whom formerly pus formation occurred frequently, there had been no failure. In infants under one year old there had been four failures, and in each of these cases the temperature had persisted, reaching 102° or more each day. This abortive treatment of cervical adenitis of infancy was most promising, especially in children over one year old. The younger the child the greater the liability to suppuration.

Dr. A. C. COTTON of Chicago spoke earnestly in favor of the daily toilet of the nose in children, and stated that

in the families in which he had succeeded in installing this practice there had not been in the past five years one case of suppurative adenitis.

Dr. C. G. KERLEY of New York also favored the use of a small incision, but added that if a tube were inserted, this opening would be very apt to close within twenty-four hours, necessitating its reopening. He had seen a number of cases of tubercular adenitis in children under four years of age, so that too much stress must not be placed on this point in making the differential diagnosis. In acute adenitis there would be fever, rather rapid tumefaction, and a distinct localization of the process; in tubercular adenitis it was not uncommon to find the whole chain of glands down to the clavicle involved. He was a strong believer in the efficacy of chlorate of potash internally in the treatment of the nasopharynx, and he thought whatever value the old iron and chlorate of potash mixture possessed was to be attributed to the chlorate of potash. It was most important to guard against the use of force in cleansing the nose and pharynx, and, hence, the fluid should be either dropped in or used in an atomizer. He preferred the installation of oil or albolene, medicated or plain. In the abortive treatment he had secured good results from the application of a small ice-bag.

Dr. R. B. GILBERT of Louisville said that superficial cervical adenitis often developed in connection with eczema of the scalp or dental caries. He was not in favor of local applications except, perhaps, the ice-bag, and certainly warm applications and ointments should be avoided. When iodide of potassium was administered internally every three hours, in full doses for the age of the patient, it certainly favored absorption, and, in his opinion, was a valuable abortive treatment.

Dr. C. F. WAHRER thought a great deal of harm was done the middle ear by the pressure resulting from the evolution of gas in the use of peroxide of hydrogen for cleansing the nasopharynx.

Dr. JAMES G. MASTIN of Chicago was of the opinion that the internal use of chlorate of potash would limit the formation of pus in suppurative adenitis, and if used sufficiently early, might wholly prevent abscess formation. He preferred normal salt solution to oily preparations for cleansing the nasopharynx.

Dr. SOUTHWORTH, in closing, said that he had always used the chlorate of potash cautiously, and had seen nothing but benefit from it; but a medical friend had recently told him of a case of acute nephritis that had developed in a girl of thirteen years after partaking rather freely of chlorate of potash lozenges. In his experience, the cases that had been benefited by iodide of potassium were either those having a syphilitic taint or those characterized by persistent induration.

*Wednesday, May 6—Second Day,*

**The Pathology of Summer Diarrhœas of Children.**—Dr. G. W. BOOT of Evanston, Ill., was the author of this paper, which, in his absence, was read by the Secretary. The author stated that diarrhœas of indigestion were more common in summer than in winter, because improper feeding and food infection were more prone to occur in the summer. If improper feeding were persisted in, there would result gastritis or enteritis. The term "cholera infantum" was best applied to the fulminating cases of food poisoning. There was usually but little visible on post-mortem examination, further than some congestion of the intestinal mucosa and, perhaps, an increased quantity of mucus. All of the tissues of the body might show the result of the large abstraction of water from the system as a result of the frequent watery stools. This class of cases merged imperceptibly into the next class, in which diarrhœa was due chiefly to bacterial infection of the intestinal contents and intestinal walls. Typhoid fever was nearly related to this class of diseases. In children typhoid fever was apt to run a shorter and milder course than in adults, and was frequently unassociated with intestinal ulceration. Streptococcus infection appeared to be an occasional cause of diarrhœa in children, most of the cases reported being those in which the diarrhœa was a part of the general septicæmia. Streptococci were often present in small numbers when the infection was evidently due to some other cause. Of fifteen cases of infantile diarrhœa in children between the ages of six months and seven years, Escherich had seven fatal cases. The disease was evidently contagious, and Escherich believed that the cause was the colon bacillus. It was probable that a bacillus of the same group as the colon bacillus, although of a distinct species, was the specific cause of most summer diarrhœas. This germ was the bacillus of Shiga. Flexner had isolated it from a case of dysentery in Manila. That it was the cause of the summer diarrhœa in children had been shown most conclusively by the work done by G. Duval and Bassett, who had isolated this bacillus from forty-two cases of summer diarrhœa occurring in the infants of Baltimore. The Shiga bacillus resembled the bacillus typhosus in many respects. These bacilli appeared as short rods with rounded ends, and they usually occurred singly, although sometimes in pairs. The mucous stools gave almost a pure culture of this bacillus. In the more chronic cases there was a marked infiltration of the intestinal walls, so that they were stiffer than normal, while the lumen of the intestine was lessened. The paper closed with a minute description of the pathological anatomy.

**Every-day Problems in Infant Feeding.**—Dr. HENRY ENOS TULEY of Louisville read this paper. He insisted that while occasionally the mother's milk did not agree with her infant, this was so exceptional that it only served to emphasize the unwisdom of weaning an infant from the breast without the best of reason. Attention was called to the occurrence of what Holt called starvation or inanition fever, and it was advised that the temperature of the new-born infant should be taken for the first week or two. If the breast milk was not secreted promptly the feeding of the child would often cause a prompt suppression of the fever and an immediate improvement in its condition. The child would often have colic with greenish stools and curds, due to excess of proteid. This would frequently correct itself after the lying-in period was over and the mother was taking the usual amount of exercise and was on ordinary diet. Temporary relief was afforded by milking out and excluding the first milk from the breast, allowing the child to nurse only the middle portion. Of course, it was assumed that the child had not been nursed too often or given too much at each nursing. If prophylactic care of defective nipples were begun sufficiently early, many mothers would be able to nurse their infants, whereas without such attention this became impossible. Mothers who were tuberculous, or were suffering from serious puerperal infection, should not nurse their infants. Mastitis he did not consider a contraindication to nursing, as the abscess rarely connected with the mild ducts, and hence nursing was an aid rather than a detriment.

With regard to artificial feeding, the speaker said that condensed milk has much to recommend it to poor people, but its long continuance resulted in scurvy and rickets, and when a change was indicated it was difficult to effect this because the infant had become accustomed to the very sweet taste of the condensed milk. Modification of milk at the home or laboratory should enable the physician in most instances to secure a proper food for the artificially fed infants, but in some instances the physician's resources would be taxed to the utmost to find a food which could be readily digested and assimilated. In conclusion, the author said: "Eternal vigilance is the price of success; trust nothing to nature unaided."

**Infant Feeding.**—Dr. ALEXANDER MCALLISTER of Camden, N. J., presented this paper. He said that he felt reassured by the ever-increasing evidence of the greater esteem for breast feeding as compared with artificial feeding. The laity judged of an infant food by whether or not the child lived, and whether it grew fat, ignoring, as a rule, the important question of morbidity. At the present time the profession was turning from wholesale sterilization or pasteurization and giving earnest attention to the individualization of feeding by the appropriate modification of cow's milk.

**The Infant Digestive Disturbances.**—Dr. ALFRED C. COTTON of Chicago read this paper. He said that statistics showed that the greatest susceptibility to summer diarrhœa occurred between the ages of six and eighteen months. The early cases occurred during the milk feeding period, while the later cases occurred from the age of eighteen to twenty-six months. The well-known clinical picture of the acute variety was presented, and attention directed to the fact that it was the picture of acute poisoning of the gastrointestinal tract. The widely differing opinions on the frequency and severity of cholera infantum could be reconciled by the fact that there was no uniformity in the use of this term. His own opinion was that cholera infantum was an intense form of acute gastroenteritis or a dyspeptic diarrhœa plus some unknown intoxication. Clinically, the line could not be sharply drawn between some cases of dyspeptic diarrhœa and cholera infantum. The question was raised as to whether there was not a tendency to restrict the diagnosis of cholera infantum to the fatal cases. The diagnosis of diarrhœa due to acute indigestion seemed to meet all the requirements, pathological or therapeutic. The most common complication of diarrhœa in young infants was stomatitis, and it became serious as it interfered with the ingestion of food and increased the restlessness and discomfort. It was most often seen when the gastric disturbance was marked. The frequent occurrence of albuminuria had led some to attribute the convulsions to uræmia, but this conclusion was not confirmed by the post-mortem findings in the majority of cases. A prolonged attack of summer diarrhœa seldom left the infant without evidences of retarded development, and the attempt to adapt the hygiene of such an infant to its age rather than to its condition was a common error. The fatalities of summer diarrhœa were rarely seen among infants who were exclusively breast-fed. The diarrhœas of the exclusively breast-fed were well known to be usually tractable regardless of season by the application of the well-known principles of hygiene. When pronounced diarrhœal symptoms appeared in an infant at the breast it should lead at once to a searching inquiry as to whether the child might have had some additional food. The treatment of infant indigestion was so essentially dietetic that the use of drugs must be looked upon as only supplemental. So far as he knew, no one claimed that artificial feeding could ever equal, to say nothing of rivaling, breast feeding. Selected cases under the most favorable conditions showed a lessened mortality when scientifically fed artificially, but if only a small fraction of the energy expended in this important field of artificial feeding were bestowed upon the physiology of lactation he felt sure that the results would far exceed those obtained even by our modern methods or artificial feeding. He was satisfied that the solids in breast milk would be found diminished as the heated term approached, whereas the tendency in artificial feeding was to increase the solids as the age increased without taking cognizance of the season.

**Suggestions for Reducing the Prevalence of Summer Diarrhœa in Infants.**—Dr. J. ROSS SNYDER of Birmingham, Ala., presented this paper. He began with the dictum that summer diarrhœa was the result of bacterial invasion, and pointed out that the disease was not only curable but was preventable. Unfortunately many practitioners still believed that heat and humidity alone without the agency of bacteria were sufficient to produce the disease, and consequently a large percentage of the medical body had failed to coöperate with those who were endeavoring to carry out prophylaxis. But it must be admitted that there were many difficult problems connected with home management and hygiene which had to be overcome. The family physician could do much by individual education toward promulgating the dictum already mentioned. Even breast milk was often contaminated through the careless habits of the mother. Cow's milk was, of course, more apt to become contaminated, and yet it did not follow that bad milk necessarily came from a badly conducted dairy, but might be the result of improper care of the milk in the household. It was remarkable that well-educated physicians who were making conscientious efforts to modify milk according to the most approved methods to the needs of the individual infant, paid no attention whatever to the milk supply. Just here came in the good work of milk commissions. On such a commission there were usually four experts, viz.: (1) A veterinarian, (2) a physician, (3) a bacteriologist, and (4) a chemist. The good results of such labor could not be denied, but the benefits which should accrue had been greatly curtailed by a lack of support from the general profession. The tenements of the poor furnished the hot-bed for summer diarrhœa, and the best way of reaching this class of people and showing them how to live so as to avoid sickness was by the distribution in these tenements of simple information printed in several different languages. This campaign of education should be supplemented by visitations made by a corps of medical undergraduate and post-graduate students.

**Observations on Breast Feeding from an Obstetrician's Point of View, with Report of Cases.**—Dr. EFFA V. DAVIS of Chicago was the author of this paper. She said that the safe delivery of the fœtus was not all for which the obstetrician was responsible. After birth the very helplessness of the infant should appeal forcibly to the obstetrician. In the first place, the pulsations in the umbilical cord should be allowed to cease before ligation of the cord, in order to give the infant the benefit of all the blood due it. She had found this method contributed to the tranquillity of the infant, and usually such infants were found at the end of the first week not to have lost weight. She gave personal attention to the first application of the baby to the breast, and saw to it that on the first day the interval of nursing was six hours, on the second day, four hours, on the third day, three hours, and after that that the intervals were two hours. A most useful device for preventing turgidity and caking of the breasts was the application on the second day of a Canton flannel breast binder extending from the armpits to below the breasts, and pinned from below upward. Where the nurse could not be trusted to readjust this binder after each nursing, a hole should be cut for each nipple and the binder should be kept on. It was easy to say that children were colicky from an excess of proteids, but it was a different matter during the puerperium to modify the lacteal secretion properly. Where the mother was strongly averse to nursing her infant, it was often noticed that the lacteal secretion was not normally established. Here, firmness and moral suasion would often bring the mother to a proper frame of mind, and in this way the breast secretion would be improved. When it was suspected that the breast milk actually disagreed with the infant, this suspicion could be confirmed or disproved by a short trial of a substitute for the mother's milk. Several difficult illustrative cases were narrated. Five infants presented digestive disturbances in the first week of life, and it had been found exceedingly difficult to nourish these children properly owing to an idiosyncrasy. The mothers of these babies had been anxious to nurse their children, but it should be

remembered that in these exceptional cases it was often better to make use of artificial food rather than allow a child to gain a paltry ounce or two a month simply to keep up the breast feeding.

**Aphthæ and Herpes Contracted by Children Drinking Milk from Cows Suffering from Foot-and-mouth Disease.**—Dr. E. F. BRUSH of Mount Vernon, N. Y., read this paper. He said that the foot-and-mouth disease usually lasted in the cow from ten to twenty-one days, and at the worst the mortality was only from one to five per cent. The speaker said that he had made a personal investigation with the object of determining the existence of herpes and aphthæ in human beings. To that end, he had investigated the subject in Concord, Mass., where 327 cattle had been recently killed by the Federal authorities because of the presence of foot-and-mouth disease. He had been unable to find proof of the existence in this country for thirty years until the past winter of foot-and-mouth disease in cattle. The disease was characterized in the bovine animal by an aphthous eruption in the mouth and upon the less hairy portions of the skin. Dr. Brush said that in Lawrence, Mass., he found a family, a mother and five children, who consumed three quarts daily of milk afterward discovered to come from cows which had foot-and-mouth disease. The three-year-old child who lived almost exclusively on milk suddenly became ill with fever, vomiting, and diarrhœa; the tongue became much swollen and covered with blisters and the child had convulsions almost daily. Just then it was learned of the disease among the cows supplying this milk, and the children so affected in this family promptly recovered on stopping the milk. This, indeed, was the only way of making the diagnosis in ordinary practice.

(To be continued.)

## BRITISH MEDICAL ASSOCIATION.

*Seventy-first Annual Meeting, Held at Swansea, July 28, 29, 30, and 31, 1903.*

**Special Report to the Medical Record.**

(Continued from page 272.)

### SECTION OF TROPICAL DISEASES.

*Thursday, July 30—Second Day.*

**Trypanosomiasis.**—Sir PATRICK MANSON, K. C. M. G., opened the set discussion on this subject. He sketched very briefly the history of the discovery from Nepveu to Castellani and remarked that, as prognosticated a year ago, the subject of trypanosomiasis was taking an important place in tropical pathology. This important discovery and the great progress it had made in about eighteen months were due principally to the establishment of schools of tropical medicine and to the formation of a section on tropical diseases at the meetings of the British Medical Association. Indeed, had it not been for these schools and the section on tropical medicine, human trypanosomiasis would not have been recognized perhaps for many years to come.

1. *Methods of Investigation.*—In examining blood in the tropics several distinct kinds of parasites had to be kept in view: filaria embryos, trypanosomes, malaria parasites, spirilla, and bacteria. To find or exclude these it was necessary to make use of three degrees of magnification besides various methods of treating blood films. It was, moreover, important that the observer be intent on finding the particular form of organisms he was in quest of. He had, so to speak, to focus his mind as well as his microscope, otherwise he was almost sure to fail in his quest. For searching blood for trypanosomes it was best to use a moderately thin, fixed, methylene-blue, or better, thionin or Romanowsky-stained film and a $\frac{1}{6}$-inch objective. Very generally trypanosomes were scanty in the peripheral blood, and many slides might have to be searched before a single parasite was encountered. It was probably best to make the blood examination when the body temperature was high.

2. *Clinical Features.*—In the native, judging from some of Dutton's cases, *Trypanosoma gambiense* might give rise to no symptoms. In the European, an irregular undulant fever seemed to be a constant feature. Apparently the initial rise of temperature was high. Another probably very frequent symptom was the peculiar circinate erythema, together with accompanying œdema of the skin and subcutaneous tissue. Muscular weakness, rapid irritable pulse, anæmia, and breathlessness were fairly constant; enlargement of the spleen was very pronounced in some cases, absent in others. What might turn out to be a valuable point as an aid in diagnosis was the occurrence of eye symptoms (choroiditis, iritis, cyclitis, optic neuritis). Doubtless as we become more acquainted with the disease additional clinical phenomena would come to light. An important one might or might not be mononuclear leucocytosis.

3. *Possible Relationship of Human Trypanosomiasis to Trypanosomiasis in the Lower Animals and to Certain Obscure Tropical Diseases* (sleeping sickness, kala-azar, and certain forms of tropical splenomegaly).—The future would probably show that both *Trypanosoma gambiense* and the malarial parasites had other mammalian hosts in addition to the human mammal, and that these humbler mammals had a good deal to do with the endemicity both of trypanosomiasis and of malaria. More systematic and more extended observations were needed to clear up this point for both classes of parasites.

A most important question had been opened by Castellani's discovery of a trypanosoma in the cerebrospinal fluid in sleeping sickness. Was its presence there merely a coincidence, or was a trypanosoma the cause of sleeping sickness? The principal facts in favor of regarding the trypanosoma as the cause of sleeping sickness were (1) the frequency of its occurrence in this disease at all events in Uganda, and (2) its occurrence in connection with the nervous system. Now frequency of occurrence might only mean frequency of concurrence. Before concluding, on the ground of concurrence, in favor of the trypanosoma as the cause of sleeping sickness we must have accurate statistics as to the presence or absence of the parasite in the general population of the endemic area of sleeping sickness and, also, as to the geographical ranges of the disease and of the parasite respectively such an investigation had disposed of the claims of *Filaria perstans*, once so hopeful. As regarded the significance of the presence of the trypanosome in the cerebrospinal fluid too much importance must not be attached to this, for it was not improbable that it occurred in many of the fluids of the body besides the blood. Against the specific relationship of the trypanosoma to sleeping sickness were the facts that the European, so far, had not been attacked by sleepin sickness, although undoubtedly he must have often been the subject of trypanosomiasis and that so far the parasite had not been found in sleeping sickness on the Congo or in West Africa. The former objection might be explained by the assumption, suggested by Castellani, that the trypanosome hitherto found in Europeans was a different species to that found in sleeping sickness. This was a very improbable thing considering that, as Europeans get one kind of trypanosome on the Congo they might just as well get the other kind which Castellani's hypothesis postulates must occur there also. A great but not insuperable difficulty in the acceptation of the view that the trypanosome was the cause of sleeping sickness lay in the fact that in some, perhaps in many, instances, the interval between the date of infection with the specific cause and the clinical manifestation of the disease was one of several years. Although in many specific infections prolonged incubation periods occur (for example, in leprosy, tuberculosis, rabies, etc.), so far as was known, successful infection with trypanosomes was manifested within a few days or weeks from its occurrence. It was difficult to conceive how a pathogenic agent like a trypanosome could remain inactive for periods amounting to years. In conclusion, Sir Patrick said, "I am inclined to the view that the trypanosoma of the African is not the cause of sleeping sickness." On the other hand, he expressed the

hope that in the *Trypanosoma gambiense*, or in a similar parasite, we might find the explanation of kala-azar and of those curious and very fatal forms of chronic fever, not amenable to quinine and accompanied by enlargement of the spleen and liver and after by hyperpigmentation of the skin.

*Prophylaxis.*—The prophylaxis of trypanosomiasis would be surely indicated as soon as it was known what was the inoculating agent. It might be a *glossina*, a *tabanus*, a *stomoxys*, or other blood-sucking diptera; but there were other blood-suckers in Africa besides diptera, more particularly ticks, which should not be overlooked. The Carrapato disease of the Zambesi basin was certainly produced by the bile of a tick, *Argas monbata*. This disease was probably more widely distributed than was generally known. Sir Alfred Sharpe, H. M. Commissioner in British Central Africa, came across this disease near Lake Tanganyka. Whether the Carrapato disease had any thing to do with the trypanosome or not, it certainly belonged to that great group of tropical diseases that depend on infection by insects and their allies.

**The Human Malady, Trypanosomiasis.**—Drs. J. EVERETT DUTTON and J. TODD read a paper with this title, in continuation of the discussion. They had investigated trypanosomiasis in Gambia. They examined over 1,000 persons and found the parasite in six natives and one white man (quadroon). The history and clinical examination of the native cases revealed nothing important. In the younger cases, the usual enlargement of the spleen was met with. Enlargement of lymphatic glands was present in some, but not in others; parasites were very scanty. The disease, as it occurred in natives, was a peculiarly mild one. Possibly the black man in this disease bore the same relation to the white as did the game of Central Africa to domestic animals in the tsetse-fly disease. The various ages of the natives infected indicated that their could be no acquired immunity.

Several animals were examined for trypanosomes, but the parasite was found only in horses. Out of thirty-six horses examined ten were infected. The symptoms noticed were: loss of vigor, periodical rises of temperature, marked emaciation, and, at times, a slight watery discharge from the eyes. The animal wore an apathetic, chronically tired expression, which was most characteristic. In none of these horses did they observe the marked œdemas and the changes in the coat described as characteristic of the tsetse-fly disease. There was a general enlargement of all lymphatic glands. Several experiments of inoculation into the lower animals were made, both with *Trypanosoma gambiense* and with the horse trypanosome. These experiments showed a distinct difference in the diseases produced in animals by the human and by the horse trypanosome. The horse parasite was the more pathogenic. The condition resulting from infection with the human trypanosome was very chronic, the animal's health did not seem to be affected, and in the only deaths which had occurred of animals infected with this parasite no macroscopic lesions were perceived. In the early stages of both diseases the continued presence of the parasites in the peripheral blood was far from the rule. This tendency to disappear from the peripheral circulation was much more marked in the human parasite. In the later stages of the horse disease (a week before death) the presence of parasites was constant, and their numbers gradually increased until death occurred. The morphology of the two parasites presented no characteristic differences. Therefore it was impossible to decide whether the parasites found originally in the horse and man were the same or different. The one clear distinction that could be drawn at present was the marked dissimilarity of the disease produced by inoculation in the lower animals. The authors had tried many times in vain to transfer both parasites by biting flies to healthy rats from either naturally infected horses or artificially inoculated animals. Two species of flies, *stomoxys* and *glossina*, were used. If the method of transmission of this disease were, as some maintained, simply a mere mechanical transference of parasites from one animal to another by means of the insect's proboscis they would have been successful. They suggested that perhaps the parasite could live for even a few hours in the insect's proboscis during the dry season, owing to the excessive lack of moisture in the atmosphere. Mr. Hewly, a traveling commissioner in North Nigeria had informed the writer that his ponies passing through a certain bit of bush in the wet season often became ill and died of fly disease. Ponies sent through the same bush in the dry season, however, escaped, although the flies, which he said were the same as the glossinæ they showed him, were always present in great numbers.

**Sleeping Sickness in Relation to Trypanosomiasis.**—Dr. CHRISTY followed with a paper with this title. He went to Uganda as one of the members of the sleeping-sickness investigation commission sent by the Royal Society. He found that sleeping sickness was not distributed all over Uganda and Busoga as reported, but was strictly confined to the northern shores of Lake Victoria Nyanza. Indeed the disease did not extend for more than ten miles from the shore. Cases beyond this limit were very rare; and the patients had always a history of having come from the lake shore. The disease occurred in a narrow strip along the coast line from the Kotanza river right across to Kissumo, there it skipped a small portion and then extended to the Gori river. It would appear that the disease was spreading rapidly eastward. It had been reported as prevalent on the west of the lake, but he had met with only two cases there and both came from the islands. The affected area included all the islands, many of which were very seriously infected. The disease showed no tendency to spread either inland or along the Nile and its tributaries. He found that there was no connection between *Filaria perstans* and sleeping sickness, and reported this to the Royal Society as early as October, 1902. He came to this knowledge by examining blood of natives every ten miles on his journey. In parts *Filaria perstans* was very prevalent, but as he traveled eastward the percentage fell from 60 to 14, then to 5, and over Kavirondo and near the German boundary no *Filaria perstans* was found. Sleeping sickness extended about 150 miles beyond the extreme limit of *Filaria perstans*. As to a possible connection between sleeping sickness and tsetse flies he was bound to say that he had not met with any species of tsetse that was troublesome. Sleeping sickness prevailed chiefly amongst agriculturists in the bush. Towns and populous centers were not affected much. He made a trip to Buvuma Island, which was severely affected, and there mapped all cases in the places in which they occurred. The dots on the maps showed that the distribution of the disease on the island corresponded to the general distribution of sleeping sickness. It was confined to the coast line overgrown with bush, chiefly bananas. M. Kavirondo, a comparatively treeless region, the sickness was found only in those parts in which there was bush. Having become acquainted with the fact reported by Austen that the tsetse fly had a particular dislike for fæces, he was inclined to connect the freedom from sleeping sickness of all large villages in Uganda and Busoga with the fact that the tsetse fly avoided the neighborhood of villages.

As to a possible connection between sleeping sickness and trypanosomiasis, he would like to mention that one of the occasional symptoms in sleeping sickness was an inordinate appetite. There was a peculiar craving for food up to the very last. This was also a symptom of trypanosomiasis in the horse.

**Tick Fever in Uganda.**—Dr. CHRISTY then read a second paper with this title. He had come across the disease first at Toro in Uganda, and subsequently found that it was fairly common in Buddu, Busoga, Uganda, Unyoro, and also on the Nile. The tick which caused the

disease was called *bibo* by the natives. Mr. Pocock of the Natural History Museum recognized it as identical to that long known to be pathogenic in the Zambesi valley: *Ornithodoros monbata*.

Dr. Christy described the symptoms of the disease which he had observed in one of his servants. These were: fever, violent headache, vomiting, and purging. He was never bitten himself. He always took the precaution of encamping far from native habitations and thus went through his travels without a day's illness. On examining the blood of the servant who had contracted tick fever, he found embryos of *Filaria perstans*. This made him think that very probably *Ornithodoros monbata* might be the intermediary host of *Filaria perstans*.

Dr. Aldo Castellani said that Sir Patrick Manson's observations on sleeping sickness were very important, but he was bound to confess that Sir Patrick's criticisms did not shake his opinion that sleeping sickness was a trypanosoma disease. As early as in the beginning of November, 1902, he began to find very frequently in Uganda a trypanosome in the cerebrospinal fluid of patients suffering from sleeping sickness. In twelve cases of other diseases taken as controls, he never found the parasite in the cerebrospinal fluid, and these controls came from the same districts as the sleeping sickness patients. His results had been amply confirmed by such an authority on trypanosomes as Colonel Bruce, who, using the same technique, found the parasite constantly. He would not discuss whether the trypanosome present in sleeping sickness was identical with *Trypanosoma gambiense* or not, because, according to Dutton, Todd, and Manson, *Trypanosoma gambiense* was not pathogenic to natives. The trypanosome of sleeping sickness must be different if not morphologically, at least by its biological properties, as pointed out by Dr. Sambon. But the question of species was a secondary one; the important point was whether the trypanosome present in sleeping sickness was the cause of the disease or not.

He did not think that the clinical features of sleeping sickness were against the trypanosoma theory. He agreed with Sir Patrick that the symptoms of sleeping sickness were different from those of the trypanosomiasis due to *Trypanosoma gambiense*, but he could not understand why there should be in man only one form of trypanosomiasis when there were five in the horse, namely, nagana, surra, malde caderas, dourine, and the new form just described by Dutton and Todd.

As regards the pathological features of sleeping sickness, he did not think that they were against his theory. The mononuclear infiltration around the vessels of the brain, and the mononuclear exudation in the cerebrospinal fluid, were certainly more in favor of a protozoal infection than against it.

Dr. L. W. Sambon said the information supplied by Dr. Christy as to the presence of *Ornithodoros monbata* in Uganda, Busoga, and Unyoro was very interesting, but the confirmation of the peculiar disease inoculated by this tick was especially valuable. Formerly the "disease of Tete," described by Dr. Livingstone and Sir John Kirk, was somewhat doubtful, but now we were in possession of sufficient information to show that it was undoubtedly a specific and widely distributed tick-fever. Dr. Emile Brumpt had told the speaker that the natives of Kilimandyaro and the Galla country feared the bite of a tick, which they asserted caused disease in about eight or ten days. It was probably *Ornithodoros monbata*. As to the association between *Ornithodoros monbata* and *Filaria perstans*, Dr. Sambon thought it very improbable. Dr. Christy had not found *Filaria perstans*, or any other kind of filaria, undergoing development within the body of the tick, and the very different geographical areas of *Ornithodoros monbata* and *Filaria perstans* were strongly against the hypothesis that *Ornithodoros monbata* might be the intermediary host of *Filaria perstans*.

As to the trypanosoma theory of sleeping sickness, Dr. Sambon said he considered it exceedingly probable. Sir Patrick Manson objected that the long incubation period of the disease was against the trypanosoma theory. Dr. Sambon failed to see why. There were examples of a long incubation period or of a long latent stage intervening between the moment of infection and the manifestation of grave symptoms in several diseases, and chiefly in diseases known, or believed to be due to, protozoal parasites (malaria, blackwater fever, sprue, hydrophobia, etc.). On the other hand, we must admit that although at times the incubation period of sleeping sickness might be very long; as a rule, it was comparatively short. A comparison between the clinical features of sleeping sickness and those of trypanosomiasis in various animals was very favorable to the trypanosoma theory of sleeping sickness.

As to the distribution of sleeping sickness and its probable connection with tsetse flies, Dr. Sambon thought that Dr. Christy's observations, coupled with the observations and experiments made by Drs. Dutton and Todd in Gambia, were very much in favor of the suggestions he had recently published in the *Journal of Tropical Medicine:* He thought that tsetse flies were not merely carriers of trypanosome infection, as stated by Lieutenant-Colonel Burce, but that they acted as intermediary hosts to these parasites. The peculiar development of the tsetse larva within the body of its parent suggested very strongly a transmission of the disease through the progeny, as was known to be the case in cattle hæmoglobinuric fever (Texas fever).

The patchy distribution of sleeping sickness along the margin of rivers and lakes seemed to agree very well with the peculiar distribution of tsetse flies. The trypanosoma theory of sleeping sickness suggested a *glossina* as the most probable intermediary host, and, though various species might prove efficient in the transmission of the disease, *Glossina palpalis* was most to be suspected on account of its wide range in West Africa. He thought that the well-known limitation of tsetse flies to the neighborhood of water bodies might find its explanation in peculiar feeding habits, connected with the fresh water fish of Africa, many of which are amphibious and live in burrows like rabbits during the long, dry season, coming out at night to feed on grain and insects. Trypanosomes were very common parasites amongst fish, and especially amongst those species which lived in the mud. It was also important to remark, with Laveran and Mesnil, that the trypanosomes of fish were strikingly like those of mammals, and very different from those of the more closely related batrachians. The natives of various parts of Africa (Senegambia, Congo), ascribed sleeping sickness to the sting of a fish, or to the consumption of diseased fish with swollen gills.

As to the relation between sleeping sickness and the trypanosoma fever described by Ford, Dutton, Manson, and Baker, it was at present impossible to state anything definite. Morphologically, he saw no difference between *Trypanosoma castellanii* and *Trypanosoma gambiense*, indeed it was not possible to distinguish either of these trypanosomes from those found in nagana and surra. But, of course, it was quite possible that they did represent different "strains" or, as he had suggested in his paper on sleeping sickness, different "biological species." Indeed, experimentally it had been shown that, passing through certain hosts, the trypanosomes of nagana acquired certain peculiarities which greatly modified their pathogenic action when again inoculated into their usual hosts.

G. C. Low, speaking of the question of *Filaria perstans* as a cause of sleeping sickness, said that when in British Guiana he had found *Filaria perstans* present in at least 50 per cent. of the aboriginal Indians, amongst whom he was convinced sleeping sickness did not exist. On arriving in Uganda, he found that Drs. Hodges and Wiggins had already shown that there were no cases of

*Filaria perstans* in Kavirondo, yet sleeping sickness was spreading there with great rapidity. It had been asserted that *Filaria nocturna* only sometimes gave rise to symptoms, and that *Filaria perstans* might do the same. A glance at the site of selection of the adults in the human subject showed at once that this did not follow. *Filaria nocturna*, living in the lymphatics, if it died, might give rise to changes in the lymphatic system, but *Filaria perstans*, living as it did in the connective tissue of the mesentery, could not. The only other theories would be a collection of embryos in the cerebral capillaries which did not occur, or the formation of a toxin which was excluded by analogy from the case of other *filariæ*.

In accepting a connection between sleeping sickness and trypanosomes, one must be careful. In the marasmic condition which patients passed into in sleeping sickness many parasites seemed to invade them. Post mortem they showed ankylostoma, Ascaris lumbricoids, Trichocephalus dispar, Bilharzia hæmatobia, Filaria perstans, evidence of old malaria, and now also trypanosomes. Until this could be admitted one must, in exactly the same way as for *Filaria perstans*, examine individuals in areas in whom there was no sleeping sickness, and also in areas in which the disease existed to see how many of the healthy individuals harbored this parasite.

From the pathological standpoint, the disease resembled closely a bacterial one, and the appearance of the meningeal exudation, if glanced at superficially, resembled closely that of an ordinary septic meningitis. On close examination one saw, however, that in sleeping sickness the exudation consisted of mononuclear leucocytes, and was seen spreading in the perivascular spaces around the vessels, whereas in the septic meningitis the exudation was polymorphonuclear, and was not seen spreading around the vessels. The chronic condition of the first disease might cause the mononuclear infiltration, but the point required clearing up.

Dealing with Dr. Christy's theory that *Argas monbata* was the host of *Filaria perstans*, though the tick-like bug was very common in British Central Africa, Daniels had clearly shown that there was no *Filaria perstans* there. Again in British Guiana there was no *Argas monbata* and yet *Filaria perstans* in abundance. Even assuming that filariæ were found in sections of an argas it did not follow that it had anything to do with the filaria one was searching for. To obtain reliable results on the subject of intermediate hosts one must always rear one's insects and then serially dissect them. If this were not done, one was liable to fall into grave errors.

As regards Dr. Sambon's statement that tsetse flies were always found near water, Dr. Low said he knew that there were large areas completely dry and covered with scrubby bush where they were common, but perhaps Dr. Sambon and he were talking of different species.

Capt. Leonard Rogers objected to the view of regarding kala-azar as a trypanosome-disease. He thought the recognition of trypanosomes by so-called involution forms was doubtful. He had examined several hundreds of cases of kala-azar, but had never found a single trypanosome. A characteristic feature of kala-azar was the peculiar melanotic pigmentation invariably found in the various organs; such a pigmentation was proof of an endoglobular parasite which destroyed the corpuscle. The trypanosome lived in the plasma. In surra no melanotic pigmentation was produced by the trypanosome.

**Abscess of the Liver.**—Fleet-Surgeon P. W. Bassett Smith, R. N., read a paper based upon the observation of five cases of abscess of the liver. In all five cases there was a history of dysentery, but in none had it been of a severe character. In two cases exploratory punctures failed to find pus which later burst upward through the lung. Blood examination showed a rising leucocytosis before operation and a rapid and steady fall after. He condemned operation by trocar and cannula and advocated the transthoracic method of reaching the pus.

Mr. James Cantlie of London discussed the same subject in a paper on "Ten Cases of Liver Abscess with Remarks on the Operation by the Trocar and Cannula and Syphon Drainage." Mr. Cantlie, from experience gained in the treatment of liver abscess in his own practice and in that of others, had come to the definite conclusion that the safest, most speedy, and most successful method of treatment was by the trocar and cannula and syphon drainage. He condemned the transthoracic method of reaching pus in the liver as too heroic, as unsuitable when the patient was far advanced in the disease, and except in well-appointed hospitals as a wholly unjustifiable step. For deep-seated abscesses in the liver, incisions, whether by way of the thorax or abdomen, in no way helped toward the determination of the situation of pus in the liver, and they hampered rather than helped toward obtaining subsequent safe and satisfactory drainage. The cases in which exploratory needle punctures of the liver had caused hemorrhage, Mr. Cantlie ascribed to wounding of the inferior vena cava. He maintained that this could be avoided by having a care not to puncture too deeply; for example, in a chest of 32 inches circumference at the seat of puncture, it was not safe to penetrate more deeply in a direction toward the inferior vena cava than 3¾ inches. Of the ten cases reported by Mr. Cantlie three were suprahepatic abscesses, one was a subhepatic abscess and six were intrahepatic. The intrahepatic abscesses were all subsequent to dysentery; the other patients had not had dysentery. Two patients were lost by the operation, having been deferred to too late a period, pyæmic organisms being already present in the blood at the time of the operation. The others recovered. Early exploration in suspected cases of liver abscess, operation by the trocar and cannula and syphon drainage for all deep-seated abscesses of the liver Mr. Cantlie maintained was a simple, satisfactory and successful method of treating pus in the liver.

Capt. Leonard Rogers, I.M.S., read a paper on "Biliary Abscesses of the Liver with an Operation."

*Friday, July 31—Third Day.*

**Leprosy: Its Etiology, Histology, and Treatment.**—Mr. Jonathan Hutchinson, F.R.S., opened the discussion. He said that an overwhelming body of evidence was opposed to the belief that leprosy spread by any ordinary mode of contagion (the breath, touch, clothes, bites of insects, wounds, etc.). No one in any way connected with lepers in asylums ever contracted the disease. Numbers of lepers came to England, or went to America, and yet they did not spread the disease. He thought that commensal communication—that is, by eating food contaminated by a leper's hands—did occur occasionally, but was by no means frequent. In India sweetmeats were often sold by lepers. In India and Norway lepers were employed as fruiterers and bakers. It had been suggested that the acarus of scabies might be concerned in the transmission of leprosy. Scabies was very general amongst lepers, but it was not a means of communication, neither were any insects. The belief in contagion was based merely on the discovery of a bacillus in leprosy. Facts were opposed to it. It was rare to find the disease both in husband and wife. With the exception of a very doubtful case, all inoculation experiments had failed to reproduce the disease. Hereditary transmission, if it ever occurred, was certainly a rare event. The transmission of the disease from mother to child was one of commensal communication by the milk. In all countries where leprosy was not common the great majority of the cases arose *de novo*, in the sense that their had been neither inheritance nor any exposure to risk of contagion. All facts pointed to some article of food as the cause of

leprosy. But there was only one article of food which could be reasonably suspected, and that was fish. The excessive prevalence of leprosy in certain fishing districts was a fact strongly in favor of the fish hypothesis, and the excessive incidence of the disease in Roman Catholic communities supported the same conclusion. It was the badly cured and decomposing fish that was the cause of the disease. Improved methods in the salting of fish had greatly reduced the incidence of the disease in Norway and other countries. The amount of circumstantial evidence now accumulated on the fish theory of leprosy was sufficient not only to justify, but to demand that measures based upon it should be adopted.

Dr. H. MARCUS FERNANDO stated that his experience in Ceylon was opposed to Mr. Hutchinson's views.

Mr. JOHN D. HILLIS, F.R.C.S., said his own experience of leprosy extended over twenty years as visiting physician to a large leper asylum in British Guiana, and it was directly opposed to Mr. Hutchinson's. In British Guiana there were several tribes of aboriginal Indians, all of whom lived by fishing, hunting, etc., and consumed large quantities of salted or fresh fish. Leprosy was unknown among any of these tribes, except the Warraus. The latter, who were not so exclusive as the other tribes, alone of all of them dwelt near and commingled and intermarried with the lepers when the asylum was removed to the mouth of the Pomeroon, and leprosy had prevailed among them ever since, whilst the other tribes had remained absolutely free. If fish caused leprosy among the Warraus, Mr. Hutchinson would have to explain why the others are exempt.

Dr. PHINEAS S. ABRAHAM of London expressed his thanks to Mr. Hutchinson for again bringing this important question forward. He for one was greatly troubled by Mr. Hutchinson's final appeal against those terrible leper prisons like Robben Island. While he thought that bad cases, which could not be properly treated—with due precautions—at home, should be sent to special hospitals, it seemed monstrous to confine patients in the early stages. Although he agreed with Mr. Hutchinson in many respects and could confirm his statements especially as regards the absence of evidence of contagion in this country, he believed that leprosy was a bacillary disease, and that like tubercle, it could be introduced into the human system—but with more difficulty—by various channels, the alimentary and respiratory systems, and also by inoculation through the skin. He was in this sense a contagionist. The ground opened up by Mr. Hutchinson was so wide, that it would be impossible now to discuss all the points raised. He deplored the resuscitation of the term "*de novo*"—it seemed to him inaccurate to say that a disease which was known to have a definite bacillary cause ever arose *de novo*. Mr. Hutchinson believed that improved methods of fish curing were the real cause of the rapid decrease of leprosy in Norway since the enforcement of partial segregation. The speaker would read a letter received from Dr. Ehlers, the great Scandinavian authority on leprosy, which answered this point.

Dr. Ehlers said, "Why does he (Hutchinson) always speak of badly cured fish, when he speaks of the fish-theory? What is 'badly cured' and what is 'well cured' fish? There must be in the fish something (bacillus, poison or what?) which causes leprosy, if his idea is right. It is not possible to fight with so ill-defined terms. He must give a better explanation of what he means with 'badly cured.' In Norway and Iceland the methods of curing (that is to say of drying) fish are now the same as a century ago, but the people of to-day are cleaner than those of the eighteenth century and it is clear that the fish is treated more carefully. In Iceland there was an increase of leprosy from the moment (1848) the four small and poor asylums were closed to the years 1894–1895, when I made my first investigations in that country and convinced the Icelanders of the danger of contagion. The Icelandic leprosy law of the 4th of February, 1899, and the opening of the Odd-fellows Leper Asylum with seventy beds at Reikixvik have already—within five years—caused a remarkable decrease in the number of cases of leprosy. In 1896 I found in Iceland 181 lepers and presumed that there were over 200 (we now know that this was really the case). The latest report from Dr. Bjarnhedinsson, just published (July 10, 1903), shows us that this number had decreased at the begininng of the year to 133, *a decrease of one-quarter in five years!* Do you think that the fish has been better cured in these five years? I think that the opening of the hospital, with isolation of seventy of the worst lepers, has been the chief cause. At the same time 4,000 copies of my popular pamphlet on leprosy were spread amongst the population. In twenty years leprosy will have disappeared from Iceland, as it is disappearing in Norway and Sweden.

"In the so-called fish-hypothesis there is another obscure point. Mr. Hutchinson speaks in a general way of 'badly cured fish,' but the different populations amongst whom this old theory still prevails believe that only particular species of fish are able to give the disease. Thus the Icelanders incriminate the halibut or the trout. On the Agean Sea, the inhabitants of the Pelion fear the tunny. In the Danish West Indies the negroes speak of the king-fish. Does Mr. Hutchinson mean that all kinds of fishes can give leprosy, or has he any suspicion against certain species? How can he explain the development of leprosy in people who have never eaten fish? I have seen such people in Crete. In my eyes there is only one grain of truth in the fish theory. The people who content themselves with badly cured dry fish are very poor people. Such poor people are always very dirty, and filth is the mother of contagion."

Dr. F. SANDWITH of Cairo said that his experience in Egypt gave no support to Mr. Hutchinson's fish theory.

Sir PATRICK MANSON said Mr Hutchinson appeared to him like one of the old prophets preaching to the wilderness—no one would listen to him. He thought enough had been said about the fish theory. The data on which it was based were insufficient and did not bear critical investigation. Like tuberculosis, leprosy was a bacillary disease and a contagious disease.

Dr. L. W. SAMBON said Mr. Hutchinson recognized the Lepra bacillus as the cause of leprosy, but he ascribed the production of the disease to the consumption of badly cured fish. His statements were somewhat contradictory. He adduced much information to show that the specific bacillus was frequently swallowed with impunity with fruit, sweetmeats, and other foodstuffs handled by lepers with open sores, indeed he reminds us that inoculation experiments had practically always failed; and, at the same time, he expected us to believe that the disease was contracted by eating fish that had been salted, dried, and cooked. At one time he thought that fresh fish might cause leprosy, now he seemed inclined to look upon leprosy as a form of food poisoning etiologically analogous to that caused by decomposed canned meats (kreotoxismus). The peculiar geographical distribution of leprosy; its study increases in certain regions, its steady decrease in others; its disappearance from many parts of Europe where it was prevalent at one time; its sudden appearance and rapid spread in islands and countries previously immune, were all facts which did not agree with Mr. Hutchinson's theory. It was quite true that the discovery of the Lepra bacillus had prompted the belief in contagion. The term "contagion" was an old, misleading term. Recent knowledge had shown how very varied were the ways and means by which a disease could pass from one person to another. As a rule, there were intermediary agents of transmission, and very probably the peculiar conditions of leprosy infection would find their explanation in some necessary intermediary agent. Dr. Sambon fully agreed with Mr. Hutchinson and Dr. Abraham as to the horrors of segregation in leper asylums, but he was bound to admit that

it was owing to the cruel, pitiless measures of segregation enforced during the Middle Ages that leprosy had been almost swept out of Europe. To avoid much more wretchedness in the future, it was of the utmost importance to deal wisely with present lepers. It was not yet known how the disease was transmitted; it was quite possible that man might derive the infection from some lower animal, as he might contract tuberculosis from cattle, and plague from the rat, but there was no doubt that another leprous man was the usual source. It was known for a positive fact that each patient might become a center for other groups of cases. It was known also that the disease had always decreased under the influence of segregation. We must therefore restrict the wandering of lepers in order to prevent a wider spread of this fearful, incurable disease.

**Plague in Domestic Animals.**—Mr. JAMES CANTLIE of London drew attention to the announcement recently made that in the Hongkong market two fowls, a duck and a quail, had been found infected by plague. Coming as it did in connection with the experiments of Professor W. R. Simpson and Dr. Hunter, in Hongkong, in the direction of proving that plague was readily communicable to lower animals, the information was at once interesting and significant of marked danger to any community in which plague appeared. The experiments of Simpson and Hunter went to show that fowls, ducks, turkeys, geese, swine, buffalo calves, goats, etc., were highly susceptible to infection when given food contaminated in any way by plague. Many of these animals had plague, with high temperature, etc., without exhibiting any sign of illness. A pig, for instance, would go about apparently quite well with a temperature of 103° to 104° F., and not until the fourth or fifth day would any indication of disease become apparent—generally only a few hours before death. Mr. Cantlie contended that the infection of domestic animals constituted even a graver danger than that of rats, as they were frequently in intimate contact with the natives in their dwellings. The danger of taking on board ships fowls, pigs, sheep, etc., infected by plague was very pronounced, seeing that these animals exhibited no symptoms of being ill. He thought that whilst we had been fighting against contamination by the rat we had omitted to notice that the domestic animals around us were also infected by plague.

### SECTION OF MEDICINE.

*Friday, July 31—Third Day.*

**Susceptibility and Infection.**—Dr. R. J. M. BUCHANAN of Liverpool opened this discussion. Three types of infection were distinguished, the purely bacterial, the toxic, and a combination of both. Examples of natural immunity were instanced, as in animals of different color and species and in persons of different race, and of different age period. The function of the skin, lympathic glands and other structures in preventing infection were referred to, and the protective substances characteristic of natural and acquired immunity were differentiated. Investigations by himself in relation to phagocytosis were described in which observation on the protective influence of the leucocytes in leucocythæmic blood—in regard to anthrax and typhoid bacilli. Hardly any infectious disease had a chance of gaining a lodgment in the body, unless there were a lowering of the natural resistance from some cause or other. Anything which caused hyperleucocytosis increased the bodily resistance. The natural resistance to poisons had had demonstration—for example, in the case of the pig and hedgehog in relation to snake poison. Reduction of bodily resistance from starvation was discussed, also from unsuitable diet, from the exposure to heat, cold, and damp, and fatigue, from traumatic lesions, the removal of organs, particularly the pancreas, and from the injection of chemical bodies and others. Mixed infection was then discussed; it was pointed out that pure tuberculous infection was slow and the tendency was to recovery, but if other organisms, particularly the streptococci, were implanted then the disease tended to run a rapid course and the chance of recovery was slighter. Artificial or acquired immunity was lastly referred to, including reciprocal infections between the bacilli and the host. It was suggested that the toxic effects of bacilli might depend on the stimulating effect of the irritating substances produced by their otherwise harmless action in disturbing the metabolism of the body. It was suggested that an endotheliolysin might play an important part in rheumatic fever, explaining the association of cardiac disease.

Dr. MACPHEDRAN of Toronto asked if the natural resistance of an individual were proportional to bodily vigor; it seemed, as for example in the case of typhoid fever and smallpox, that it was not. He referred to the antagonism of streptococci to malignant disease, and raised the question whether sarcomata were due to infective organisms. The apparent immunity of children fed on mother's milk might mean that they were better nourished than those fed on cow's milk.

Dr. D. C. MCVAIL of Glasgow also had found that persons who had been most violently attacked by infectious disease were the most robust physically, indicating that some unknown factor apart from so-called vital resistance might be concerned in the establishment of immunity.

Dr. Buchanan, in reply, said that robustness, from the clinical point of view, must be distinguished from specific resistance, and alluded to the cure of tuberculosis by an intercurrent attack of erysipelas.

**Formaldehyde in Tuberculosis.**—Dr. CHOWRY MUTHU of Wells then read a paper on the treatment of tuberculosis by formaldehyde as a supplement to the sanatorium method, in which he referred to the methods of inhalation, of intravenous injection, and of cataphoresis. He had healed 25 cases by intravenous injection, generally giving 50 c.c. of a 1 in 1,000 solution. In a few cases the improvement was, he considered, striking, but it was combined with the open-air treatment.

Dr. BUCHANAN approved of formaldehyde inhalation for consumption; he considered it a valuable remedial agent. He had found a good method of administration was to sprinkle a few drops of a 40-per-cent. solution on a handkerchief from which it was inhaled. He spoke unfavorably of the intravenous method.

**Bronzed Diabetes.**—Dr. G. PARKER of Clifton then reported a case of bronzed diabetes with an account of the necropsy and of the microscopic pathological appearances in the liver, spleen, and pancreas. The suprarenal capsules were healthy. He maintained that the disease was more nearly allied to hypertrophic cirrhosis, splenic anæmia, and pernicious anæmia than to diabetes.

**Spinal Puncture in Uræmia.**—Dr. D. C. MCVAIL of Glasgow read a paper on this. He attributed uræmic coma to increased intracranial pressure due to œdema of the brain. Removal of an ounce of cerebrospinal fluid was followed in two cases by rapid and general improvement.

**Temperature in Phthisis.**—Dr. T. N. KELYNACK and Mr. SYDNEY WILLIAMS then communicated a paper on the relative value of rectal and oral temperatures in the management of phthisical cases. The records of temperature taken during rest gave much more satisfactory and reliable indications than those taken during or shortly after exercise. In 45 per cent. of the cases the rectal and oral temperatures corresponded, but in 38 per cent. they materially differed, and in these the disease was slight. Rectal temperature during rest were usually higher, but did not afford any special advantage as compared with the oral method during rest, and with due care the oral method seemed to afford an altogether reliable guide.

Dr. W. B. JONES read a paper on "The Mineral Waters of Llangammarch Wells."

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending August 15, 1903:

| | Cases. | Deaths. |
|---|---|---|
| Measles | 125 | 8 |
| Diphtheria and croup | 295 | 26 |
| Scarlet fever | 86 | 2 |
| Smallpox | ... | ... |
| Varicella | 12 | ... |
| Tuberculosis | 282 | 145 |
| Typhoid fever | 96 | 12 |
| Cerebrospinal meningitis | ... | ... |

**Milk Combs.**—According to the *Scientific American*, there were exhibited at the Hygienic Milk Supply (Hygienische Milchversorgung) Exhibition, by the Vereinigten Gummiwaren-Fabriken of Hamburg and Vienna, combs and cigar holders made of milk, or rather of "galalith"—*i.e.* milk stone. An advantage the new product is said to possess over celluloid is that it does not ignite so easily and is without scent.

**Hog Cholera in the Philippines.**—Dr. Richards, veterinarian of the Board of Health, was the first to suspect the presence of this disease in Manila hogs. With his assistance a number of the killed hogs were subjected to autopsy and bacteriological examination. The characteristic lesions of the disease were found and the "bacillus cholerae suis" isolated from the spleen and lymphatic glands of several of the cases.

**Cost of London Smoke.**—M. J. C. Hawkshaw, the engineer, is of the opinion that $25,000,000 a year is not an excessive estimate for the total expense of smoke pollution to London.

**The Race Suicide Question in Germany.**—There would seem to be no fear that a decline in the birth rate will soon be witnessed in Germany—that is to say, if all German mothers are as fruitful as those of Berlin. It has been recorded recently that one hausfrau of that city, although but forty-five years of age, has already twenty-eight hale and hearty children. Another, who is younger by four years, has brought twenty-three into the world, while yet three other women between the ages of forty and forty-three have presented their husbands with twenty-one descendants each. There are said to be two hundred and forty Berlin women who are the mothers of from thirteen to twenty children apiece.

**An Early Advertisement of Jenner's Vaccine.**—The *Scientific American* for July contains this interesting piece of old-time news. It says that a little more than a hundred years ago Dr. Jenner announced his discovery of vaccine as an alleviator of smallpox. The following is a verbatim copy of that call published in the London *Times* which was signed by about one hundred of the medical profession, scientists, members of Parliament, and the nobility: "London, January 10, 1803. The invaluable Discovery of Dr. Jenner, for the Extermination of Smallpox, having undergone the most rigorous investigation, and received the sanction of Parliament, a meeting will be held at the London Tavern, Bishopsgate street, on Wednesday, the 19th inst., at twelve o'clock, to consider the best means of carrying the same into effect, when the company of every gentleman disposed to concur in this laudable undertaking is earnestly requested. The Chair will be taken by the Lord Mayor precisely at one o'clock."

**Subjects for Anæsthesia.**—Dr. Hewitt divides his difficult and bad subjects for anæsthesia into six classes: (1) Patients whose general health is good, possibly exceedingly good, but who possess some physical peculiarity rendering them more or less liable to intercurrent embarrassment or arrest of breathing. (2) Patients whose respiratory tract is in some way encroached upon or whose respiration is in some way hampered by pathological or other conditions. (3) Patients suffering from certain grave visceral or constitutional affections. (4) Highly nervous or excitable patients, those suffering from various nervous affections; and those who have been addicted to the excessive use of alcohol, tobacco, morphine, or other drugs. (5) Patients displaying, in a state of combination or association, the characteristis of two or more of the foregoing classes. (6) Patients who prove to be difficult or bad subjects without any discoverable cause.—*The Hospital.*

**Baby Shows—a Suggestion.**—A London contemporary has fallen foul of fat babies, or rather has been endeavoring to awaken mothers to the fact that because an infant carries a large amount of adipose deposit it is not necessarily healthy. In the course of its remarks the *Lancet* says: "It is a matter of clinical experience that a fat baby is unhealthy, with little resistance to disease, and likely to succumb on the least provocation to any of the so-called minor ailments of infancy. It is very greatly to be regetted that baby shows, if they are to be held at all, cannot be utilized for educating the laity to admire in babies those "points" which are genuinely deserving of admiration and expressive of a physiological condition, instead of acting as they do, as direct inducements to over-feeding with foods which fatten but do not produce sound healthy tissues.

**How It Feels to Be Chloroformed.**—The lately deceased British poet, essayist, and critic, W. E. Henley, when a patient at Edinburgh Infirmary for operation, thus vividly and realistically describes the process then practised of administering chloroform, and the sensations of the one operated upon:

"You are carried in a basket,
Like a carcass from the shambles,
To the theater, a cockpit,
Where they stretch you on a table;

"Then they bid you close your eyelids
And they mask you with a napkin,
And the anæsthetic reaches,
Hot and subtle through your being;

"And you gasp, and reel, and shudder,
In a rushing, swaying rapture,
While the voices at your elbow
Fade—receding—fainter—farther.

"Lights about you shower and tremble.
And your blood seems crystallising.
Edged and vibrant, yet within you,
Racked and hurried back and forward.

"Then the lights grow fast and furious,
And your hear a noise of waters,
And you wrestle, blind and dizzy,
In an agony of effort

"Till a sudden lull accepts you,
And you sound an utter darkness,
And awaken—with a struggle—
On a hushed, attentive audience."

**Deterioration of Microscope Lenses and India-rubber Goods in Hot Climates.**—The following is from a paper on the "Preservation of Instruments in Bengal," read by Mr. Paul Bruhl before the Calcutta section of the Institution of Electrical Engineers on March 27 and printed in the London *Engineer* of July 24: One of the most powerful corroding agents employed by nature is carbonic acid. We are accustomed to look at carbonic acid as a weak acid . . . but when the acid is more concentrated under the action of high pressures the action is markedly different. Now capillary action has a similar effect on concentration as a large increase of superincumbent pressure; and the carbonic acid present in the film of moisture which covers all articles during the rainy season, or in the film separating two surfaces in apparent contact, is in a much more concentrated state than corresponds to the atmospheric pressure. Such carbonic acid is capable of displacing the silicic acid of natural and artificial silicates. . . . Microscopists know how difficult it is to keep

a stock of blank glass slides. If you keep your glass slides in contact with each other they are sure to grow dim . . . sometimes even if placed in alcohol. An absolutely safe plan is to tie two threads round each separate slide near its two ends, form a number of slides into bundles and keep them in alcohol or formalin. . . . The worst place to keep microscope objectives in during the rainy season is the cylindrical brass case provided for them by the makers. Microscope lenses—in fact, lenses and glass parts in general—do not stand close confinement for any length of time. Constant use is the best preservative. In any case place the lenses in a capacious box and air them frequently. . . . Some of the modern kinds of glass have to be tended very carefully . . . otherwise they will soon become dim evenly all over their surface. . . . The best way of keeping rubber stoppers is to put them into a wide-stoppered glass jar, at the bottom of which is placed an inverted perforated dish to serve as a support for the stoppers after pouring some oil of turpentine on the bottom of the jar. Stoppers which have acquired a hard cracked surface can be softened by proceeding similarly, only using chloroform instead of turpentine. A good way of preserving rubber tubing is to give it a coating of glycerin.—*The Lancet.*

**How He Paid His Doctor's Fee.**—Kinjiro Yoshimura' thirty-six years of age, rentee of a house in No. 6 section, Asakusa park, a man of no definite occupation, or, to be more accurate, a professional gambler, is a chronic sufferer from asthma. For some time back he had been in the habit of calling at Dr. Hara's in his neighborhood whenever a fit of coughing came over him and of being relieved of his suffering by opiate injections. On such occasions he was given liberty to stay and rest for a full day or two in an inner room of the doctor's house, and when well to leave it for his own home at any hour of day or night that suited his convenience. While this sort of thing had been going on without any hitch on the one hand, Detective Sanada of Asakusa police station had found out, on the other hand, in the course of his official rounds of the pawnbrokers that this same gambler had, since January last, been drawing certain different sums of money from a pawnshop on the pledge of articles of various description, including silk dresses, which aggregated in value over 150 *yen*. The question of whence these articles came finally led to the man Yoshimura's arrest, on last Thursday afternoon. According to the confession which the fellow has since made to the police, it appears that each time he went to Dr. Hara's to be treated for his asthma, which was genuine, and had a full rest in the manner above described, he made a point of stealthily taking away with him some property of the doctor, that he found within easy reach, and of changing his booty for money at the pawnbroker's. All the money he had thus obtained he had spent, to use his own unblushing confession, in paying the doctor his professional fee!—*Sei-I-Kwai Medical Journal.*

**Bacteria of Water of Public Swimming Baths.**—A paper was read on this subject by Dr. Glynn and Dr. Matthews at the annual congress of the British Royal Institute of Public Health, held recently in Liverpool. The authors said that investigation showed that salt-water baths contained fewer bacteria than fresh water. According to observations they had made, it was found that the water in a first-class bath removed from the skin and hair of each bather in about ten minutes approximately 4,000,000,000 bacteria. In the second-class bath each contaminated the water with 6,000,000,000 bacteria. One source of contamination besides the human body was dirt, which was carried into the corridors by the shoes of bathers, and he suggested that the ideal swimming bath of the future should have two corridors, one of which should be used solely by bare-footed people. There was no evidence that bacteria in swimming baths was injurious, yet, if they occurred in large numbers, it proved that the water was not clean, and, to put it mildly, cleanliness was the essence of hygiene.

**Radium and Its Lessons.**—Sir Oliver Lodge, writing on radium in the July issue of the *Nineteenth Century* and after, in summing up, says, "and let me conclude by asking readers to give no ear to the absurd claim of paradoxers and others ignorant of the principles of physics, who, with misplaced ingenuity, will be sure to urge that the foundations of science are being uprooted and long-cherished laws shaken." Nothing of the kind is happening. The new information now being gained in so many laboratories is supplementary and stimulating, not really revolutionary, nor in the least perturbing to mathematical physicists, whatever it may be to chemists, tor, on the electric theory of matter, it is the kind of thing fhat ought to occur. And one outstanding difficulty about this theory, often previously felt and expressed by Professor Larmor—that matter ought to be radio-active and unstable if the electric theory of its constitution were true—this theoretical difficulty is being removed in the most brilliant possible way.

**Effect of Formalin on the Skin.**—The cuticle is killed; it hardens, cracks, and desquamates; in some individuals this is attended by an eczematous rash. The nerve terminals in the skin are paralyzed, producing an annoying numbness. Where the skin is cracked the entrance of formalin becomes very painful.—W. H. DALL in *Science.*

**Health Report.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended August 15, 1903:

SMALLPOX IN THE UNITED STATES.

| | | CASES. | DEATHS. |
|---|---|---|---|
| Alabama, Mobile | Aug. 1–8 | 4 | .. |
| California, Los Angeles | July 25–Aug. 1 | 1 | .. |
| San Francisco | July 26–Aug. 2 | 3 | .. |
| Massachusetts, Fall River | Aug. 1–8 | 1 | 1 |
| Michigan, Detroit | Aug. 1–8 | 3 | .. |
| Missouri, St. Louis | Aug. 1–8 | 6 | .. |
| Nebraska, Omaha | Aug. 1–8 | 1 | .. |
| New Hampshire, Manchester | Aug. 1–8 | 1 | .. |
| New Jersey, Camden | Aug. 1–8 | 4 | .. |
| Ohio, Cincinnati | July 31–Aug. 7 | 2 | .. |
| Dayton | Aug. –8 | 3 | .. |
| Toledo | Aug. 1–8 | 1 | .. |
| Pennsylvania, Allegheny | Aug. 2–9 | 5 | 1 |
| Altoona | Aug. 1–8 | 1 | |
| | (imported from Virginia, via Washington City) | | |
| Carbondale | July 24–31 | 2 | .. |
| McKeesport | Aug. 1–8 | 4 | .. |
| Utah, Salt Lake City | Aug. 1–8 | 2 | .. |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Belgium, Antwerp | July 18–25 | 3 | .. |
| Ecuador, Guayaquil | June 24–July 4 | .. | 1 |
| | | (Sporadic case) | |
| Colombia, Bocas del Toro | July 20–28 | 1 | .. |
| Great Britain, Bristol | July 18–25 | 1 | .. |
| Leeds | July 18–25 | 9 | 1 |
| Liverpool | July 18–Aug. 1 | 12 | 2 |
| London | July 11–18 | 7 | .. |
| | July 18–25 | 12 | .. |
| Manchester | July 18–25 | 7 | .. |
| Nottingham | July 11–25 | 10 | .. |
| India, Bombay | July 7–14 | 14 | .. |
| Calcutta | July 4–11 | 1 | .. |
| Mexico, City of Mexico | July 26–Aug. 2 | 7 | 4 |
| Tampico | Aug. 1–8 | .. | 2 |
| Netherlands, Amsterdam | July 25–Aug. 1 | 1 | 1 |
| Russia, Moscow | July 11–18 | 2 | .. |

YELLOW FEVER.

| | | | |
|---|---|---|---|
| Colombia, Panama | July 27–Aug. 3 | 3 | 1 |
| Costa Rica, Limon | July 23–30 | 2 | 2 |
| Mexico, Tampico | July 24–Aug. 8 | .. | 25 |
| Vera Cruz | July 24–Aug. 1 | 30 | 3 |
| | Aug. 1–8 | 61 | 26 |
| Victoria | Aug. 10 | 1 | 1 |

CHOLERA—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Manila | June 13–20 | 9 | 8 |
| Provinces | June 13–20 | 368 | 319 |

CHOLERA—FOREIGN.

| | | | |
|---|---|---|---|
| India, Bombay | July 7–14 | .. | 1 |
| Calcutta | July 4–11 | .. | 35 |
| Straits Settlements, Singapore | June 13–20 | .. | 6 |

PLAGUE—UNITED STATES.

| | | | |
|---|---|---|---|
| California, San Francisco | July 29 | .. | 1 |

PLAGUE—FOREIGN.

| | | | |
|---|---|---|---|
| Australia, Queenland, Bundaberg | June 1 | 1 | .. |
| China, Hongkong | June 17–26 | 52 | 47 |
| Egypt, Alexandria | July 5 | .. | 1 |
| Port Said | July 13 | 7 | .. |
| Tantah | July 9 | 4 | .. |
| India, Bombay | July 7–14 | .. | 68 |
| Calcutta | July 4–11 | .. | 15 |
| Karachi | July 5–12 | 2 | 2 |
| Mauritius | July 2–16 | 12 | 10 |

# Medical Record

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## Original Articles.

### THE SYPHILITIC AFFECTIONS OF THE HEART AND AORTA.*

BY LEONARD WEBER, M.D.,
NEW YORK.

IT was in 1895 that I had the honor of reading a paper on "Syphilis as a Factor in Diseases of the Heart and Lungs," before this association. The literature of syphilis of the heart has grown very considerably since that time, and there have been so many publications of carefully observed cases that there is no further doubt among the well-informed as to the frequency of its occurrence in the later stages of syphilis. When Fournier and Erb, in the seventies of the last century, called the attention of the profession to the frequency of disease of the nervous system attributable to the toxins of syphilis, their observations were soon corroborated by other clinicians, and it was not more than ten years thereafter that this highly important knowledge became the common property of not only the neurologist, but the general practitioner as well. Thanks to the labors of Virchow, Heubner, and many others, we have learned and are now convinced of the fact that syphilis may be counted as rather frequent among the various causes of arterial degeneration, in the form of sclerotic and gummatous processes, leading to endarteritis obliterans, with its baleful influence upon the nutrition of the parts supplied by the diseased vessel. Forty years ago this was not known, and the heart, of all organs, was looked upon as practically exempt from syphilis; now we are recognizing that sclerosis of the coronary arteries, softening and degeneration of the cardiac muscle observed in persons under fifty years of age, are often of syphilitic origin, and it will not be long, I believe, before physicians in general will admit that syphilis of the heart is not infrequently seen in persons who have or have had syphilis.

In considering the etiology and general pathology of cardiac syphilis, the first question which would present itself is this: is there a predisposition on the part of certain luetic patients, so that they are more apt to develop cardiac syphilis than others? In a paper read before the New York Academy of Medicine, published in the MEDICAL RECORD, April 5, 1884, on "Syphilis and Locomotor Ataxia," by which the discussion of the interesting subject was started and kept up for a number of years in various medical societies in this country, I showed that of 125 cases of syphilis, treated by me and observed for a period of from fifteen to twenty years, there were but two who presented marked symptoms of specific disease of the brain (hemiplegia) and died of it, and that these were two men who, for one reason or another, could not be convinced that they had syphilis and, unfortunately, abandoned treatment during the first year of observation. Not one of the whole number had tabes. It is much the same, probably, with cardiac syphilis. In the first place then, a light case of syphilis, overlooked, not treated at all perhaps, or an ordinary case of syphilis treated in a perfunctory way, or not long enough, or when properly treated, becoming mixed up with alcoholism, is apt to develop nerve or visceral syphilis in the course of time, sometimes not until many years after infection. Again it is a matter of frequent observation, and I have notes of some cases confirming this, that by the neurotic taint inherited or acquired by prolonged masturbation, or excess in venery, alcoholism, unusual physical stress and exposure, the syphilitic is predisposed to specific and degenerative changes of the nervous system; but similar influences may not as regularly produce similar results with reference to cardiac syphilis, and it will be shown by the history of a few cases that the vigorous have as little guarantee against coronary sclerosis and its baleful sequelæ as the feebly constituted syphilitic. Gout and lead poisoning may run alongside with syphilis producing their own lesions without influencing that disease in the direction of arteriosclerosis in any noteworthy way. There is, for instance, the case of M. C., aged fifty-four years, with hereditary gout, a free liver, vigorous, married rather too soon after acquiring syphilis, wife died some years ago showing signs of contamination; his son had hereditary syphilis. Now this man has had many attacks of gout in the last twelve years, during which he has remained free of all specific symptoms, but heart and arterial system do not yet give any appreciable sign of disease.

Whether there is any particular occupation predisposing the infected to specific heart disease more than any other, I cannot say, but will mention that the two most marked cases of specific disease of heart and aorta which have been seen by me concerned shoemakers, the younger of whom died suddenly the other day, while the older man is still alive and much improved by treatment.

It has been stated that in the course of tabes dorsalis, aortic insufficiency is occasionally seen to develop. That is true, but not in the sense that posterior sclerosis produced the disease, but that it is caused by the syphilitic virus so often associated with tabes. Having carefully watched the development of aortic disease, including valves in old syphilis, and without the presence of any other marked influences, I am convinced of the correctness of above statement. I also believe that I am able to show now a causal connection between the syphilitic toxins and certain cases of chronic diffuse and interstitial nephritis dependent upon arteriocapillary sclerosis of the kidney.

What do we find at the autopsy of a syphilitic heart or aorta? At the outset let me repeat what I said in a paper on this subject, read before the New York Academy of Medicine, March 9, 1899, and published in the *New York Post-Graduate Journal*, May, 1899: Excepting the gumma in the cardiac muscle or cardiac arteries, there is nothing in the appearance of the sclerotic changes of the vessels or in the softening and degeneration of muscular fibers that would enable us to distinguish the arterial sclerosis of syphilis from that made by other diseases. And it is even so with "Pulmonary Syphilis in the

*Read before the American Climatological Association at the meeing in Washington, D. C., May, 1903.

Adult," *vide* the excellent monograph under that title by Drs. Thomas E. Satterthwaite and W. H. Porter, published in the *Boston Medical and Surgical Journal*, June 11 and 18, 1891, wherein it is shown that the white pneumonia s. c. alone presents specific appearances. Read the essays on cardiac syphilis by Mracek, *Archiv für Dermatologie und Syphilis*, 1893, Vol. XXV, Is. Adler's observations on cardiac syphilis, *N. Y. Medical Journal*, October 22, 1898, and on arteriosclerosis in MEDICAL RECORD, and another paper by the reader on arteriosclerosis and chronic nephritis in the *New York Post-Graduate Journal*, April 15, 1898, and so on down to Professor Runeberg's recent résumé of the subject in the *Deutsche medicinische Wochenschrift*, 1903, Nos. 1 and 2, and you will find that, at a time when neither the aorta nor the main trunks of the coronary arteries exhibit any signs of disease, endarteritic and periarteritic processes may be developed in and about the smaller vessels of the heart, leading to structural changes later on.

The case develops further and we notice atheromatous patches in the aorta, pulmonary and coronary arteries, under the microscope endo- and periarteritis and interstitial myocarditis pretty well advanced. In another case again, with the symptoms of enlargement, weakness and arythmia of heart and dyspnœa during life, the dilated heart will show areas of softening (myomalacia) in the myocardium, streaks and patches of fibrous growth replacing muscular fibers, occasionally also a gummatous tumor. Again, when the symptoms have been those of angina pectoris alone, coarse lesions of the main trunk of the coronary artery only may be found after the sudden death of the sufferer. I may mention here the unusual case of a man aged forty-five years, who died some time ago of acute pulmonary œdema during an attack of ordinary bronchial catarrh in midsummer; he had had syphilis some twenty years before that, and the autopsy revealed extensive atheroma of the pulmonary artery extending way out into the ramifications of the vessel.

Through obliterating endoarteritis and periarteritis, distention of capillaries and smaller veins occurs sometimes and in addition thereto small hemorrhages take place, the extravasated blood forcing the muscular fibers apart and breaking them into fragments, as shown first by Ehrlich. To be sure, hemorrhagic infarction is not the usual way in which myocardic tissue is destroyed, but it is through deficient blood supply that the fibers undergo atrophy and molecular disintegration, and that scar-tissue is formed in their place by simple cellular infiltration; and replacement of numerous muscular ele ments by fibrous tissue means permanent impairment of vital function. This has an important clinical bearing, for it is evident that proper therapeutic measures may arrest further developments of morbid cell-proliferation and gummatous growths and produce absorption, but are powerless against fully developed fibrous tissue. The fact, then, is now established that, wherever structural lesions are found in the cardiac muscle, due to syphilis, there also typical alterations in the blood vessels can be made out; and there is good reason to believe that myocarditis and subsequent degeneration are secondary to the vascular lesions.

*Diagnosis.*—In the absence of syphilitic stigmata in a given case, it will be almost impossible to arrive at a correct diagnosis at an early stage of the disease. The differential diagnosis will also be difficult, particularly when the patient is unwilling or unable to give a satisfactory history of previous luetic disease. By careful attention to details in our examination, and *ex juvantibus* when other means fail, we shall, not infrequently, make the diagnosis of syphilitic lesion pretty certain.

Leaving the purely senile heart, which has a literature of its own, out of consideration altogether in this paper, it is evident that in endocarditis and myocarditis from rheumatism, in the alcoholic, the nicotine, the fatty, the gouty heart, syphilis may, as a rule, be excluded, though it may occasionally complicate one or the other of these forms of heart disease. The signs of myocarditis in individuals below fifty years, such as weak impulse with accentuated second sound, arythmic action, tachycardia, or even brachycardia, faintness, dyspnœa on exertion, angina pectoris, general depression and weakness, should always arouse our suspicion of syphilis, whether the patient admits a previous infection or denies it; in the absence of any other satisfactory etiology, we are justified to assume syphilis, and try to arrive at a correct diagnosis by specific treatment. The signs of active syphilitic lesions in other parts of the body in a case of myocarditis, would go far toward making the diagnosis certain. The treatment may fail to cure, as it will in a case of advanced fibrous degeneration; that does not disprove the syphilitic nature of the case; it may be too far advanced to yield to treatment.

Semmola contends that arythmia and tachycardia without other functional disturbances, not clearly to be accounted for on other grounds, and not yielding to the ordinary treatment with digitalis or other cardiac remedies, are pathognomonic of cardiac syphilis, and he reports a number of such cases cured by iodide and mercury, after all other treatment had failed.

The clinical and anatomical material is as yet insufficient to decide to what extent his views are borne out by actual fact. However, Isaac Adler, Wm. Thompson and myself reported such cases to the New York Academy of Medicine in 1898 and 1899.

Quite a number of cases of sclerogummatous disease of the coronary arteries manifest themselves mainly by the symptoms of angina pectoris. Professor Runeberg of Helsingfors states that a case of this kind, going on without cardiac hypertrophy and other symptoms of general arteriosclerosis, occurring in a patient under fifty years, is of specific origin at least eight times out of ten. When not relieved by proper treatment sudden death during an attack is not a rare event.

Next to specific sclerosis of the coronary arteries, in frequency and practical importance, must be placed syphilitic aortitis, with its sequelæ, degeneration of the semilunar valves and aneurysmatic dilatation. These affections of the aorta will be associated with cardiac hypertrophy and muscular degeneration also, particularly so when the valves are much diseased. Two very good examples of this kind I shall mention later on. The anatomical lesions found here are rather gross and generally more readily recognizable as specific sclerogummatous processes than those of the coronary arteries, other influences being excluded, the differential diagnosis is more readily made when the aortic disease concerns a person under fifty years of age, just as we know now that the majority of cases of aortic aneurysm present a previous luetic history. of my own records of about a dozen cases of aortic aneurysm, syphilis had been present in ten of these. Circumscribed gummata in the cardiac muscle are but rarely observed in comparison with arteriosclerosis and myocardic degeneration. When far-advanced obliterating arteritis is disclosed at the autopsy of a syphilitic heart, so that a small size

knitting needle only can be pushed along a coronary artery, and we know that nevertheless the patient had but few symptoms during life indicating serious cardiac lesions until he rather suddenly succumbed to a fatal attack, we can readily understand that a patient in the early stage of specific coronary sclerosis may present no symptoms whatever to indicate the presence of dangerous disease. And is it not even so in renal sclerosis and in endarteritis obliterans generally?

In the great majority of cases which have so far come under my observation, I have had pretty well marked signs of cardiac disease before me, but the heart can get along pretty well though its blood supply and muscular force may be reduced, and, provided we succeed in arresting further progress and cure by specific treatment, what may yet be curable, the prognosis is not so bad as it looks at first sight. Old cases may not be cured, but they can be greatly improved if they respond to treatment. I remember but one case concerning a young man with well-marked constitutional syphilis of recent date, with febris continua syphilitica, enlarged spleen, marked anæmia, and endomyocarditis, who got entirely well after mercurial inunctions, followed by the iodides and tonics, and has remained so these last four years. But this was a case of specific cardiac disease in the early stage, and in a young person.

To rely upon the iodides alone in the treatment of syphilitic heart disease will lead to disappointment, according to my experience; temporary improvement, often very good, you may get, but it will soon pass away; not so, however, if mercury be used with them or even without them, provided the patient's kidneys are sound. Then, and then only, will good and even permanent results be obtained in treating cardiac syphilis. For this purpose I have been in the habit of ordering mercurial inunctions whenever practicable; when not, the bichloride of mercury hypodermatically or the biniodide by the mouth. Advanced cases of syphilitic aortitis I have found less amenable to treatment than specific cardiac disease. The general nutrition of such patients is almost always much impaired and the various specifics are not well borne.

Finally, permit me to give the history of four rather interesting cases:

Case I.—Alb. M., aged sixty-seven years, father and mother lived to a good old age, and had always been well. Though a free liver and smoker, he was never ill until he contracted syphilis in 1877. He was carefully and sufficiently treated and kept under observation for six years. There have been relapses or manifestations of tertiary lues. He remained quite well and active until October of last year when he noticed his breath getting short on slight exertion, his sleep disturbed and uncertain, and his throat and trachea often filled with catarrhal secretions. The superficial dulness of heart occupied a somewhat increased area, impulse diffuse and weak, first sound poor, followed quickly by accentuated second sound, heart-pause shortened, arythmic, no murmurs. Marked sclerosis of radials, no angina symptoms. There seemed to be no doubt about the presence of chronic myocarditis having reached a stage at which the cardiac functions began to show serious disturbance. The question arose, was it all due to old syphilis, or also, perhaps even more so, to arteriosclerosis of advanced age, and the influence of liquor and tobacco? Tentatively, mixed treatment was ordered and carried out for four weeks, and an evening dose of digitalis was given, but the heart dimensions remained the same, the subjective symptoms improved but little. In December he experienced an acute attack of gastro-intestinal indigestion after eating some too rich or spoiled food. The patient had high fever for three days, on recovery felt very weak and had lost all appetite; presently he became dropsical, the water increasing with alarming rapidity, filling his legs, abdomen, and appearing in the pleural cavity, and the urinary secretion dwindled down to ʒ xv in twenty-four hours. He had lost all appetite, was somnolent without being able to sleep, had, in fact, all symptoms of venous back-pressure caused by rather acute dilatations of the right half of an already damaged heart. Specific treatment, calomel, strychnia, and moderate doses of fluid extr. digitalis failing utterly to afford relief, I said to myself: leave all previous history out of consideration and treat the case as one of acute incompensation. such as we observe sometimes in mitral regurgitation when the right heart becomes over-distended. Of an infusion of the best English leaves of digitalis, with citrate of potassium and tincture of columbo, he began to take a tablespoonful every three hours on a Wednesday noon, and in the night, from Friday to Saturday, he passed 90 ounces of urine. The re-established and increased diuresis kept right on, and after finishing a second bottle of same mixture in the course of the next five days my patient was not only safe, but practically well enough to go about. To this day, four and a half months having passed, he has been able to attend to business regularly, his pulse though good enough, continues arythmic, and his heart needs careful supervision, because it is and will remain the seat of chronic myocardic weakness and degeneration.

Case II.—Ad. M., aged sixty-eight years, married, father of healthy children, stout and active man. I have known him these forty years. He never had any of the usual signs of syphilis and would not admit he had it if I told him so to-day, but, fortunately for his welfare, I had noticed a well-marked superficial serpiginous syphilide over sternum about thirty-five years ago, when I happened to examine his chest. Eight years ago he came to me with well-marked symptoms of general neurasthenia, sense of heaviness and fatigue, somnolence, etc. Patellar reflexes were greatly reduced, pupils almost inactive, slight Romberg sign present. By a systematic course of hydrotherapy and rather perfunctory mixed treatment, repeated at appropriate intervals, he improved greatly, and had no occasion for further medication until three years ago when he came back and complained of dyspnœa, fulness in epigastrium, loss of appetite, weakness, etc. Finding the heart enlarged in all dimensions, an arythmic, small, jerky, fast pulse, and a greatly enlarged liver, I first put him on calomel for the purpose of unloading the viscera; this was done once a week for four weeks with very beneficial results in all respects. After that he took mixed treatment in moderate doses for fifteen days out of every month, and continued this for one year. His liver returned to almost normal dimensions, the cardiac dulness was much reduced; the progress of chronic myocarditis has been stopped, but, to be sure, no cure is to be expected. Digitalis has not been used in this case, though I tried it about a year ago, to reduce the size of an enlarged heart, but without any success whatever. Of great assistance in this and like cases are occasional purges by calomel or elaterium to relieve passive congestion and help thereby the action of such specific and other drugs as may be indicated.

Case III.—Mark M., aged sixty-three years, married, shoemaker, had syphilis between his twentieth and thirtieth years, which soon became latent.

Fifteen years ago he suffered from suppurating muscular gumma in leg which I scraped thoroughly with sharp spoon. Under iodoform dressing and mixed treatment, perfect healing took place. Last winter he came back complaining of cardiac symptoms. Heart somewhat enlarged, first aortic murmurish, ascending aorta dilated, slight angina symptoms, probably due to some coronary sclerosis and myocardic degeneration. Cardiac impulse weak, pulse arythmic, some œdema of lower extremities, slight albuminuria. By a course of iodide of potassium, strychnia and nitroglycerin, rapid amelioration of all symptoms was obtained, œdema and albuminuria disappeared, and patient is in fairly good condition at the present time.

Case IV.—Joseph K., aged thirty-seven years, married, shoemaker, father of healthy children, had syphilis when he was twenty-two years old, but knew of no more specific symptoms after twenty-five until about two years ago, when he was taken with severe neuralgia in the left side along the course of about the seventh intercostal nerve. He received treatment at various dispensaries and a hospital also. When he appeared at my clinic last October he was thin, pale, and worn, complaining of above pain mainly, and was in generally poor condition. By the fluoroscope the physical diagnosis of dilatation of heart and aorta was confirmed; there was muffled first aortic sound of aorta and an almost filiform pulse at left radial. Sacculated aneurysm of descending thoracic or arch of aorta could be excluded after repeated examinations, and the diagnosis confined to sclerogummatous disease of ascending aorta, and associated with disease of coronaries and myocardium, and syphilitic periostitis and neuritis concerning left seventh rib and intercostal nerve near the spine.

After a carefully conducted course of mercurial inunctions plus iodide of potassium his pains left him, and patient was able to work again at his trade, which he had not done for two years. During the summer he was put on tonics, and he kept on doing well until December of last year when his heart became weak again, general nutrition suffered, his intercostal pain returned, and angina pectoris symptoms occurred. Some improvement was had again after the iodides and cardiac tonics, but in March of this year the patient died rather suddenly during an attack of angina pectoris.

25 West Forty-sixth Street.

## PERITONITIS (PERITONEAL ADHESIONS) CAUSED BY MUSCULAR TRAUMA.

### THE TESTIMONY FROM AUTOPSICAL ABDOMINAL INSPECTION OF 350 ADULT MALES AND 135 ADULT FEMALES.

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CHICAGO.

In this paper I wish to record some observations made during the last ten years in regard to muscular trauma causing peritonitis, and consequent peritoneal adhesions. Careful notes of 485 subjects were taken at each autopsical abdominal inspection. Local peritonitis (adhesions) has received the attention of noted writers, as Virchow, Rokitansky, Waldeyer, Langer, Treitz, Treves, Toldt, and many others, but, so far as I am aware, none has assigned muscular trauma as the cause of peritoneal adhesions.

Also autopsical abdominal inspection of some sixty children was made with preserved records. The object of this paper is to demonstrate that muscular trauma produces peritoneal adhesions (peritonitis), and that peritoneal adhesions compromise visceral function and structure, giving rise to disease and invalidism.

The location of peritoneal adhesions from muscular trauma are: (1) The ventral surfaces of the psoas muscle; (2) The ventral surfaces of the crura diaphragmatica; (3) The external lateral surfaces of the vertical cola; (4) Bilaterally on the distal surface of the diaphragm; (5) The proximal surface of the lavator ani and coccygeus muscles. If a segment of the tractus intestinalis lies within range of action of a strong muscle, like the psoas, the trauma of the muscle on the bowel segment, if pathogenic bacteria are present in the lumen, will induce the bacteria or their products to migrate through the tunica mucosa, through the tunica muscularis, and through the tunica serosa, whence peritonitis and consequent peritoneal adhesions arise. The migration of the bacteria or their products may leave no trace of inflammatory condition in the tunica mucosa or tunica muscularis.

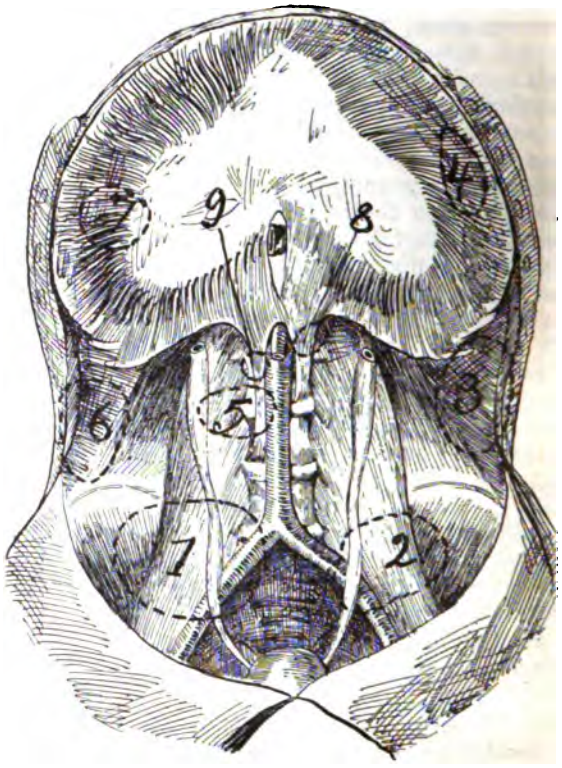


Fig. 1.—A cut of the abdominal muscularis to indicate location of peritoneal adhesions from muscular trauma; 1 and 2, ventra surface of the psoas muscles; 3 and 6, region along the vertical cola; 4 and 7, bilaterally on the diaphragm; 5, point where duodenum crosses psoas; 8 and 9, crura diaphragmatica.

Muscular trauma may also produce peritoneal adhesions adjacent to segments of the tractus urinarius, tractus genitalis, tractus vascularis, or tractus lymphaticus.

The location of peritoneal adhesions due to muscular trauma in order of frequence are: (1) Regio lienalis, 90 per cent., due to diaphragmatic trauma; (2) Regio flexura sigmoidea, 85 per cent., due to trauma of the left ileopsoas; (3) Regio ileo-cæco-appendicularis, 75 per cent., due to trauma of the right ileopsoas; (4) Regio pars duodenalis transversalis, 40 per cent., due to the trauma of the right crus of the diaphragm; (5) Regio peritonei minor, due to trauma of left crus of diaphragm; (6) Regio colidextra, due to left crus of diaphragm; Regio colidextra, 35 per cent., due to trauma of the right abdominal muscles; (7) Regio coli sinistra, due to trauma of the left abdominal muscles, partly; (8) Regio pelvica, due to trauma of the levator ani. The junction of mucosa and serosa of oviduct and peritoneum being unique requires

separate consideration. The most important damage of muscular trauma in causing peritoneal adhesions is on the appendix, the weakest segment of the tractus intestinalis, as the peritoneal adhesions disorder the function and structure of the appendix, obstruct its drainage, increasing the tension of

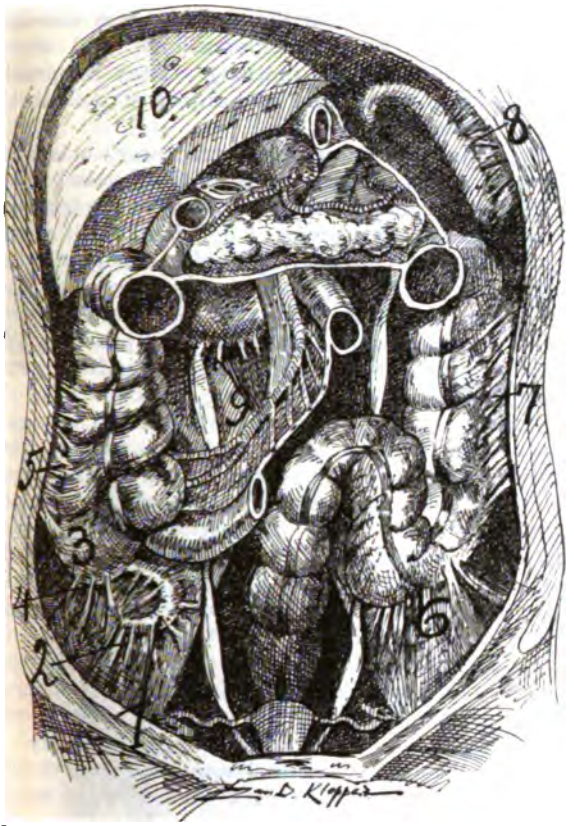

FIG. 2.—Illustrates peritoneal adhesions adjacent to the appendix (1 and 2); cæcum (4), vertical cola (5 and 7), mesosigmoid (6), spleen (8), transverse duodenum (9).

secretions in which bacteria multiply, and end in appendicular perforation—the most treacherous and dangerous abdominal disease. The following statistical statement of peritoneal adhesions presents the location and percentage found in 485 adult autopsies. The peritoneal adhesions are not all due

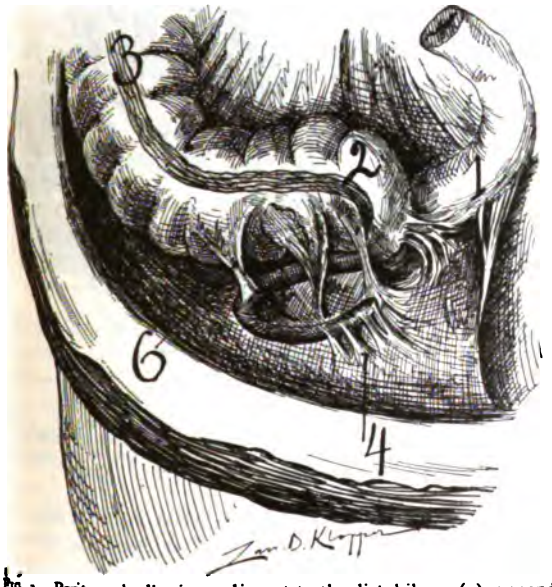

FIG. 3.—Peritoneal adhesions adjacent to the distal ileum (1), appendix (4 and 5).

to muscular trauma, but a large majority owe their existence to this cause.

Percentage of peritoneal adhesions found in 350 autopsies in adult males:

Appendix, 60 per cent.; cæcum, 60 per cent.; distal ileum, 50 per cent. Seventy-five per cent. exists adjacent to right ileopsoas.

Mesosigmoid, 85 per cent.; ligamentum entericocolicum, 55 per cent.; intersigmoid fossa, 80 per cent. Eighty-five per cent. exists adjacent to left ileopsoas.

Spleen, 90 per cent.; liver 44 per cent.; Haller's omentum, 45 per cent. Right crus of diaphragm.

Ligamentum phrenicocolicum dextra, 35 per cent.; ligamentum phrenicocolicum sinistra, 80 per cent.; ligamentum hepaticocolicum, 85 per cent.

Fossa duodenojejunalis, 30 per cent. left crus of diaphragm, 80 per cent. exists in the colon, the peritonitic or exudative area. Forty-five per cent. exists in the enteron. The absorptive or non-exudative area. Ninety per cent. exists in the tractus intestinalis.

Percentage of peritoneal adhesions found in 135 autopsies in adult females:

Appendix, 48 per cent.; cæcum, 55 per cent.; distal ileum, 40 per cent. Seventy per cent. exists adjacent to right ileopsoas.

Mesosigmoid, 80 per cent.; ligamentum entericocolicum, 45 per cent. Eighty per cent exists adjacent to left ileopsoas.

Spleen, 88 per cent.; liver, 60 per cent.; Haller's omentum 60 per cent. Right crus of diaphragm.

Ligamentum phrenicocolicum dextra, 52 per cent.; ligamentum phrenicocolicum sinistra, 45 per cent.; ligamentum hepaticocolicum, 80 per cent.

Fossa duodenojejunalis, 22 per cent. Left crus of diaphragm. Eighty per cent. exists in the colon, the exudative or peritonitic area; 40 per cent. exists in the enteron, the absorptive or non-peritonitic area. Eighty-eight per cent. exists in the tractus intestinalis; 75 per cent. exists in the tractus genitalis.

Muscular trauma produces maximum peritoneal adhesions when a segment of the viscus (especially of the tractus intestinalis) is fixed within the widest range of action of a long powerful muscle, *e.g.* the psoas muscles. The most striking example is the flexura sigmoidea, fixed to the left psoas muscle. It cannot evade the muscular trauma of the left

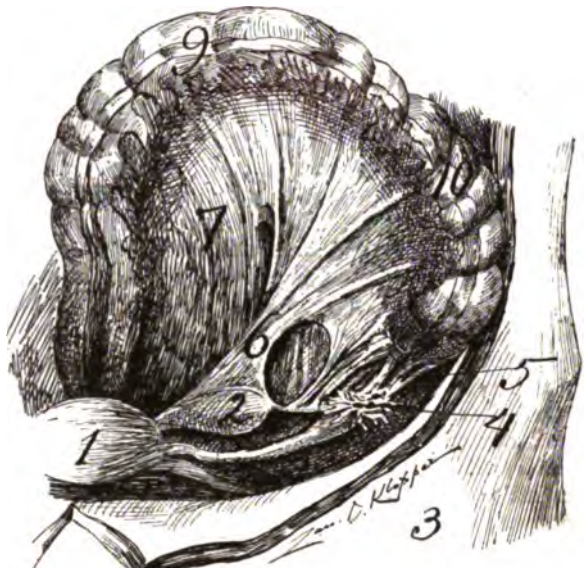

FIG. 4.—Peritoneal adhesions (5 and 6) connecting the ovary (2) and oviduct (4) to the mesosigmoid (7)

psoas, because it is fixed closely adjacent to this muscle—hence, mesosigmoiditis, recognized as macroscopic peritoneal adhesions, exists in the proportion of 80 per cent. The trauma inflicted on a dislocated segment of the tractus intestinalis while within the hernial ring and sac induces infectious invasion through the bowel wall and consequent peritoneal adhesions. The trauma arises from the clinching hernial ring, from the violent dragging of viscera, from the excessive and disordered peristalsis, and from the intense congestion. The trauma of hernia may rapidly cause desquamation of peritoneal endothelia and produce consequent atria for bacterial invasion.

In the autopsical abdominal inspection of sixty children I found practically no peritoneal exudates from muscular trauma in those who had not walked, and practically none in those under three years of age.

The muscular trauma of parturition produces peritonitis (exudates) not only by forcing infectious material into the cavum peritonei through the oviducts, but also by rupturing pathogenic cysts.

The elevation of temperature in a menstruating girl is due to infectious invasion of the peritoneum

through vigorous peristalsis of the oviduct or trauma of the levator ani muscle.

As the union of mucosa and serosa is unique in the oviduct the mucal pavilion being an intraperitoneal viscus, the explanation of peritoneal adhesions at the oviducal infundibulum must be unique and exclusive; however, the muscular trauma of the levator ani favors the passage of infectious material through the oviduct into the peritoneal cavity. Besides, from rapid development of the endosalpinx at puberty and during menstruation, the pavilion becomes everted into the cavum peritonei actually making it an intraperitoneal organ. Muscular and visceral rest during acute pelvic peritonitis rapidly limits the process.

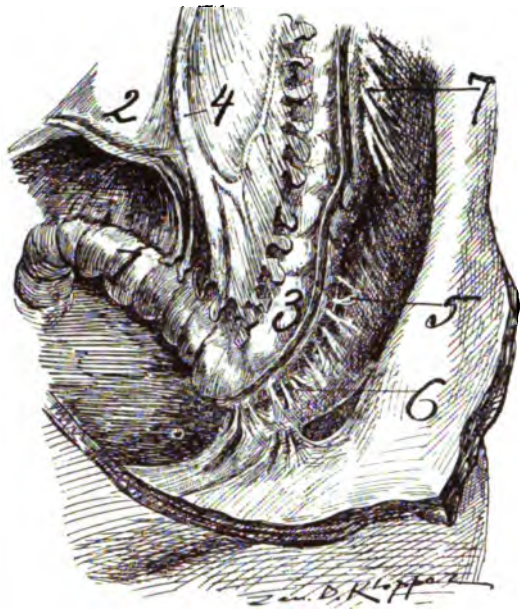


FIG 5.—Illustrates peritoneal adhesions (5, 6 and 7) between the left colon (3) and the lateral abdominal muscles

*Conclusions as to the Results of Peritoneal Adhesions.*—Peritoneal adhesions cause about one-third of all obstruction of the tractus intestinalis. Peritoneal adhesions disorder the common function—peristalsis, secretion, and absorption—of five abdominal visceral tracts, viz., tractus intestinalis, genitalis, lymphaticus, urinarius, and vascularis, by inducing excessive, deficient, or disproportionate secretion, absorption, and peristalsis—ending in insufficient elimination and malnutrition. They derange the special function of the tractus genitalis, viz., menstruation and gestation ending in dysmenorrhœa, abortion, and sterility. They damage the function of the tractus nervosus by traumatism; sensation and motion are disorderly and dragging, compression and dislocation end in pain and neuroses.

Peritoneal adhesions distort the structural mechanism of all abdominal viscera, *i. e.* the six visceral tracts by traumatism, dragging, compression, dislocation, angulation, and compromised lumen. The mechanism being deranged, impinged nerves will cry with pain and malnutrition must prevail. Peritoneal adhesions compromise the canalization of the five abdominal visceral tracts, obstructing drainage.

Peritoneal adhesions in one visceral tract, *e. g.* the tractus genitalis, reflects disorders the function of other visceral tracts. The irritation from the peritoneal adhesions, *e. g.* in the tractus genitalis, is transmitted to the abdominal brain, solar plexus (a reorganization center) over the hypogastric and ovarian plexuses, where it is reorganized and emitted to all other tracts, *e. g.* to the tractus intestinalis, producing excessive, deficient or disproportionate secretion, absorption, and peristalsis.

Peritoneal adhesions may produce chronic catarrhal inflammation of segments of the tractus intestinalis, especially of the appendix.

Peritoneal adhesions impair the object of the tractus intestinalis (digestion), tractus urinarius (urination), tractus genitalis (reproduction), tractus lymphaticus (cell nourishment), tractus vascularis (oxygen and food transportation), and tractus nervosus (control of function). They compromise the function, structure, and object of these six abdominal tracts.

Peritoneal adhesions in the tractus vascularis and lymphaticus by compromising the vessel lumen produce areas of excessive fluid congestion (excessive nourishment), and areas of deficient fluid, anæmia (deficient nourishment). Besides, congestion and anæmia compromise the tractus nervosus. They produce obstruction to visceral contents by flexures, kinks, compression, traction, compromising the visceral lumen, checking drainage, inducing stagnation of fluids, and forming conditions for the multiplication of pathogenic bacteria. They signify disordered function, dislocated structure, impaired visceral object. Nervous trauma may induce a train of pathological symptoms, such as meteorism, indigestion, malnutrition, congestion, anæmia, pain, neurosis, invalidism. The finest training and the finest skill are required to differentiate between such symptoms and those arising from splanchnoptosia. The neuralgic condition must be studied.

An organ that is progressively dislocated by persistently contracting adhesions becomes distorted in mechanism, compromised in its channels of lymph and blood, and traumatized in nerve periphery. It becomes defective in nourishment and its devitalized state makes it a prey to the first virulent and destructive germ attacking it. This is especially true in the appendix. Peritoneal adhesions produce diseased viscera through a progressive vicious circle, a circular chain, each link of which is a superimposed trauma. The duration of the contraction of peritoneal adhesions may continue over many years. I have operated on cases in which obstruction of the tractus intestinalis had occurred within a month, others in eight months, again one in three years, and one continued seven years before complete obstruction occurred.

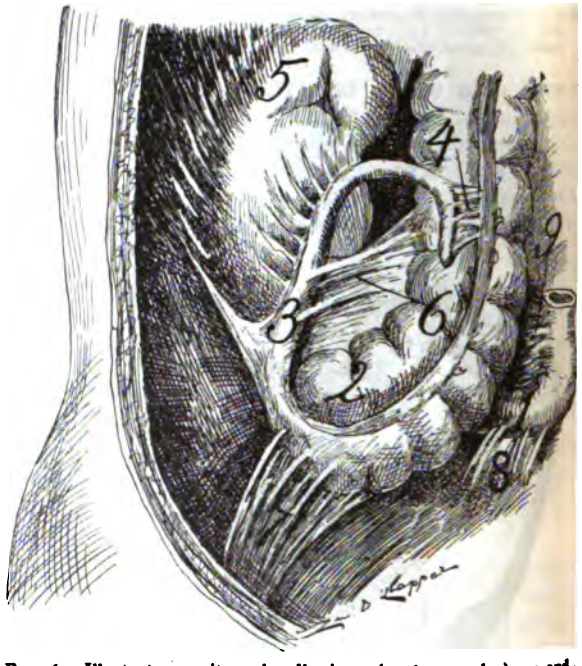


FIG. 6.—Illustrates peritoneal adhesions (4, 6, 7, and 9): 4 and 6 compromising especially the appendix, the weakest segment of the tractus intestinalis and which gives rise to the most treacherous and dangerous abdominal disease.

The fate of peritoneal adhesions is (1) absorption; (2) continuous contraction, which may obliterate its own vessels and cause it to disappear; the band may rupture in the middle or point of least nourishment; or the band may contract until it strangulates some viscus. (3) The peritoneal adhesion may be indifferent to the health of the subject.

The local abrasions of mucosa in the flexura sigmoidea, flexura hepatica, flexura lienalis, and flexura duodenojejunalis, due to trauma of passing foreign bodies increase the peritoneal adhesions in the region of muscular trauma as the mucous abrasions act as atria of infection in segments of the tractus intestinalis which are fixed and cannot evade muscular trauma.

The peritoneal adhesions which demand surgical intervention compromise highly mobile organs with active peristalsis, as the jejunum, ileum, oviducts, cæcum, appendix, sigmoid, and colon transversum.

Peritoneal adhesions from muscular trauma do not occur in infants or in children previous to walking, because the active muscular action of the erect attitude induces vigorous muscular trauma against visceral segments, especially that of the psoas against the ileo-cæco-appendicular apparatus and the sigmoid flexure.

Peritoneal adhesions dislocate viscera, as fixation is dislocation, and thus resemble splanchnoptosia.

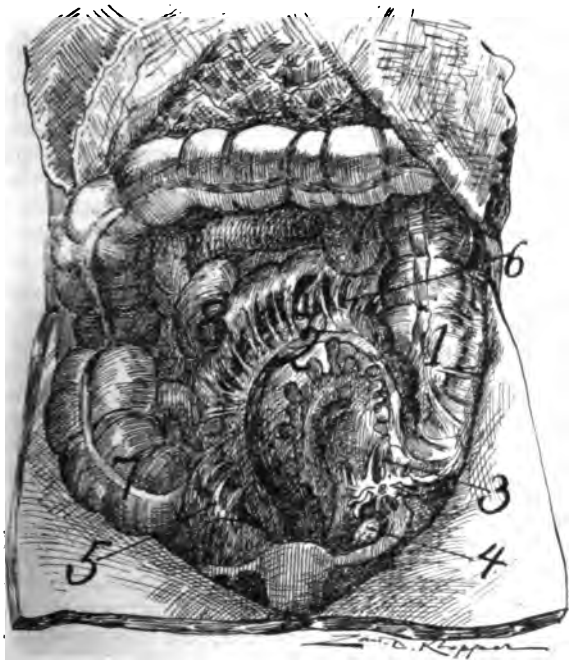


FIG. 7.—Illustrates peritoneal adhesions between the oviduct and mesosigmoid at (3); 6, extensive adhesions between the flexura sigmoidea (2) and the enteronic loops (8); 1, notes adhesions between left colon and abdominal wall; 5, notes adhesions between cæcum appendix, oviduct, and sigmoid.

Muscular trauma causes the main peritoneal adhesions to be located in the quiet vascular dorsal peritoneum, or especially the vascular mesenteries, as the active peristalsis of the segments of the tractus intestinalis does not allow time sufficient for the exudate to organize before it is crippled by absorption.

The symptoms of peritoneal adhesions do not indicate their character or location. Peritoneal adhesions from muscular trauma increase in frequency from twenty-five to sixty-five years of age. The track of infectious invasion from mucosa through muscularis to the serosa cannot always be traced. A healthy mucosa and muscularis may lie beneath a serosa extensively involved with peritoneal adhesions. A healthy serosa may overlie a diseased mucosa.

All organized peritoneal adhesions are covered on the surface by endothelia. Peritoneal adhesions are nature's method of protection and repair; peritonitis saves life while sepsis kills. A proof that muscular trauma causes peritoneal adhesions is that the adhesions are most numerous at the point where the muscular action has the longest range. The utility of peritoneal adhesions are: (1) they build barriers against infectious invasions; (2) they imprison, sterilize, and starve bacteria; (3) they are the great life-saving factors in acute inflammatory processes of the abdominal viscera, by preventing peristalsis from disseminating infection by obstructing the lymph channels leading from the infectious center; *e. g.* a subject recovers from relapsing appendicitis with increasing facility, because the lymph channels (stomata vera) leading from the diseased appendix are progressively obliterated.

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## THE QUICK AND THE DEAD: A PLEA FOR URN BURIAL.

By W. J. CONKLIN, A.M., M.D.,
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THE care of the dead as a sacred trust is recognized by all civilized peoples. The sentiment which underlies this trust finds expression in the effort to perpetuate the memory of the dead by the erection of costly monuments, and by the beautifying and adorning of the spots chosen for their last resting-places.

And yet, after thousands of years of trial and experiment, the problem of how to dispose of the dead without harm to the quick awaits a satisfactory answer. The gruesomeness of the subject should not cause it to be lightly pushed aside, for in many parts of the world its solution is a matter of serious import and involves questions of the deepest sanitary and moral interest.

Were we merely animal existences, in whom refinement and love did not exist, we might leave to nature the disposal of our bodies, and might lie and decay wherever we chanced to fall. "Of what consequence is it," says Plutarch, "whether one rots *in* the earth or *upon* it." But society and humanity have their claims. The one is obliged to remove the dead for its own comfort and safety; the other holds it a sacred duty to give decent burial to friend or foe.

Mortuary customs, reflecting the religious beliefs and superstitions of those practising them, not only form interesting and instructive chapters in the history of the race, but, in some instances, reveal the story of civilizations that rose and fell centuries before the Christian era.

In the disposal of the dead, four principal methods have been employed by nearly all nations, either simultaneously or at successive periods, in their progress from savagery to civilization. These are exposure, embalming, inhumation, and burning.

Exposure is the most primitive, and belongs essentially to the savage age. It is practised in a modified form by some of our Western tribes, the Blackfeet and Mandans; by the Ahts in Vancouver's Island, and by certain tribes in India, Central Africa, and South America. The most enlightened of those still practising this method are the Parsees of India, disciples of Zarathustra, and in many respects the most interesting and progressive sect in Asia. After solemn and impressive funeral ceremonies they place their dead on high stone platforms called *dakhma* or "towers of silence," where they are speedily destroyed by the flocks of sacred, but hungry vultures which, true to their instincts, haunt the vicinity. The bones are

afterward gathered by the friends and preserved in a large central well.

Of all modes of preserving the body from decay, embalming as practised by the ancient Egyptians has been the most successful. They carried the art to a perfection not since attained; and applied it not only to human beings, but to cats, crocodiles, and other animals held to be sacred. By an elaborate process of drying, salting, smearing with wax and honey, and stuffing with spices and aromatics, they produced a mummy, which, though it bore no resemblance to the original, was practically indestructible, and in modern museums, after the lapse of centuries, sermonizes to succeeding generations on the vanity of human aspirations.

"The Egyptian mummies," says Sir Thomas Browne, "which Cambyces or time hath spared, avarice now consumeth. Mummy is become merchandise. Mizraim cures wounds and Pharaoh is sold for balsams."

The origin of burning and earth burial is involved in obscurity. Both are of great antiquity. The latter came into general use with the advent of Christianity, and was the legitimate outgrowth of the doctrine of a literal resurrection and its attendant superstitions. The adoption of sepulture by the early Christians was undoubtedly encouraged by their hostility to all customs bearing the stamp of paganism and by the relentless persecutions to which they were subjected. It was necessary in order to escape the "official eye" that their burial rites should be conducted with greater secrecy than was possible with burning, and this necessity drove them to the catacombs, which served as retreats for the living as well as repositories for the dead.

Before the Christian era, nearly all of the nations of the old, and many of the savage tribes of the Western, world burned their dead with more or less pomp and pageantry. Cæsar tells that the Gauls not only burned, but cast into the funeral fire everything which the decedent held dear in life, even household pets and slaves.

The relics and sepulchral urns exhumed throughout Germany, Scandinavia, Denmark, and Great Britain testify to the prevalence of the practice in Northern Europe.

Marco Polo, who, toward the end of the thirteenth century, traveled extensively in China, found a rude crematory in every town. At the time of the conquest, says Prescott, the Aztecs burned their dead and preserved the ashes in ornamented urns in their dwellings. The pyre is still used in India, the interior of Japan, northwestern British America, and other parts of the world, reaching its utmost extravagance in Siam, where bodies of the royal family are burnt in wooden temples, elaborately painted and gilded.

The Greeks probably learned the art of burning on the pyre from the Phrygians, and in turn taught it to the Romans. A rich literature has made us familiar with the mortuary customs of these nations, to the tombs of which the world still goes for its funereal art.

At first, deemed by the Romans a high honor and only accorded to those distinguished in the field or forum, the pyre grew in favor as the nation rose in culture, and was never so much practised as in the reign of the Antonines, the period of Rome's highest attainments in philosophy and in the arts. The practice was discontinued in the reign of Gratian, near the end of the fourth century.

Homer has given us an imposing description of the rite, which in its essential features accords with the common practice of the Greeks and Romans. The scene is a military camp before the walls of Troy. The wearied troops are sorrowfully gathered around their bivouac fires, for Patroclus, the flower of the warriors, has fallen by the hand of the crested Hector. The body, its gaping wounds filled with precious ointment, anointed with oil and wrapped in fine linen, lies in state in the tent of his foster brother, Achilles. At dawn, under orders from Agamemnon, King of Men, the army proceeds to build out of fragrant fir and balsam the mighty pyre, a hundred feet in length and of equal breadth. The body of Patroclus is laid upon the pile and affectionately covered with the amber hair of Achilles and the locks of his faithful Myrmidons. With it are placed the fat of a score of oxen, twelve fiery steeds, the heads of two favorite hounds, and the bodies of twelve Trojan captives, slain in honor of the occasion. During the chanting of threnodies the torch is applied, and the flames leap to their devouring task. The oil and wine and honey give an uncanny appearancce to the flame as it mounts higher and higher on the huge pile. Now and then the clouds of black smoke which hang over the weird scene are cut by the wind into fantastic shapes, and form wondrous silhouettes against the sky. All night long the work of destruction goes on, and the morn discloses naught but a mass of glowing embers. These are quenched with red wine. The sacred ashes are separated and placed in the golden urn given to Achilles by his mother. The sad rites ended, the army gives itself up to races and games.

Modern scientific cremation has a short history. It had its re-birth in Italy, where its prototype died out 1,600 years before. The burning of the poet Shelley and his friend Williams (1882), by Lord Byron and Leigh Hunt in the sad fulfilment of a promise, on that lonely but picturesque Italian shore where the sea reluctantly gave up their shipwrecked bodies, and of Henry Laurens (1792), the second president of the Continental Congress, are the only instances in Christian lands which connect the old practice with the new. Although the subject began to attract the attention of modern scientists in 1867, but little progress was made until Professor Brunetti of Padua exhibited a model furnace with the results of his experiments at the Vienna Exposition in 1873. The movement, promptly endorsed by the leading sanitarians of the world, soon took on practical shape. England (1874) was the first to organize a national society for disseminating information on the subject, but so violent was the opposition of state and clergy that the furnace built at Woking in 1879 stood idle until 1885.

In contrast with the conservatism of Old England stands the progressiveness of New Japan, whose strides in civilization are the marvel of the century. It is estimated that nearly 50 per cent. of this nation's dead are incinerated; 10,000 being annually disposed of in the six public furnaces of Tokyo alone.

The first public crematory in Europe was built at Milan, Italy, in 1874. The first in the United States and the third after the renaissance, was established by Dr. LeMoyne, at Washington, Pa., in 1876. There are now in this country alone, not including those in medical colleges, 28 incineratories in successful operation, one-half of which have been built within ten years. The total number of incinerations in the United States to December 31, 1900, was 13,281 (Roever). It will be a surprise to many to be told that more voluntary cremations are made in the United States than in any Christian land of the world, Germany being a fair second.

The modern incineratory is an artistic building

with its chapel, reception rooms, and columbarium After such memorial services as the friends may elect, the body is committed to a specially constructed retort of fire clay, through which is passing air heated from 1,500 to 3,000° F. The body is oxidized, or reduced to its ultimate elements by means of this superheated air. The result is ordinarily obtained in from one to two and one-half hours, and so perfectly that from four to eight pounds of pearly white ashes, clean and odorless, represent all that was mortal of man. These may be harmlessly buried, or preserved in park, mausoleum, church or columbarium, as the wishes of the decedent or friends may determine.

The words "burning" and "cremating" are harsh and misleading, and are responsible for much of the popular prejudice against the reform. The ancients burned or cremated; the moderns oxidize or incinerate. To incinerate a human body means literally to reduce it to bone ash by extreme heat (2,000° F.) in a closed or partially closed chamber, and there is nothing to detract from the solemnity of the final leave-taking, or to add one pang to griefs already too great.

The problem to be worked out in furnace or grave is the same; to reduce the lifeless body committed to it speedily and safely, to its ultimate elements. Nature's plan, whether we will or not, demands this reduction. It is the inexorable law of life upon the earth. The moment the body is committed to earth, aye, even before its committal, subtle and complex molecular changes begin. Brain and muscle and bone fall by a degenerate metamorphosis into the simpler carbon, hydrogen, nitrogen, into acids, bases and inorganic salts. Oxygen, once the giver of life, now plays the rôle of the destroyer, and in the end nothing remains of the wonderful organism to distinguish it from its inorganic tomb. "Dust thou art, and unto dust shalt thou return."

Every atom thus set free from the bodies of animals, God-like man with the rest, by a fiat of the Creator goes unerringly to minister to the needs of other organisms. Now plant, now animal, the eternal cycle goes on. We "bury the dead out of our sight;" we dissipate the body with heat; we desiccate man into a mummy, but in no case do we defeat nature's law. It is a question of mode and time, not of results. Incineration only anticipates nature. The magician Fire does in a brief hour what the subtle chemistry of decomposition, under the most favorable conditions, takes years to do.

But it is not a question of mere sentiment. Here, as in many an other instance, nature's method is not the best, and is attended with danger to the living. This proposition, if true, places the necessity for radical changes in our burial methods beyond controversy, and to its proof we now pass.

In discussing this phase of the subject, I do not propose to draw harrowing pictures of the horrors of the grave. The gruesomeness of leaving our bodies in the ground, tricked out with posthumous funeral vanities, slowly to putrefy and be food for worms, is felt keenly enough by all.

"But that I am forbid to tell the secrets of my prison house.
I could a tale unfold whose lightest word
Would harrow up thy soul; freeze thy young blood;
Make thy two eyes, like stars, start from their spheres;
Thy knotted and combined locks to part,
And each particular hair to stand on end."

Neither do I wish to exaggerate the dangers to be apprehended from cemeteries. While I believe, with Sir Henry Thompson, "That no dead body is ever placed within the earth without in some degree polluting the soil, the water and air around it," I am equally positive that with a strict observance of known sanitary requirements and with favorable surroundings, the danger can be greatly lessened and sometimes safely ignored. The fact, however, that these requirements are rarely perfectly fulfilled in large cemeteries, and that in many, on account of the local conditions, it is impossible to do so, is too evident to need discussion.

That decaying organic matter, animal and vegetable, is inimical to health, is an elementary fact in sanitation, and is fully recognized by our municipal laws. From the evil effects of earth-burial we have no protection save that which comes from the purifying chemistry of the soil. Ordinarily when bodies are committed to earth, singly or sparsely, this power will suffice to render them inoffensive and harmless, but it utterly fails when men are stricken down in masses, as in pestilence and battle, and when, from any cause, overcrowding of the dead takes place. A long catalogue of epidemics attests the fallacy of relying upon soil filtration to remove impurities from water supplies. With an excess of polluting material, soil saturation soon occurs, and from that moment this benign power ceases to act. This is precisely what takes places in old and overcrowded burial grounds. Beumer, Maggiora, and others have shown that the soil of churchyards swarms with microorganisms. These are not all noxious in character, but many of them are, and the great excess of organic life is, in itself, a fact of the highest significance. The chief danger to be feared from putrefying animal matter, in or out of cemeteries, is the contamination of water supplies of individuals and cities. The intricate and extensive network of subterranean water-courses makes this a widespread though hidden danger, and one which cannot always be determined by surface indications.

It is a fatal but common error to suppose that water pollution is easily detected by the senses. Often the water most pleasing to the eye and palate is loaded with the poisonous nitrates of decomposition, and is pleasing because so contaminated.

The rôle played by microorganisms in the causation of diseases is fully recognized by modern medicine. This discovery in its importance to the race ranks among the greatest achievements of history, and fully justifies the Utopian hope that when man is wise unto his knowledge, and prepared to deal seriously with his diseases, many, if not the majority of them, will disappear.

The researches of Koch, Pasteur, Prudden, Sternberg, and other distinguished bacteriologists prove that the germ of typhoid, cholera, smallpox, diphtheria, yellow fever, and kindred diseases are, under favorable circumstances, capable of indefinite development and propagation outside the living human body. The longevity of disease germs in the soil has not been fully worked out, and depends upon conditions which must vary greatly.

For illustration let us take typhoid fever, one of the most widely distributed and most fatal of the infectious diseases. The living germ—the bacillus of Eberth—has been found in the bodies of men dead from typhoid fever three months after death (Vaughn). Robertson planted colonies of these germs eighteen inches below the surface, over which the soil and turf were carefully replaced. A year afterward, soil taken from infected localities yielded, under proper manipulation, an abundant crop of bacilli. This finding is fully sustained by the hospital records in the late Spanish-American war, in which healthy troops repeatedly and promptly developed typhoid disease, after occupying sites vacated by infected commands. Prudden found the typhoid bacillus active after having been imbedded in ice for 100 days, and Sternberg cultivated it during the greater part of a year at a

depth of nine feet below the surface. Fraenkel and Simonds found it growing luxuriantly in the spleen after death.

Similar results have been obtained from experimentation with other pathogenic germs, notably the cholera spirillum. It resists repeated freezing and thawing, multiplies abundantly in foul water, and in the contents of the intestines after death and in the soil to a depth of from three to nine feet.

Baron Seebach, the Saxon minister to France, noticed that clover had been stolen from an enclosure on his estate which was used as a burial place for animals dying of anthrax, a disease which, in Europe, annually destroys thousands of sheep and cattle. A few days later a peasant woman acknowledged the theft and stated that her cow sickened and her goat died after eating the clover. At the request of the Baron, Pasteur investigated and found anthrax germs in abundance over the graves of the sheep. Recalling the remarkable observations of Darwin as to the part played by the earthworm in bringing rolls of earth from considerable depths and depositing them upon the surface, Pasteur examined the intestinal contents of worms taken from the infected spot, found anthrax germs and reproduced the disease by inoculation in healthy sheep. Thus we have a perfect demonstration, not only of the presence of the splenic fever germs in the clover, but also of the manner in which these germs reached the surface from the bodies of the buried sheep.

The danger that may come from a single center of infection is strikingly illustrated by the unhappy experience of Plymouth, Pa. During the winter of 1884-85, owing to the freezing of the mountain stream from which the water supply was usually drawn, it became necessary to connect with the Susquehanna. About this time an imported case of typhoid fever was cared for in a house by the side of the brook. The non-disinfected excreta were carelessly thrown on the snow of a side hill. Near the end of March the melted snow, with its mass of typhoid germs, was swept into the stream. The river was now shut off and the mains filled from the brook. In this way the poisonous germs reached every part of the city, and in a short time there were over 1,200 cases of typhoid fever out of a population of 8,000 inhabitants, with a mortality rate of 10 per cent.

The time required for the destruction of the softer tissues of the bodies committed to earth varies largely with local conditions of soil and interment. Assuming, however, ten years to be a fair average, and placing the annual mortality of Greater New York at 70,000, we have continuously, in the Long Island cemeteries, not less than 700,000 bodies in various stages of decay, polluting the earth and adding to the hidden foes of those who follow after. Sir Henry Thompson writes: "By the act of interment we literally sow broadcast through the land innumerable seeds of pestilence, germs which long retain their vitality, many of them destined at some time to fructify in premature death and ruined health for thousands." By what moral right do we make the earth a storehouse of corruption? We, the living, do not hold the earth in fee; at best, we are only life tenants and are under moral obligations to pass it to our successors as pure as it came to us.

The fact, that the sooner a decaying body is disposed of the better, is as incontrovertible as death itself, and it is certainly a logical deduction that that method of disposal should be selected which is attended with the least danger. In the light of modern science there is no way in which this can be done so quickly and effectually as by incineration.

The only objection urged against incineration, on other than sentimental grounds, is that it destroys the evidences of crime, and may be used to defeat justice. This danger, slight as it is, does exist, and should lead to the utmost caution.

On the other hand, serious medicolegal complications may come from the present practice of so-called embalming. This process ordinarily consists in the useless and unscientific flooding of the cavities of the body with a preservative fluid which contains in solution nearly all of the mineral poisons known in toxicology. Thus are voluntarily and largely introduced into the body the identical and only poisons which could be detected by an analysis after exhumation. He would be a bold chemist, who would swear "beyond a reasonable doubt" that the poison in his test-tube was of ante-mortem or post-mortem introduction. The ease with which an ignorant or careless undertaker may be made to serve the purpose of the poison fiend is appalling, and suggests the necessity for better legislative safeguards than now exist.

The subsidiary advantages which would come from urn-burial are by no means few or unimportant. First, it would remove or lessen that morbid fear of premature burial which dominates the public mind to an extent little appreciated by most of us. It is idle to say that these fears are groundless, or that the sensational stories in the public prints are the cruelest of frauds; the conviction that such a calamity is possible will always be a source of dread and remorse to many.

In Frankfort, Munich, and in some of the Continental hospitals the recent dead are placed in an open room with bell wires attached to their fingers, so that the least movement would summon an attendant. These bells have never been rung. However, should trance unfortunately be mistaken for death, incineration offers in an instantaneous end, the happiest possible correction.

It may be of interest to state that the first incineration in this country, 1792, was the outcome of an imminent burial alive. The young daughter of Colonel Laurens, of whom mention has been made, apparently died and was prepared for burial. As she lay shrouded in her coffin, before an open window, the breezes from off Charleston harbor fanned into life the spark so nearly extinguished. A slight movement arrested the attention of the watchers. The family were hastily summoned and measures taken for her resuscitation. She reached womanhood and married Dr. Ramsay the patriot and historian. Laurens, upon whom the tragic episode made a deep impression, provided in his will for the cremation of his body, declaring that he could conceive of nothing more horrible than regaining consciousness in the grave.

Second, it would lessen the cost of burial, a matter of no little importance to many. The widow's mite too often melts away under the warmth of misguided affection or the imperious demands of spectacular funeral fashion. The charges at the several crematories in the United States range from $25 to $60. "Compared with inhumation," says Rev. Chadwick, "the cost need not be more than one dollar for three." The cost of earth-burial, too, must necessarily increase. The growth of cities naturally crowds the cemeteries farther and farther beyond the suburbs, and the cost of reaching them becomes, in the end, a serious tax. In the search for an appropriate resting-place, Paris carries her dead sixteen miles by a special railway. None but the

favored can sleep in celebrated Père la Chaise, in which the ground has reached a price per foot rarely surpassed in the most fashionable quarters of Paris. Then, again, incineration is a great boon to those who die far from home, but wish their ashes to lie in familiar ground.

Third, it would guarantee greater security to our remains. We speak of the grave as a perpetual home. *Vanitas vanitatum!* How many are the poor Yoricks who are "knocked about the mazzard with a sexton's spade," and yet they were consigned by loving hands to the house which was "to last till doomsday." The march of improvement does not halt at the grave. Many cemeteries have succumbed to civic needs, and the arms of a busy industry are fast stretching around and beyond their beautiful borders.

The well-known epitaph, almost a malediction, in the little church-yard on the banks of the Avon, gives expression to the fear that has haunted the dying hours of many besides the immortal bard who penned it.

"Grave-stones tell the truth scarce forty years," says quaint old Dr. Brown. Oliver Wendell Holmes writes, "Epitaphs were never famous for truth, but the old reproach 'Here lies,' never had such a wholesale illustration as in these outraged burial places, where the stone does lie above, but the bones do not lie beneath."

Fourth, it would do away with exposure at the grave. Interment necessarily takes place in the open air, and leads to exposure in all kinds of weather. This, too, when one's powers of resistance are weakened by prolonged nursing, broken rest, and the mental and physical depression which comes from breaking the tenderest of human ties.

The adoption of urn-burial would not necessarily carry with it a radical change from the present conventional mode of conducting the last obsequies nor detract in the least from the reverence accorded through centuries of civilization to the dead. The church or home service, the cortege, the rites at the sepulchre, if the ashes are returned to earth, as they should be, are equally appropriate to either mode of interment. It is, however, a decided gain to be able to select the time and weather for ministrations at the grave, thus securing proper respect for the health of the living as well as for the memory of the dead.

Fifth, it would restore to cultivation and the tax duplicate immense tracts of land. It was Plato, I think, who so vigorously protested against burial in fields fit for cultivation. Dr. Poore estimates that fifty acres would barely suffice to bury the dead of London for a single year, one in each grave. There are, in the vicinity of New York, over four thousand acres with an enormous taxable value, already given over to the use of the dead (Cobb).

The late Bishop Manchester, in consecrating a new cemetery said: "Here is another hundred acres of land withdrawn from the food-producing area of this country forever. . . . I hold that the earth was not made for the dead but for the living." With the adoption of urn-burial, a nominal acreage would suffice for the "silent cities," and thus thousands of acres would be free for the production of food, or in thickly populated districts, for breathing-spaces to promote and maintain public health and happiness.

It cannot be too strongly emphasized that incineration has nothing to do with religious doctrines or Christian faiths. It is a question of sentiment and sanitation, not of creeds or doctrines. The church, as an organization, is no longer hostile. The warmest supporters of the reform come from the ranks of the clergy, many of whom have sealed their faith by committing their bodies to the flames. Centuries ago, one of the greatest Greek philosophers said: "You may bury my body if you think not that you are burying Socrates."

If there is a better mode of disposing of the dead than the one now in vogue; one free from harm to the living, and more in keeping with advanced thought, it is plainly the duty of those having these matters in charge, not only to provide the means, but to use their influence for its adoption.

Perhaps no radical change from the conventional notions which now obtain on the subject of burial can be hoped for in the near future, and yet it seems inevitable that a reform, so strongly enforced by sanitary and sentimental considerations for both the quick and the dead, will continue to grow in popular esteem.

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## HYDROTHERAPY IN THE TREATMENT OF CHRONIC DISEASES.*

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THIS paper must necessarily be confined to the general considerations of hydrotherapy in its application to chronic diseases inasmuch as a detailed account of one of the many hydriatic procedures which may be used in the treatment of chronic diseases would consume all the time allotted to this subject.

The use of water as a remedial agent in the treatment of disease antedates that of any other remedy known to science. All the drugs of the pharmacopœa in use to-day and most of our therapeutic methods are very modern as compared to this ancient remedy. While the most ardent enthusiast of hydrotherapy does not claim that water is a panacea for all the ills that the flesh is heir to, nevertheless a close study of its many effects and reaction upon the human organism must convince one that it more nearly approaches to being a sovereign remedy than any other therapeutic agent.

Water is the most universal element found in nature, it is always to be found near at hand, it is inexpensive, it can be used successfully in the treatment of more diseases than any other remedy, and no known drug is capable of producing so great a variety of physiological effects as can be obtained by means of this limpid element.

For hundreds of years water was used empirically, and too often was principally in the hands of the laity and charlatans. Because of the unskilful use of this powerful agent, and the disastrous results that frequently followed its application, much odium was brought upon the use of water in the treatment of disease. During the past century, however, there were many pioneers in hydrotherapy who did much to place it on a scientific basis. To Winternitz, more than to any other investigator, must be given the credit of having placed hydrotherapy upon a thoroughly rational and scientific foundation by means of his classical experiments and accurate data. Along with him much credit must be given to Kellogg, Baruch, Brand, Bouchard, and Ziemssen, for having exalted the use of water into a science that can be applied to-day with more accuracy than any other physiologic method.

Hydrotherapy has its home in Germany and Austria, and a perusal of medical literature will quickly convince one that it is employed much more extensively by German physicians than it is in this country.

A large majority of the American profession, as

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well as the laity, are still afflicted with hydrophobia, due principally to water being used empirically and unscientifically, and hence the unsatisfactory results; for it must be borne in mind that so powerful an agent as water, like a powerful drug, if unskilfully used, is capable of producing much harm.

There are doubtless several reasons why hydrotherapy is no more extensively used by physicians to-day than it is, in the treatment of both acute and chronic diseases. In the first place the subject is barely mentioned in the medical schools, and only in one or two medical schools does it have a place in the curriculum. Hence, for a physician to acquire a knowledge of the subject he must either study it up and perform many experiments, or take a post-graduate course, which necessitates a trip abroad as there is no efficient hydriatic clinic in this country. Second, the extensive employment of hydrotherapy, whether in private practice or in institutions, requires a trained nurse, and there are few trained nurses prepared to give a skilful hydriatic treatment, because of the lack of tráining. Nurses after graduating frequently have to be given special training before they are qualified to give even some of the more simple hydriatic treatments. The results which a physician expects to obtain may be entirely frustrated by a poorly given treatment. Proper education will remove both of these objections to the more common employment of hydrotherapy in the practice of medicine.

In order to be able to use water scientifically it is absolutely necessary to have a thorough knowledge of anatomy and physiology. Especially is it important to know the anatomy of the nervous and circulatory systems and of the skin. The fifteen to seventeen square feet of skin that covers the average adult is a highly sentient organ, intimately related to the central nervous system through the millions of nerve endings represented among its epithelial cells. It is principally through this sensitive organ that the hydriatist produces the desired physiological action in the cure of disease. The skin is to him what the cords are to the harpist. It is a vast reflex area in which are represented every organ, and gland and muscle. As a rule every organ is in reflex relation with the skin immediately over it, however many organs are in addition, in reflex relation with remote portions of the skin. For instance, the palms of the hands are in reflex relation with the mucous membrane of the nose and with the brain; the plantar surfaces are in relation with the bladder and the uterus, the integument over the lower third of the sternum with the kidneys, et cetra. Possessed with a knowledge of all the reflex areas of the skin, one can obtain a local or general effect at will in the use of hydriatic procedures, a fact which is highly important in the treatment of various diseases.

It is well known that washing the face with cold water is wonderfully refreshing and restful. The cold to the face excites the nerve endings of the trifacial, which in turn reflexly contracts the cerebral blood vessels and increases the venous flow from the brain. Then again it is well recognized among women that the catamenial flow may be suddenly checked by cold wet feet.

Now it logically follows, that if one may be so refreshed by simply bathing the face with cold water, a much greater effect can be obtained by a proper general application, and if this is repeated daily, marked physiological changes may be wrought in the body. This is a principle that applies to every hydriatic procedure, whether local or general in application.

Water not only makes up 66 per cent. of the total weight of the body, and forms a part of every tissue, but it is also a convenient means of exciting the nerve centers, of communicating heat to the body, and of promoting a loss of heat from its surface. Upon these facts depends its physiological action.

Any application to the body at the temperature of the skin is neutral in effect, and hence is neither exciting nor depressing. Any application with a temperature above that of the skin is interpreted as warm or hot, and any application below the skin temperature is recognized as tepid, cool, or cold. Extremes of heat and cold cannot be differentiated by the nerve endings and hence the effect is the same. In individuals unaccustomed to hot or cold applications and in certain diseases the skin has to be educated to variations in heat and cold. In hyperæsthesia of the skin in locomotor ataxia this is especially noticeable.

The physiological effects which we wish to obtain from a certain treatment will depend upon whether heat or cold is employed, the degree of each, the force, if it be a douche, and the duration. Most of the physiological effects of hydriatic treatments are due to so-called reactions and to the mechanical influence upon the blood and lymph.

The following are some of the hydriatic procedures used in the treatment of acute and chronic disease: the shower, the spray, hot or cold; the douche, hot or cold, alternating, and percussion; local or general, named according to area treated; the Brand bath, Bouchard bath, or graduated bath, the neutral bath, half-bath, hip or sitz bath, leg bath, foot bath, arm or hand bath; simple sponging, friction, towel rubs, wet sheet rubs, pail-pour, hot or cold compresses, named according to location, alternating compresses, evaporating and non-evaporating compresses, the moist girdle, fomentations, the dry blanket pack, the wet blanket pack, trunk pack, chest pack, hip and pelvic pack, leg pack, wet sheet pack, enemas and effusions. All of these treatments are applicable to the home excepting the Brand bath, the graduated bath, the sprays, and the douches.

By the employment of one or more of these measures or combinations the following effects may be obtained: tonic, local or general, sedation, antispasmodic, nutritive, eliminative, diuretic, expectorant, antipyretic, antiphlogistic, hæmostatic, emmenagogic, analgesic, vasodilator, vasoconstrictor, and hypnotic.

Gastrointestinal diseases with a chronic tendency, and with their multitudinous local and general manifestations, furnish no inconsiderable proportion of the chronic diseases with which the physician has to deal. It is in the treatment of these diseases that the so-called water cures and hydriatic institutions of Germany and Austria have become popular.

In the treatment of the varied forms of dyspepsia hydrotherapy is by no means an exclusive treatment. The most careful consideration must be given to dietetics, exercise, electricity, and personal hygiene. In chronic gastritis and enteritis we have more to deal with than the local manifestations. We find a general lowering of vital resistance, local anæmias, vasomotor disturbances, inactive emunctories, toxæmia, exhausted nerve centers, and even marked mental phenomena.

In treating gastritis it is highly important to know the state of peptic activity, whether there is hyperchlorhydria, or hypopepsia. Long ago Dr. Beaumont showed that cold water taken into the stomach during peptic activity inhibited temporarily the flow of gastric juice. On the other hand Professor Pavlov of St. Petersburg in his recent experiments

upon the digestive function shows that cold water taken before meals excites a flow of gastric juice. Moreover, he shows by repeated experiments that the so-called stomachics and bitters, and carbonates introduced into the stomach before meals do not cause a flow of gastric juice. Aside from the psychic influence, the flow of gastric juice is greatly determined by the quantity and quality of blood in the walls of the stomach.

The ice-bag or cold compresses applied to the epigastrium half an hour before meals will increase the arterial flow in the walls of the stomach, and hence the flow of the gastric juice. Prolonged hot applications over the stomach after meals will diminish the flow of gastric juice, and likewise will a general application of heat to the skin by diverting the flood from the stomach into the periphery. Drinking hot water or brief fomentations to the epigastrium after meals will relieve pain due to fermentation or hyperacidity. Likewise a hot leg pack, together with a cold compress over the abdomen and hot and cold to the liver, will relieve an over-charged portal system and increase the arterial flow. In malnutrition it is very interesting to observe what changes will be wrought by so simple a measure as hot and cold to the liver and to the spine daily, and a general cold friction.

The cold friction is a powerful tonic to the circulation, glandular activity, and to the nervous system. A blood count, following an application of cold, will show a great increase in the number of blood cells. Not that they are manufactured by the treatment, but they are forced out of the deep-seated organs and congested areas into the general circulation. In a case reported by Winternitz the blood count was increased 1,800,000, per c.c. by a hot bath followed by cold. It is obvious that any measure that will put into commission so many more working blood elements, and stimulate glandular, and hence metabolic changes, must materially aid in restoring the physiological forces of the body to the normal.

Among other hydriatic procedures to be used in treating digestive disorders because of their nutritive and tonic effect, is the cold towel rub, the wet sheet rub, and the pail-pour. The most powerful hydriatic effects are to be obtained by means of the douche. For constipation which is exceedingly common in gastrointestinal diseases, the wet girdle is one of the most effective measures.

In the treatment of organic heart diseases hydrotherapy has given the most gratifying results. Dr. Schott of Nauheim, who has made the effervescent baths so popular in the treatment of dilatation of the heart, claims that he has even caused cardiac murmurs to disappear under this treatment. The artificial Schott treatment is just as effective as those given at Nauheim. The physiological action of this bath depends entirely upon the stimulation of the nerve endings by the carbonic acid gas held in the water. This treatment can be given in any home where there is a proper sized bath tub.

While extremes of general heat and cold are contraindicated in organic heart disease, most excellent results can be obtained from milder and local applications. The ice-bag or cold compresses applied over the heart caused a material reduction in size of the organ, and diminished the number of contractions as well as increasing the efficiency of each. In mitral insufficiency with failure of compensation, attended by œdema so marked that the patient could hardly move in bed, I have seen the œdema entirely disappear in two weeks' time by the use of the ice-bag and general cold friction three times a day.

Some time ago a patient consulted me for insomnia and a headache that came on about one or two o'clock in the morning, making sleep impossible. This symptom had been present for two months. On examination, among other conditions, I found dilatation of the heart, a pulse between 90 and 100, and an atonic condition of the blood vessels. For these symptoms I ordered the ice-bag over the heart at bed time, with a general cold friction treatment. In one week the headaches entirely disappeared and the patient could sleep all night.

We occasionally meet with patients who have an insufficient blood supply, and who have the greatest difficulty to keep awake during the day time, but as soon as they lie down at night they are wide awake and cannot go to sleep. Gravity keeps the brain in a state of anæmia while in the upright position, a condition favorable to sleep, but as soon as they assume the horizontal position the blood rushes back to the brain and sleep takes its flight. In these cases there is a marked atonic condition of the blood vessels. I have found that the ice-bag applied to the præcordium at bedtime, together with a cold friction, will almost invariably give the patient immediate sleep.

In chronic nephritis there are many clinical indications that are well met by hydrotherapy. With a high blood-pressure, due to arteriosclerosis, a throbbing head and great irritability of the skin rendering sleep impossible, a prolonged neutral bath at bedtime is one of the most efficient sedative measures in giving comfort to the patient and making sleep possible.

Insomnia, a symptom common to many of the functional and organic diseases, yields very readily to hydriatic measures without resorting to depressing drugs. The neutral bath, the neutral-electric bath, large fomentations to the spine, the wet sheet pack prolonged for an hour or more without inducing perspiration, are all effective treatments in promoting sleep.

Probably more can be done for chronic functional disorders by hydriatic treatment than by the use of any other one measure. In nearly all these cases the patient requires constitutional treatment along with the local measures. For pelvic pains nothing gives the patient more relief and comfort than the hot hip pack and the hot sitz bath. The alternating hot and cold hip pack is a most excellent local tonic measure. In amenorrhœa, in addition to removing the cause if possible, and general tonic treatment, I give the hot hip pack, the hot leg bath, and warm douches, together with electricity. When heat is used for menorrhagia and metrorrhagia it should be used at the highest point of toleration and of brief duration. Prolonged cold gives more satisfactory results.

Rheumatism, diabetes, neurasthenia, nervous diseases, incipient tuberculosis, chronic malarial poisoning, and many other diseases that might be mentioned, when treated scientifically with hydrotherapy, give results that justify the more extensive use of this therapeutic measure.

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**The Ear a Manometer.**—In a note entitled "The Ear a Manometer," M. Pierre Bounier sets forth a new theory of hearing, to wit, that the liquid of the internal ear moves as a whole, so that audition is a hydrodynamic, not an acoustic, phenomenon. The ear is not a resonator, but a registering manometer, in which variations of pressure are alone recorded. He points out that the nerve of the labyrinth is thus brought under the common law of the apparatus of sensation.—*Scientific American.*

## THE SUPRAPUBIC OPERATION FOR THE RADICAL CURE OF VARICOCELE, WITH A REPORT OF EIGHTEEN CASES.

By ROBERT M. THORNBURGH, M.D.,
FIRST LIEUTENANT MEDICAL DEPARTMENT, U. S. ARMY.

On February 27, 1901, a circular, from the office of the Surgeon-General of the Army, invited the attention of the officers of the Medical Corps to the suprapubic method of operating for the radical cure of varicocele.

Sixteen cases were reported by Col. A. C. Girard, sixteen by Major J. M. Banister, nine by Major W. C. Borden and three by Major A. E. Bradley. It was stated that General Forwood had also employed this method when stationed at the Soldier's Home.

The writer has had the opportunity to examine over 4,500 recruits at Fort Slocum, N. Y.—a recruiting rendezvous—and has thus been able to pick a number of cases for operation. The rule laid down in "Tripler's Manual" has been followed, *i. e.* operate upon those cases in which the varicocele is as large or larger than the sound testis. Eighteen men were found to come within this rule and were operated upon by the suprapubic method. Some four or five cases, previous to June, 1902, were operated upon by the open scrotal incision, with good results in all but one case. In this a sinus persisted, requiring three subsequent operations before the patient could be returned to duty.

The suprapubic route seems by all means to be the better. The field of operation can be more readily rendered aseptic; a dressing once properly applied will remain indefinitely and not be affected by the movements of the patient; and primary union is a practical certainty. It would appear to the writer that there are no advantages whatever that can be urged in favor of the scrotal incision.

With very slight modification, the technique employed by Colonel Girard has been followed by the writer.

The morning before operation the patient is bathed, put to bed, the pubes shaved and scrubbed with tr. green soap and water, followed by rinsing with ether. A nurse, with sterile hands, now rubs in four grams of oleate of mercury over a space completely covering the field of operation. A sterile gauze dressing is saturated with oleate of mercury, applied to the skin and bandaged in place, first covering dressing with oiled silk. (This inunction with the oleate, for the prevention of stitch abscess, is described by Maylard of Glasgow, in *Annals of Surgery*, for January, 1902.)

The patient is given a dose of salts, which is followed by a soap-suds enema at 6 A.M. next day. No breakfast, nor even water, allowed after 6 A.M. The urine is tested for albumin and sugar and the heart and lungs carefully examined. Should all be normal, anæsthesia is commenced at 9 A.M. Chloroform is used to full surgical narcosis and then ether is substituted. No untoward results have followed this practice, the patient usually reviving within fifteen or twenty minutes after withdrawal of anæsthetic, and so much less anæsthetic is required, than when ether alone is used, that no subsequent vomiting has occurred. It is also worthy of note that no morphine has been required for pain, nor has any hypnotic been needed.

When the anæstetized patient is brought into the operating-room, the dressing is removed and an assistant re-scrubs the field with tr. green soap and water; ether is poured over and rubbed in, followed by alcohol—about 30 c.c. of each. A one-per-cent. solution bichloride is now poured over the field. The finger of the operator is introduced into the external ring and a nick made with the knife directly over the tip of the finger. With this nick as a landmark an incision 3 cm long is made, parallel to Poupart's ligament. The deep fascia is cut through with the knife, and then a little blunt dissection brings the cord into view. No blood vessels of any moment are encountered; oozing being checked by hot normal salt-solution. The sheath of the cord is picked up between mouse-tooth forceps and torn open. The finger of the operator is introduced and the whole cord easily raised from its bed and brought out of the wound; a ligature carrier is then placed beneath it. The vas is recognized by its white appearance and cord-like feel and is separated from the rest of the cord downward to within an inch of the testis. The testis can readily be brought into view by gentle traction on the cord. The vas is separated from the vessels for about 6 or 7 cm. in an upward direction also. The vessels are tied with No. 3 cumolized catgut ligatures, the vessels between them (5 to 6 cm.) excised, the stumps inspected for oozing, the ends approximated and the ligatures tied to each other; thus forming a support for the testis.

(In the opinion of the writer it is unnecessary to isolate and save the spermatic artery and a vein. This was formerly done, but has been abandoned with equally excellent results.)

The cord and vas are dropped into the bottom of the wound and the wound closed by continuous retention and approximation sutures. No. 1 cumolized catgut being employed.

The wound is covered with two or three thicknesses of naphthalin gauze, then ten or twelve thicknesses of plain sterile gauze, and this held in place by adhesive straps. A two-inch thickness of absorbent cotton placed on top and the whole held in place by a spica bandage.

At the end of twelve days (unless pus be indicated) the dressing is removed and the suture found absorbed. A little collodion is painted on the line of incision, the patient allowed up and returned to duty in three or four days, *i. e.* as soon as there is no tenderness on palpitating cord and testis. The patient is given a suspensory bandage immediately after operation and told to wear it six weeks. Usually, however, it is only worn when the patient is in hospital.

In closing, it may be well to give the method of hand sterilization employed at this hospital, since its results have been very satisfactory.

After paring and cleaning the nails, the hot water faucet is turned on and the hands and forearms thoroughly scrubbed for five minutes in tincture of green soap and rinsed with the hot running water. All brushes have been sterilized and each person uses an individual brush in each scrubbing operation. After rinsing, about 10 gms. each of chloride of lime and sodium bicarbonate are put in the palms of the hands and *cold* running water allowed to drip on them. A considerable amount of chlorin is evolved, which thoroughly disinfects the hands. This mixture is rubbed into the skin of hands and forearms, with a brush, for two or three minutes; the arms and hands rinsed in cold running water and then soaked five minutes in a 1 per cent. bichloride solution; from there to a 5 per cent. creolin emulsion for three minutes and the hands are considered sterile. A 1 per cent. trikresol solution is used to dip the hands in during operation.

The only objections to this method are: the irritating effect of the chlorin on the eyes and nasal mucous membrane and the causation of a slight dermatitis if used more than once a day. The writer has, however, cleaned his hands in this manner three or four days in succession without experiencing

sufficient skin irritation to cause inconvenience. For the surgeon operating several times daily for a number of successive days it might, perhaps, prove impracticable.

In every case thus far treated, primary union took place, and in one only did a drop of pus appear. A cure has resulted in every case.

In case 14 a stitch abscess occurred which necessitated opening the incision, draining, and allowing to heal by granulation. A 5 per cent. argyrol solution was used effectively.

In case 16 there was a slight epididymitis and hardness of the cord one month after operation. This was probably due to the fact that it was necessary to use chromicized gut, as none other was on hand at that time. This gut being so slowly absorbed may have produced irritation mechanically through movements of the body.

Since writing this report the operation has been done by the writer on fifteen more cases with perfectly favorable results in each case.

Case I.—M. D., recruit, age twenty-one years, white; nativity, New York, two weeks' service. Admitted, June 17, 1902. Varicocele, left, large. Operation June 27. Technique as described above. Primary union. Returned to duty, cured, July 10.

Case II.—K. J. T., recruit, aged twenty-three years, white; nativity, Ireland; three weeks' service. Admitted, June 27, 1902. Varicocele, moderate, left. Operation, July 1. Primary union. Duty, cured, July 16.

Case III.—W. D., recruit, aged twenty-one years, white; nativity, New York; one week's service. Admitted, July 4, 1902. Varicocele, large, left. Operation, July 9. Primary union. Duty, cured, July 26.

Case IV.—K. P. J., recruit, aged twenty-one years, white; nativity, Pennsylvania; two weeks' service. Admitted June 23, 1902. Varicocele, moderate, left. On testing urine considerable albumin found. Patient sent to medical ward for treatment. Had not other symptoms of nephritis. Albumin not found after July 16. Operation, July 20. Chloroform used entirely. No albumin found after operation except a trace on July 24. Primary union. Duty, cured, August 7.

Case V.—G. E. T., recruit, aged twenty-six years, white; nativity, Tennessee; one week's service. Varicocele, very large (larger than fist), left. Admitted, July 16, 1902. Operation, July 22. Primary union. Duty, cured, August 7.

Case VI.—N. C., recruit, aged twenty-two years, white; nativity, West Virginia; one month's service. Admitted July 29, 1902. Varicocele, large, left. Operation, August 5. Primary union. Duty, cured, August 18.

Case VII.—W. E., recruit, aged twenty-four years, white; nativity, Virginia; one week's service. Admitted July 29, 1902. Varicocele, moderate, left. Operation, August 5. Primary union. Duty, cured, August 18.

Case VIII.—V. O., recruit, aged twenty-two years, white; nativity, Maine; two weeks' service. Admitted August 13, 1902. Varicocele, large, left. Operation, August 24. Primary union. Duty, cured, September 9.

Case IX.—D. J., recruit, aged twenty-one years, white; nativity, West Virginia; one week's service. Admitted August 22, 1902. Varicocele, moderate, left. Operation, August 29. Primary union. Duty, cured, September 15.

Case X.—I. J. M., recruit, aged twenty-one years, white; nativity, Tennessee; one week's service. Admitted August 22, 1902. Varicocele, large, left. Operation, September 1. Primary union. Duty, cured, September 15.

Case XI.—R. W., recruit, aged twenty-three years, white; nativity, New Jersey; one month's service. Admitted October 20, 1902. Varicocele, large, left. Operation, October 28. Primary union. Duty, cured, November 15.

Case XII.—F. J., recruit, aged twenty-four years, white; nativity, Massachusetts; two weeks' service. Admitted January 28, 1903. Varicocele, large, left. Operation, February 6. Kangaroo tendon used for ligatures and sutures, no catgut being on hand at time. Dressed February 15. Sutures entirely *absorbed*. Primary union. Duty, cured, February 23. Patient did not wear suspensory as ordered and slight epididymitis ensued, which disappeared before patient was returned to duty.

Case XIII.—B. W. G., recruit, aged twenty-three years, white; nativity, New York; one month's service. Admitted January 28, 1903. Varicocele, large, left. Operation, February 6. Kangaroo ligatures and sutures. Primary union. Duty, cured February 19.

Case XIV.—G. G. H., recruit, aged twenty-one years, white; nativity, Massachusetts; one month's service. Admitted February 14, 1903. Varicocele, moderate, left. Operation, February 16. Kangaroo ligatures and sutures. Suture evidently not sterile. Stitch-abscess appeared and had to be opened and allowed to heal by granulation. Duty, cured, April 12.

Case XV.—R. T., recruit, aged twenty-one years, white; nativity, Massachusetts; three weeks' service. Admitted February 16, 1903. Varicocele, moderate, left. Operation, February 18. Kangaroo ligatures, chromicized gut sutures. Sutures removed March 1. Primary union. Duty, cured, March 4.

Case XVI.—P. C., recruit, aged twenty-three years, white; nativity, West Virginia; three weeks' service. Admitted February 16, 1903. Varicocele, large, left. Operation, February 19. chromicized gut ligatures and sutures. Sutures removed March 1. Duty, cured, March 5. Soldier was sent to Fort Williams, Me. Surgeon at that post informs the writer that a slight epididymitis, with hardening of the cord, had developed about April 1. No later information.

Case XVII.—L. A., recruit, aged twenty-one years, white; nativity, New Hampshire; three weeks' service. Admitted February 17, 1903. Varicocele, moderate, left. Operation, February 19. Chromocized gut ligature; kangaroo sutures. Suture absorbed March 1. Primary union. Duty, cured, March 1.

Case XVIII.—B. B., recruit, aged twenty-seven years, white; nativity, New York; twenty-five months' service. Admitted February 20, 1903. Varicocele, moderate, left. Operation, February 23. Cumolized catgut on hand and used for this and subsequent operations. Primary union. Duty, cured, March 9.

The writer desires to express his sincere thanks for the valuable advice and assistance rendered by the post-surgeon, Major H. S. T. Harris, U. S. A.

Fort Slocum, N. Y.

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**The Causes and Prognosis of Sudden Blindness.**—George W. Benschoten gives the following causes of this affliction: (1) Embolism of the central artery of the retina, or thrombosis of the vein; (2) apoplexæ retinæ, or hemorrhage into the retina, including also the vitreous; (3) excessive hemorrhages from the general circulation; (4) uræmia; (5) spasm of the retinal vessels or ischæmia of the retina; (6) detachment of the retina, or a

sudden increase in detachment of an already loosened retina; (7) hysteria; (8) acute infectious diseases (rare); (9) disseminated sclerosis, also rare. As can be judged from the foregoing, it requires a close examination of the heart and circulatory system and of the urine to arrive at the probable indirect cause in many of the cases. Much can often be done by treatment, but for a rational application of the same a correct diagnosis of the condition present must first be made. It is well to remember that the statements of patients are often unintentionally misleading. They may claim a sudden loss of sight in one eye when they first discover the blindness, but the vision may have gradually been failing for some time, the patient being totally unaware of the fact; again the statement that the sight is absolutely gone in one eye may be made, when upon close questioning and examination they admit that vision may still be present to a greater or less degree, but so poor as to lead them to claim a full loss.—*The Providence Medical Journal.*

**A New Retroflexion Operation.**—S. A. Alexandroff suggests anterior approximation of the bases of the broad ligaments for the purpose of elevating the cervix, and, by holding it backward, throwing the body of the uterus forward. The operation is done as follows: Retractors are placed in the vagina and the cervix is pulled down. A semi-circular incision with the concavity upward is made in the anterior vault, and this flap, together with the bladder, is stripped back as high as possible. A traction suture is placed in the base of each broad ligament 3 to 3½ cm. from the uterus by hooking the finger under the lower edge of the ligament and pulling it forward so that the ligature can be passed through a firm mass of tissue about 1 cm. thick. The uterus is now placed in anterior position by bimanual manipulation, and traction in the cervix stopped. The two traction ligatures are crossed and pulled upon by the assistant so as to bring together in front of the cervix the two portions of the base of the broad ligament they pierce. These two stout strands of tissue are united by sutures which also penetrate the substance of the cervix. The internal os forms the upper limit of the suture. The incision in the fornix is then closed by suture. The author has been able in all cases to correct the prolapse and restore the uterus to its normal position without impairing in any way its motility or causing circulatory or menstrual disturbance. No danger to the ureters is to be apprehended if the operation is done as described.—*Centralblatt für Gynäkologie.*

**Laparotomy Convalescence, with Reports of Twenty Illustrative Cases.**—Robert Wallace Hardon says that the large percentage of cases operated on by him during the last four years have been allowed to get out of bed in from one to four days following operation, and in none have any but the best results been seen. Marked increase in the comfort of the patient in every way was noted following this line of procedure. Patients left the hospital stronger, and were sooner able to assume their occupations than had been observed to be the case when kept in bed for a much longer time. The additional comfort of the patient comes from being able to have more complete bowel movements, consequently less flatus and distress from this often troublesome feature; from the change of position and avoidance of any bed pressure symptoms; from a less nervous condition incident to keeping them as confined as is the custom, and from an absence of muscular weakness caused by an atrophy of disuse.—*Medicine.*

**Two Cases of Lymphatism.**—George Peacock reports two cases of sudden death in apparently normal children. The post-mortem in one showed a thymus gland which almost covered the heart, and which measured in its greatest length 102 mm. and in its greatest breadth 63 mm.; its volume was 37 cubic centimeters. The mesenteric glands were universally enlarged and hard. In the second case the thymus, as in the former instance, was nearly double its normal size. Dr. Thursfield, as quoted by the author, describes four cases of sudden death in infants, associated with enlargement of the thymus gland, and thus summarizes the points in common: "The sudden death, the absence of any lesion sufficient to account for death, the presence of bulky and heavy thymus glands, and the evidence of hypertrophy of the lymphatic tissue shown in the enlargement of the Peyer's patches and the solitary follicles, and in two cases, of the lymphatic glands." Laqueur reports on cases, and Kendrat has collected twelve. The cause of death in all seems quite obscure. It has not been proved to be due to direct pressure on the trachea, or to pressure on the vagi in the neck by an enlarged thymus, nor to coagulation of the blood, the result of thymus secretion, nor to the presence of toxins in the circulation. Further investigation is needed to discover the relation existing between hypertrophia lymphoid structures and sudden death in young children.—*The Dublin Journal of Medical Science.*

**The Therapeutic Uses of the Preparations of Benzoin.**—H. R. Coston uses the compound tincture of benzoin to seal an incised wound in healthy tissue, or cracked nipples, granulating surfaces, bed-sores, chapped hands, anal fissure and the secondary periods of frost-bite. Chronic forms of eczema are benefited by painting them with the tincture of benzoin, or dusting with the benzoate of bismuth. Liver spots will be removed by the use of tr. benzoin. comp. ℥iss; hydrargyri chlor. corrosiv. ℈i; Aquæ cologniensis q. s. f. ℥viii, applied twice daily. Sore throats are much improved by the acid in solution or the tincture applied locally. The great indication for the internal use of the benzoates is ammoniacal urine. In cases of chronic cystitis the author gives 15 or 20 grains every two or four hours. For nocturnal enuresis with neutral or alkaline urine give three to five-grain doses after each of the principal meals. Headache of lithæmic origin will be cured by the use of these remedies. The benzoate of bismuth may be given with excellent results in diarrhœal troubles in children. In chronic bronchitis benzoic acid or benzoate of ammonium will be found of signal service. All forms of influenza are benefited, and if there is much arterial excitement add two or three drops of tincture gelsemium to each dose. As antiperiodics the benzoates are worthless; as antipyretics they are reliable only in so far as they exert their specific effects upon the disease for which they are given and because of the slight diaphoresis and diuresis which is caused by them.—*The Therapeutic Gazette.*

**The X-Rays in the Treatment of Rodent Ulcer.**—J. Hall-Edwards declares that in the *x*-ray treatment of rodent ulcer we have already achieved a success which must mark an epoch in the history of therapeutics. These ulcers, as a rule, tend to extend along the course or channel of the exudate. In one of the cases reported by the writer the ulcer had invaded the orbit. The disease has made no progress during the time (sixteen months) the case has been under treatment, but without surgical interference no cure can be looked for. The condition of the patient is at the present time far more satisfactory than it has been for years. He is practically free from pain, has no hemorrhage, and his general condition is better than it has been for more than thirty years. A few applications of the rays are given occasionally, no other treatment being adopted. Several cases of rodent ulcer involving the inner canthus have been difficult to heal when the orifice of the lacrymal duct was included in the diseased area on account of the exudate from the ulcer washing over the eyelids and acting as a constant source of irritation. Otherwise, when the duct is not involved the rays have soon cured the disease. In cases of ulcer near the eye, every care should be taken to protect the eye from injury, at the same time the whole organ has been exposed when necessary without fear, with no ill result. In cases of rodent ulcer on the face, treated by *x*-rays, a mask of some kind must be used.—*Treatment.*

# MEDICAL RECORD:

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## RESPONSIBILITY FOR PROPER MILITARY SANITATION.

Two papers in the June number of the *Journal of the Association of Military Surgeons* exemplify two aspects of army medical life, and one of them shows the urgent need for fuller recognition of the surgeon as the authoritative official sanitarian. In his address to the graduating class of the Army Medical School the Secretary of War says: "The opportunities of the Medical Corps of the army are constantly widening. The policy which is now being pursued of taking care of the larger army in larger posts instead of scattering it in small posts will greatly increase your opportunities for practice, and for research and for individual growth. The large posts, where there will be the attrition among many men, association with your seniors and the opportunities that come from a great collection of men will take the place for you of those little one and two company posts in which the isolation and the lack of occupation and of opportunity led so many a promising young man to dwindle and dry up before he reached maturity.

"Congress is continually broadening in its treatment of every scientific branch of the army. It takes time and campaigns of education to secure the adoption of measures and the grants of money necessary for great steps in advance, but that kind of campaign is going on all the time, and I look with great confidence to see at an early date complete success following the efforts of your chief, the surgeon-general, to secure ample endowment for a greater army medical school and more complete hospital facilities for the members of your corps in the city of Washington."

This is the bright side. On the other hand, Surgeon-Major William O. Owen instances the contemptuous, mind-your-own-business manner in which commanding officers sometimes receive proffered advice as to sanitary matters from their medical officers, and the deplorable results that follow. At the same time Dr. Owen points out that under the present regulations—or lack of regulations—the commanding officer is strictly within his legal rights, and is accountable to no one for epidemics which may follow, and which have followed. Thus in the Crimean war, the road from the landing to the firing line was marked by the dead animals, and the camps were polluted in every possible way; regiments showed losses of from 20 to 75 per cent., and one a death loss greater than its average strength; yet a general told the medical inspector he had better keep his strictures and criticisms to himself until they were called for. In our Civil War more than 1,800,000 cases of typhoid, diarrhœa, and dysentery were reported with 80,000 deaths. Relative to the Spanish war a general testified that the opinion of his chief-surgeon had not been borne out by the water analysis, yet 9,960 men of his command contracted typhoid fever, and 714 died; a disability of over 20 per cent. If a general had deliberately led his men into an ambuscade of whose existence he had been warned by his scouts, he would be held responsible; but here when a description of his camp written by a sanitary inspector was read to him he wanted a copy so that, as a general officer, he might court-martial the writer for daring to write such a report! Also Dr. Owen cites the case of a medical officer who, since the year 1900, when he gave advice to the commanding officer to the effect that if the men were not housed in temporary quarters instead of in tents, it would result in loss of life from pneumonia, was told to "keep it to himself" until called for. Dr. Owen says that, with such conditions as this staring us in the face, it does, indeed, seem time that steps were taken looking to a correction of these evils so plainly evident from a perusal of McLeod's "History of the Crimean War," from the proceedings of the Chelsea Board on the same war, and from the published records of the Surgeon-General's office, such as the Medical and Surgical History of the War of the Rebellion, the report of Reed, Vaughan, and Shakespeare upon the "origin and spread of typhoid fever in the military camps of the assembly within the United States in 1898," together with the report of the commission appointed by the President to investigate the conduct of the War Department in the war with Spain, and the eight volumes of testimony taken before it.

The remedy Dr. Owen considers to be in the Medical Department itself. It should organize, and through its recognized head, the Surgeon-General, show to the Secretary of War, the great numbers disabled and dying from preventable diseases, that proper sanitation would largely decrease the number, that the fault lies, not with the medical men who have given advice which the generals refused to heed, that the losses occur, not in time of emergency, but in assembly, instruction, or wintering camps, and that there is a definite chain of responsibility for diseases in camp. It should show Congress that such a law would save money and lives, and that with the number of men thus placed on the firing line, the result on the moral and physical force of those on it will be better—and it will at least receive a respectful hearing; for it will be evident that the medical corps is trying to accomplish a public good and not a personal advantage. "Let the organization insist upon a law that will enforce upon the commander a direct legal personal responsibility for his refusal to allow proper sanitary precaution to be taken, leaving him always the absolute right to refuse all sanitary suggestion whenever there is in his judgment a military necessity requiring it, and allow him to be the sole judge of when and under what condition it should be done—hold him to a legal responsibility that his results are good ones, but do not leave him such a latitude as will allow him to go unpunished when he

deliberately sets at defiance all the rules recognized the world over by sanitarians, or when he by his deliberate personal example encourages his men to violate them, allowing his men to drink water which he has been advised is polluted—he may be immune from the disease, it is certain some of his men will not be. As far as I have been able to obtain the history of the Boer war in South Africa and the camps of assembly and instruction in the U. S. in 1898—they are excellent examples of the result to flow from this lack of legal responsibility before the statute law of the land. Give the general in command the proper medical advisers and compel him to take the responsibility before the law. He will then have to stop and think of the cost of human life. Leave him always free in the face of the enemy with one thought alone, 'What is the best way to defeat the purpose of the enemy of the country?' But in camps of assembly and instruction he should have this added responsibility. Do this, and no general will for a moment hesitate to insist upon the most absolute fulfilment of the rules of sanitation by the medical officers under his orders, nor, on the other hand, will he hesitate for a moment when, in his judgment, it is necessary to throw all sanitary precautions to the wind, for it is far better to lose 100 men to disease than to the battle for fear of results to flow from insanitary condition. He should then simply direct his medical officers to take such precautions as they may, under conditions over which he has no control." To this we might add the suggestion that a part of the curriculum at West Point for the senior class should be a course in military hygiene upon which army surgeons could lecture. This would result in impressing the gravity of the problems upon the future officers, and further accustom them to refer to the medical corps as the natural arbiters in matters hygienic.

## TRYPANOSOMIASIS IN HORSES AND MAN.

After the sporozoa the protozoa most likely to cause disease are the flagellata, of which the best known pathogenic genus is *Trypanosoma*. Unlike the sporozoa, which are chiefly, if not entirely, intracellular parasites, the trypanosoma appears never to enter the red blood cells. W. E. Musgrave and N. E. Williamson give, in No. 3 of the Publications of the Bureau of Government Laboratories, Manila, an account of an epidemic of trypanosomiasis of horses in the Philippines which constitutes an instructive instance in epidemiology. The authors are satisfied that trypanosomiasis did not exist in the Philippines prior to May, 1901. Previous epidemics were rinderpest; not trypanosomiasis, or surra. In May, 1901, the disease appeared among some horses imported that month from Australia, and soon spread to the cavalry horses stabled across the street, and during the next two years 5,787 army horses and mules were killed for surra and glanders. Though accurate figures are wanting, the loss among the horses of the Civil Government and private parties was also very heavy, and a conservative valuation of the direct loss would not be less than $2,000,000. The parasite, Trypanosoma, is characterized by an undulating membrane along one side of the body, and drawn out into a whip-lash, or flagellum, at one end. The genus has a bad reputation. Besides being responsible for the "surra," it produces the nearly allied nagana, or tsetse-fly disease, of horses and cattle in South Africa. The mode of transmission is said to be chiefly by means of blood-sucking insects which, obtaining the parasite when feeding upon animals having the disease, pass them on to the next animal bitten. Trypanosomiasis may also be inoculated upon a wounded surface by non-biting insects, and the "maladie de coit" has been produced by smearing the vulva of a bitch with blood containing *Trypanosoma equiperdum*. As insects only transmit surra within about forty-eight hours after the acquisition by them of the infection, it is inferred that the transmission is purely mechanical and that the insects do not act as an intermediate host in which a distinct stage of the parasite's development takes place. In Manila some of the rats were also found to harbor the same trypanosoma (*Trypanosoma evansi*) which produced the horse epidemic. As fleas have been shown to carry the infection from rat to rat, we are tentatively, and until investigation has shown exactly what insects are to be incriminated, to hold all insects as possible agents in the spread of the disease. It is probable that inoculation is the only mode of transmission. Thus after vain attempts at infecting a monkey with contaminated food, infection took place promptly after a small mechanical abrasion of the oral mucous membrane had been made. Mechanical modes of inoculation thus suggest themselves, such as the passing on of the disease by bridles, combs, or brushes to sores on another animal. In the perpetuation of the disease during the intervals between epidemics wild animals probably play the part of host for the parasite; some of these animals perhaps not suffering much from its presence. Again rats are found infected during the dry season, and may well serve through the intermedium of the fleas always numerous upon them, as standing foci for reinfection of the draught animals. But in Manila itself, at any rate, even in the dry season there are always enough sick horses driven along the streets and enough flies to explain reinfection.

The existence of infection among horses calls for drastic measures in the way of prevention of further spread. The United States promptly established an absolute quarantine against all animals from infected ports. The authors hold that in the already infected territory ordinances should be made requiring the immediate report of all sick horses, and all those affected with surra should at once be killed. Especially valuable horses should be kept in fly-screened stalls. Horses should not be allowed to stand in large groups where infection from one can be transmitted quickly to all by the flies. Dead horses should be taken to a crematory in fly-proof wagons, or covered with earth. All sores on horses should be kept covered with a fly-proof ointment.

Trypanosomiasis acquires somewhat more interest than attaches to veterinary matters in general, by the recent discovery by Castellani, of the genus in the cerebrospinal fluid and blood of 70 per cent. of persons suffering from the sleeping sickness of Africa. Before this, trypanosomiasis was all but unknown in man. Concerning Castellani's find, Sambon says (*Journal of Tropical Medicine*, July 1, 1903) that it suggests a very definite line of research in the way of prevention, which is all the more nec-

essary as, like the surra of horses, "sleeping sickness" is invariably fatal. Concerning the probable mode of transmission, Sambon seems to regard the tsetse fly as the probable carrier of the infection. As we showed in our issue of August 15, sleeping sickness is extending its range over Africa, and, as Sambon says, its advance "is a serious menace to the development and prosperity of the great African continent, and no pains should be spared, no money withheld, no stones left unturned in order to elucidate as soon as possible the etiology of this formidable disease." At the recent meeting of the British Medical Association an entire session of the Section of Tropical Diseases was devoted to a discussion of this subject.

## VICTORIES OF MODERN SCIENCE.

This subject is becoming somewhat trite, and of late has been made the text of many a sermon in which the deeds of the men of science of the past century have been extolled to a perhaps exaggerated degree. It might be well in this age of self-laudation to bear in mind that great men lived before Agamemnon. Nevertheless, there is no getting away from the fact that there have been in the hundred years gone by some of the most conspicuous examples of men eminent in science. Of these Pasteur may be allotted one of the foremost places if not the very foremost place.

In the *Booklover's Magasine* for August, Dr. Joseph Walsh of Philadelphia gives a good sketch of some of the victories of modern science, and refers to Pasteur as one of the giants in this field. He truly says of Pasteur that all his discoveries were fundamental in character, and it is the results accomplished since, through the knowledge of them that must be considered. Pasteur, in fact, laid the foundation upon which other men built. Lister was the first to build, and he builded so well that his name more than that of any other man will go down to posterity linked with that of Pasteur as among the greatest benefactors of the human race. Dr. Walsh states that in his opinion the discovery that has proven most beneficial as a result of Pasteur's original work was the discovery of the bacillus of tuberculosis. No one can possibly have any disposition to underrate the great service which Dr. Koch has rendered to humanity by the aid of science, but to say that his discovery of the tubercle bacillus was more beneficial to the human race than that of antisepsis by Lister is too high praise.

Dr. H. T. Bulstrode, writing in *The Lancet*, August 1, on pulmonary tuberculosis, says: "In connection with the subject of the control of tuberculosis, there is, I venture to think, too great a tendency to assume that the discovery of the tubercle bacillus has fundamentally changed the face of affairs. But this is in no sense the case. The natural history of the disease has not become modified merely because we have unearthed one of the essential agents by which nature works her ends. . . . Do not let us accept without further examination the view that the reduction of the disease has been the result in the main of the discovery of the tubercle bacillus, because this is, it seems to me, a view which is not unlikely to concentrate our efforts too much upon one side of the problem." Dr. Walsh draws attention to the researches of a man to whom the English-speaking race has hardly paid the honor that is justly his due. Ramon y Cayal of Madrid has, as Dr. Walsh says, revolutionized the theories and the mechanism of nerve function. Cayal has shown "that the specific brain cell is an independent unit provided with multiple processes by means of which it is capable of acting not through one nerve alone, but through several." With reference to the fact that Fitz of Boston was the first to define appendicitis, Dr. Walsh points out that it is a curious but frequent occurrence, that it is not the man who sees the greatest number of cases of a particular kind who discovers its origin, but usually the one who sees only a few. It was so with Fitz and appendicitis. Although the victories of modern science have been remarkable, there is every reason to believe that in the future they will be even more remarkable. In some branches the fringe has only been touched.

### The Prevalence of Ankylostomiasis.

The parasite known as Ankylostoma duodenale, or Uncinaria duodenalis, is, in all likelihood, far more widely distributed than it is generally believed to be. Cases of infection with this parasite have recently come under medical observation in parts of the world widely separated. Dr. Clemow, in his work treating of the geography of disease, has a very thorough description of the distribution of the hookworm, and is of the opinion that although its known distribution is a wide one, it is probable that its actual distribution is still wider. But a short time ago the parasite was unknown in the British Isles. Recently, however, a grave epidemic of ankylostomiasis occurred in a Cornish mine. It has appeared amongst miners in certain districts of France, as also in Belgium and in Germany. Opinions differ as to how the parasite gained access to these countries. German writers declare that it was by the agency of laborers, who had become infected whilst working in the St. Gothard tunnel. Sonsino takes the view that before the outbreak of the disease in the St. Gothard tunnel, the parasite responsible for that epidemic was already diffused among certain classes of workmen in the northern countries of Europe, such as France, Belgium, Germany, Holland and Austria, as well as in Italy and in more southern countries. Nevertheless, Dr. Clemow says that he has not been able to confirm this mention of the existence of the parasite in Holland. The affection is supposed to be common in Hungary, and occurs with frequency in many parts of Italy. In those parts of Asia from which information with regard to the presence of the parasite has been obtained, the fact is gathered that it is exceedingly common.

Australia is not free from the ankylostoma, while it is extremely prevalent in most localities in Africa where any effort has been made to detect it. In the Southern States of the United States this nematode is the origin of much sickness, and it has recently been found to exist in Central America. Throughout the West India Islands the worm prevails to a greater or less extent, and the same report may be given of South America, although some portions of both the latter region and of the West India Islands would appear to be free from the pest.

As to the different factors concerned in the geographical distribution of the ankylostoma, space is lacking to refer to all. Dr. Clemow states that "there appears to be little room for doubt that the soil plays an important part in the life-history of the

animal and in its transmission to man." Again, he says: "The spread of the worm and the disease caused by it over the earth's surface, is brought about mainly, if not solely, by the movement of infected human beings." Great interest is being taken at the present time in everything relating to the ankylostoma, both in this country and elsewhere.

In Egypt experiments have been carried on recently which showed that pani-ghao, or ground-itch, is due, in many cases, to the penetration of ankylostoma larvæ into the skin of the sufferer. It might be thought that to check the spread of hookworm infection should not be very difficult of accomplishment, even if it were impossible to extirpate the parasites. It is disconcerting to find that ankylostomiasis is becoming more prevalent.

### Child Labor in New Jersey.

The laws controlling child labor are admittedly in a very unsatisfactory, not to say disgraceful, condition in many parts of the United States. This matter has been referred to in the Medical Record on several occasions. Pennsylvania, Georgia, and South Carolina are among the States which have gained an unsavory reputation for the manner in which the rights of children are neglected. Illinois, which also possessed an unenviable notoriety for its treatment of young workers, has delivered herself from this reproach by the passage of a most enlightened statute.

Under the heading "Child Labor and Compulsory Education; the Default of Philanthropy," Mrs. Florence Kelly gave an address, on July 11, before the Summer School in Philanthropic Work. The speaker selected New Jersey as an illustration of the default in philanthropy, with regard to the labor conditions of children, and because it shows the result of unaided endeavor of trade unions to protect children. It appears that New Jersey was the second State in the Union to enact a child labor law, while, at the present time, New Jersey has, according to the Census of 1900, 8,042 children under the age of sixteen years engaged in manufacture, ranking in this respect between South Carolina and Georgia. In 1892 New Jersey brought in a law limiting the hours of work for women and minors under eighteen years of age to not more than ten hours a day on five days in the week, and making the Saturday half-holiday compulsory. This humane law, which has never been repealed or pronounced unconstitutional, has nevertheless been rendered almost of no effect by wholesale exemption, followed by non-enforcement. The officers appointed to enforce the factory laws are indifferent as to whether the laws are kept or not, and it is only in those factories in which there is a strong labor organization, that the law is obeyed, and the Saturday half-day is granted. In most of the industries employing large numbers of women and children the labor organization is not strong, and thus it happens that the greater part of women and children working in factories in New Jersey are at the mercy of their employers as regards their hours of toil. Reform in the laws relating to child labor is urgently needed in many parts of this country. Philanthropists will find ample scope for the practical expression of their charitable impulses in this connection.

### The Instinct to Masticate.

Dr. Harry Campbell contributed to *The Lancet*, July 18, the first part of an article entitled "Observations on Mastication." Writing of instinct to masticate, he notes that the maxillary apparatus of man has for long ages past been put to vigorous use, and that therefore it is not surprising that the need to exercise it should express itself as a powerful instinct. He then proceeds to consider the many and curious ways in which this instinct manifests itself. "During the early months of life the natural function of feeding at the breast provides the infant's jaws, tongue, and lips with all the needful exercise. This bottle-feeding fails to do, and we frequently find bottle-fed children seeking to satisfy the natural instinct by sucking their thumbs, fingers, or any convenient object to hand. The teeth are a provision for biting hard foods, but even before they actually appear we find the child seeking to exercise his toothless gums on any hard substance he can lay hold of, and there can be no doubt that exercise of this kind tends to facilitate the eruption of the teeth, a truth, indeed, recognized universally, whether by the primitive mother who strings the tooth of some wild animal round the neck of her infant, or the up-to-date parent who provides her child with a bejeweled ivory or coral bauble. When the teeth have erupted the masticatory instinct finds among primitive peoples abundant satisfaction in the chewing of the coarse, hard foods which constitute their dietary; but among us moderns, subsisting as we do mainly on soft foods, affording but little exercise for the masticatory apparatus, it does not find its proper expression, and thus tends to die out. Nevertheless, it dies a hard death and long continues to assert itself; witness the tendency of children to bite their pencils and pen-holders."

The chewing instinct may be observed to a greater or less extent in all parts of the world. In England, although adults seldom chew, yet children will chew India rubber for hours.

Dr. Campbell says that the habit of gum chewing so common in this country comes down from far-off times, for the aborigines of Australia chew several kinds of gum, and the Patagonians are said to keep their teeth white and clean by chewing matri, a gum which exudes from the incense bush. Reference is made by the writer to betel chewing, so widespread a custom in the far East. This leaf has, doubtless, stimulating properties, for which reason also tobacco chewing is extensively practised.

In concluding his allusions to the instinct of mastication Dr. Campbell states, that the grinding of the teeth which takes place during sleep in disturbed states of the nervous system is a true masticatory act in which the normal lateral movement of the mandible is well marked, and it may thus be regarded as a perverted manifestation of the masticatory instinct.

**Arteritis in Typhoid Fever.**—W. J. Thayer calls attention to a complication of typhoid fever, which, though it has been recognized for a good many years, is little known in this country. It consists (in addition to the venous thrombus which is so commonly seen) of an arterial thrombosis apart from the cases of embolism that one sometimes sees, and is apparently associated with an active arteritis. The clinical picture is a fairly definite one—tenderness coming on toward the end of a typhoid fever, along one of the large peripheral vessels, associated with tenderness and swelling, with diminution of pulsation in the artery below that point, and eventually, either the development of dry gangrene or a slow abatement of these symptoms and complete recovery. The probability is that most of the cases are due either to secondary infection or the actual localization of the bacilli in the walls of the vessels. —*Virginia Medical Semi-Monthly.*

# News of the Week.

**A Memorial to the Late Major Walter Reed.**—On August 15 a meeting was held in Bar Harbor of friends of the late Major Reed, M.D., U. S. A., to whose investigations in so large measure was due the demonstration of the mode by which yellow fever is spread—a demonstration which had as its immediate result the suppression of that disease in the Island of Cuba. Representative men were present from different parts of the country and letters were received from various members of committees already appointed to promote the collection of a memorial fund in grateful commemoration of Dr. Reed's services. Important suggestions were presented from President Eliot, Dr. W. W. Keen, Prof. J. W. Mallet, and others. Dr. Daniel C. Gilman, chairman of a committee appointed by the American Association for the Advancement of Science, presided, and Dr. Stuart Paton acted as secretary. Among those who took part in the conference were Dr. W. H. Welch of Baltimore, Dr. Janeway of New York, Dr. Abbott of Philadelphia, Dr. Herter of New York, Dr. Barker of Chicago, Dr. Putnam of Buffalo, Dr. Fremont Smith of Bar Harbor, and Dr. Sajous of Philadelphia; and besides these medical gentlemen, Bishop Lawrence of Massachusetts and Messrs. Morris K. Jesup, President of the New York Chamber of Commerce; John S. Kennedy, President of the Presbyterian Hospital of New York, and William J. Schieffelin of New York. It was determined to raise a memorial fund of $25,000 or more, the income to be given to the widow and daughter of Dr. Reed, and after their decease the principal to be appropriated either to the promotion of researches in Dr. Reed's special field, or to the erection of a memorial in his honor at Washington. Arrangements were made for the publication of circulars explaining this movement, and asking coöperation not only from the medical profession, but from all liberally disposed individuals who appreciate the value of Dr. Reed's services to his country and to mankind.

**To Reduce Infant Mortality.**—Dr. Edward Martin, Director of Charities and Public Health of Philadelphia, has organized a series of lectures by a dozen or more physicians, to be delivered to mothers in the congested districts on the care of children particularly, but discussing also other hygienic matters.

**Typhoid Fever and Smallpox in Philadelphia.**—For the week ended August 15 there were reported to the Philadelphia Board of Health 91 cases of typhoid fever with 14 deaths, and 16 cases of smallpox with 7 deaths, as compared with 108 cases of the former and 36 cases of the latter for the preceding week. The number of cases of diphtheria and scarlet fever was approximately unchanged, being 49 for former and 63 for the latter. The total number of deaths was 426 as compared with 423 for the preceding week and 446 for the corresponding week of the previous year. The number of cases of typhoid fever reported for the week ended August 22 was 118, with 18 deaths, as compared with 91 cases and 14 deaths for the preceding week. There were reported also 20 cases of smallpox, with 2 deaths, as against 16 cases and 7 deaths for the preceding week. The total number of deaths from all causes was 422, as compared with 426 for the preceding week and 379 for the corresponding week of the previous year.

**The Therapeutics of Chewing Gum.**—Among the contracts recently awarded by the Minnesota State Board of Control is one for a large quantity of chewing gum, and an investigation instituted by the curious has shown that this is for use in the State hospitals for the insane. It is stated that in many instances patients in a state of violent excitement are quieted by giving them gum to chew, and those who are too distracted to be put to any employment are made fit for work by the same means.

**A Good Samaritan in Trouble.**—A woman was struck by an automobile and rendered unconscious a few days ago, and among the witnesses of the accident was a physician in the neighborhood. In his zeal to assist the unfortunate he knelt over the woman and began his ministrations without explanation to the husband. The latter mistaking his motives and thinking he was intent on robbery, struck him and an encounter followed which landed the two in the police station. The moral is obvious.

**A Leprosy Scare in Porto Rico.**—Acting Governor Hartzell of Porto Rico has suspended the superintendent of the leper colony and his assistant, on the strength of a report recently made by the Acting Director of Charities. According to this report, chickens and pigs raised by lepers have been freely sold in San Juan, and paper money which has been passed from hand to hand in the leper colony has been allowed to enter into circulation in other parts of the island.

**An International Congress for the Study of Tuberculosis** will be held in Paris from September 24 to October 1, 1904. The Congress will comprise a Medical, a Social, and a Technical Section. In the Medical Section the following are the questions proposed for discussion: (1) The treatment of lupus by the new methods; (2) the early diagnosis of tuberculosis by the new methods; (3) comparative study of the different forms of tuberculosis. The Social Section will discuss the following questions: (1) The etiological factors of tuberculosis; (2) the value of the various methods of treating tuberculosis; (3) assurance and sickness societies in relation to the struggle against tuberculosis. The Technical Section consists of a museum in which will be exhibited collections of anatomopathological, histological, and bacteriological specimens and preparations; tables of statistics, plans, and designs for the installation of hospitals, sanatoria, and dispensaries; publications of all kinds relative to antituberculosis leagues and associations; and industrial products used in the treatment of tuberculosis. The President of the Congress is Professor Brouardel.—*The British Medical Journal.*

**A Baby Incubator,** such as the one exhibited at the Pan-American Exposition at Buffalo, has been in operation at Coney Island this summer. The Society for the Prevention of Cruelty to Children recently caused the arrest of one of the proprietors of the incubator exhibit, for running a "baby farm." The case was brought to the Coney Island Court, and to decide upon the merits of the apparatus the Mayor appointed a committee of health officials, which reported that the incubator was doing good and recommended its continuance.

**An Early Observation on the Prophylactic Value of the Mosquito Bar.**—In *The Lancet* for June 20 is the following quotation which a correspondent found in the *Edinburgh Review* for August, 1822: "It was lately observed casually that some persons who slept in one of these pestilential spots in Italy under a canopeum or mosquito net *escaped* the effects of the miasm, whilst those *unprovided* with this expedient took the disease" (*i.e.* Roman ague or malaria). Dr. G. Brocchi, "*Dello Stato Fisico del Suolo di Roma.*" The correspondent adds that the reviewer designates it, "if true, as one of the

most valuable discoveries in modern times in prophylaxis," but that the explanation "that the air breathed and expired by the sleeper acts as an antiseptic, being kept enclosed under the canopeum," is, of course, fanciful and absurd.

**The Medical Society of Virginia.**—The thirty-fourth annual meeting of this society will be held in Roanoke on September 15, 16, and 17, 1903. The program, recently published, presages an interesting and instructive meeting. Several excursions and receptions in honor of the members of the society and invited guests, with the ladies of their families, have been planned. On the morning of Wednesday, September 16, there will be a general discussion on the "Diagnosis of Gastric Affections," to be opened by Drs. John H. Musser of Philadelphia, E. C. Hopkins of Richmond, and John C. Hemmeter of Baltimore. The president of the society is Dr John N. Upshur of Richmond, the recording secretary is Dr. Landon B. Edwards of Richmond, and the chairman of the committee of arrangements is Dr. J. Newton Lewis of Roanoke.

**The Late Pope's Physicians.**—Cardinal Oreglia, Camerlengo of the Papal Court, has paid the fees of the physicians who attended Pope Leo XIII during his last illness. The amounts are said to have been as follows: £800 to Dr. Lapponi, £600 to Professor Mazzoni, and £400 to Professor Rossoni. The new Pope has appointed Dr. Lapponi to be his Physician in Ordinary.

**The Fifth International Dermatological Congress** will meet in Berlin, Germany, September 13–17, 1904. The following subjects have been selected by the officers of the congress for discussion: (1) The syphilitic affections of the circulatory apparatus; (2) The diseases of the skin in anomalies of metabolism; (3) Epitheliomas and their treatment. Dr. James Nevins Hyde of Chicago is the secretary for America.

**The Jenner Institute of Preventive Medicine.**—It has been decided to drop the name of Jenner from this institution and substitute that of Lister, so that it will hereafter be known as the Lister Institute of Preventive Medicine. The reason for this change of name is said to be that there was already an institution in existence called after Jenner, and as it was first in the field it claimed the right to keep its name.

**Scarcity of Cod-liver Oil.**—The price ot Norwegian cod-liver oil has risen from $22 to $160 a barrel, and the demand far outruns the supply. It was said, when the price first began to go up, that a corner had been formed, but now it is asserted that there is a genuine scarcity, the yield being only about 4 per cent. of the normal. Most of the oil used for medicinal purposes comes from the fisheries of the Lofoden Islands off the west coast of Norway. The normal annual yield here is 30,000 barrels of crude oil, but this year, it is said, only 1,200 barrels have been obtained. The catch of cod is as large as usual, but the livers hold little fat. This is ascribed to the unusual low temperature of the water on the fishing grounds, in consequence of which the crustaceans which constitute the oil-producing food of the cod have been reduced in quantity.

**The True Scientific Spirit.**—Professor Langley of the Smithsonian Institute, who has been engaged in the construction of a flying machine on new principles, or rather on the old principles of the eagle's flight, has made himself unpopular with certain of the newspapers whose reporters have sought to learn his secret and explain the construction of his machine. He has endeavored to meet the charge that he was withholding what the public ought, or at least wanted, to know by showing that premature publication would be undesirable in every way. "It is the practice of all scientific men," he says, "indeed of all prudent men, not to make public the results of their work till these are certain. This consideration and not any desire to withhold from the public matters in which the public is interested has dictated the policy thus far pursued here. The fullest publicity consistent with the national interest (since these recent experiments have for their object the development of a machine for war purposes) will be given to this work when it reaches a stage which warrants publication." Some workers in other departments of science might with profit ponder on these words.

**Dr. J. C. Pryor,** Past-Assistant Surgeon U. S. Navy, serving on the gunboat *Bancroft*, has been commended in a letter to the Navy Department by Lieutenant-Commander Culver, for conspicuous service in saving the lives of wounded Venezuelans at the recent storming of Ciudad Bolivar by the government forces.

**Stony Wold Sanatorium** at Lake Kushaqua, Franklin County, N. Y., was formally opened by appropriate ceremonies on August 15. About a hundred physicians and others interested in philanthropic work, especially those actively engaged in the war on tuberculosis, were present. Addresses were made by Bishop Henry C. Potter of the Episcopal Diocese of New York, Mr. Frederick B. Jennings, chairman of the building committee, and Dr. E. L. Trudeau of the Adirondack Cottage Sanatorium.

**New Building for the Jersey City Hospital.**—The Jersey City Board of Finance has appropriated $200,000 for the erection of a new city hospital. The hospital will be on the site of the present building at Baldwin avenue and Montgomery street, with an additional plot on the south side. The plans have already been prepared by C. P. Long, city architect. The new building will be 40x121 feet, three stories high. There will also be additional buildings for insane and alcoholic patients and consumptives. Besides these there will be a morgue, stable, and power-house for electric lighting. All the buildings will be erected under the supervision of Mayor Fagan and the hospital trustees, Dr. George W. Shera, Dr. F. E. Lambert, E. M. Watson, Andrew Phelan, and Henry Vogel.

**A New Woman's Hospital.**—The plans for the new buildings to be erected for the Woman's Hospital to replace the old building at Lexington avenue and Fiftieth street, have been filed with the Building Superintendent. The building will be six stories, with basement and attic, and have facade of granite, limestone, and terra cotta. It will be 188 feet front and 40 feet deep, with two wings each 40 feet wide and 60 feet deep, and will be on One Hundred and Tenth street, east of Amsterdam avenue. The first floor will contain, besides the administration offices, a lecture hall, and a chapel with a seating capacity of 144. The second floor will be fitted up as a dormitory for nurses, and the third floor will contain the private wards. Each of the wings of the fourth floor will contain forty beds, and there will be ten endowed beds in the main building on this floor. The fifth floor will have a critical ward with twenty beds, the sixth floor will contain the living rooms of the physicians and other officials, in the attic will be the servants' quarters, and in the basement will be a museum and an out-patient department. The cost is estimated at $610,000.

**Extirpating Malaria in the Soudan.**—A cable despatch to *The Sun* quotes from an interesting report by Surgeon-Major Penton, chief medical officer of the British forces in the Soudan, describing the results of the campaign against mosquitos in that region. Ismailia, he says, is now practically free of mosquitos and nets may almost be dispensed with. Two swamps northeast of the town and others on the south have been filled up with sand, while a third large marsh to the north has been well drained. Workmen are still filling up the pools and mowing the coarse undergrowth. At first they were worried in the evenings by the swarms of mosquitos, but lately they have seen scarcely any. Statistics in regard to the health of Ismailia show that from January 1 to June 30, 1903, there were only three cases of malaria in the hospitals, as compared with 52 in the corresponding period of 1902. While throughout Ismailia there were 569 cases from January 1 to May 30, 1902, the average for the same period in 1903 was only 72. Many of these cases were probably relapses from previous cases. Major Penton suggests that when the present operations against mosquitos are completed malarial fever will practically have disappeared.

**Modified Open-air Treatment.**—In Brighton, England, a novel plan has been devised by Dr. Arthur Newsholme, the medical officer of health, for giving assistance to consumptives who are dependent on the town for their treatment. Patients are sent for a month at a time to the Borough Sanatorium for a modified open-air treatment. The main object is not to cure the patient in this single month, but to teach him how to live after he returns home. Meanwhile his house is disinfected, and on his return he takes up his life under improved conditions. In cases in which a longer stay is practicable and particularly desirable, it is arranged for. But this limited stay brings about in most instances marked improvement, prolonging the patient's period of usefulness, and at the same time makes it possible for a large number of persons to be benefited, decreasing proportionately for the community the danger of infection.—*Charities.*

**A Suicide by the "Water Cure" Method.**—A prisoner patient in the Holy Cross Hospital, Salt Lake City, recently adopted a method, called the "water cure" in the Philippines, for ending his own life. Evading his nurse he went into a bathroom, got into the tub, and, placing his mouth over the faucet, turned the water on full force. He clenched the faucet between his teeth until unconscious. He died within a few minutes.

**Obituary Notes.**—Dr. PHANETT C. BARKER of Morristown, N. J., died on August 21, after a short illness. He was sixty-nine years of age, and had passed nearly his entire professional life, since his graduation from the College of Physicians and Surgeons, New York, in 1860, in Morristown. About twelve years ago he founded the Morristown Memorial Hospital Association, which built the fine hospital of that name and of which he was a director up to the time of his death.

Dr. ALLEN R. THOMPSON of Troy, N. Y., died at Asbury Park, N. J., on August 22. He studied medicine with his father and was graduated from the Albany Medical College in the class of 1883. He was appointed police surgeon in 1895, and in the same year was elected Coroner of Rensselaer county on the Republican ticket. In 1898 he was reëlected, being the only successful Republican candidate in the county. He was elected County Clerk in 1901 and held that position at the time of his death. He had been in poor health for about a year.

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

ECHOES FROM SWANSEA—THE ROYAL TOUR IN IRELAND.

LONDON, August 8, 1903.

THE visit of the British Medical Association to Swansea shifted for a few days the center of medical gossip to that somewhat remote town with its busy manufactures and docks, its pleasant suburbs along the bay, and its Welsh associations. Just fifty years ago the then comparatively insignificant Provincial Medical Association assembled at Swansea for its annual meeting. The development into the present widespread society is matter of history. From all those I have seen since their return I hear that this seventy-first anniversary was fairly successful, but, of course, not the equal of the meetings in the most popular places. Still some 700 persons put in an appearance for the doctors' picnic, and some good sectional work was done by the more industrious members. If no striking announcement was made it is accepted as only natural, since brilliant discoveries are not to be had to order.

Your own reporters have kept you informed of the serious work, and the numerous entertainments provided by the hospitable Welsh will be of minor interest to your readers. The hard work of the entertainment committee evidently deserved all the praise they received, and which is being repeated now in conjunction with recognition of Welsh hospitality. There will be a great change of environment next year, for the meeting has been fixed to be held at Oxford, the senior physician of the Radcliffe Infirmary being appointed president-elect.

The annual museum offered the usual assortment of drugs, chemicals, foods, and appliances. Samples were as freely distributed as usual, and a certain proportion of members seem to take special interest in the exhibition. Here again, from all I gather, I feel convinced that one exhibition very closely resembles another, so in that respect one does not lose much by being detained in London with the four millions of inhabitants who occupy the city when you hear continually that it is empty.

The medico-political committee of the association in its report plumes itself on what it has done during the period of transition, and on the more frequent resort to it as a body possessing some representative authority. A number of matters are stated to have been brought before the committee by bodies of medical men unconnected with the association. This kind of relation seems to have been mutually satisfactory, the committee receiving valuable information and assistance from some societies and being in turn able to promote their objects.

The annual dinner was fairly well attended, the president occupying the chair, and the usual toasts being heartily drunk. In the morning of the same day (Thursday) the Temperance Breakfast was once more given by the National Temperance League. Dr. Rawlings of Swansea occupied the chair and was supported by Dr. Griffiths, president of the British Medical Association, Sir V. Horsley, and about 100 other members. On this same day the Continental Anglo-American Medical Society met together for luncheon. Clearly the demands for supplies were as well met as for amusement and science. I hear that all these things succeeded—especially amusements—and that the character of picnic was as pronounced as ever, perhaps more.

The public seem to have taken interest in the discussion on vaccination which took place in the Section of State Medicine. Consequently, the general newspapers have had their say on the matter. Dr. McVail, as president of the section, gave one of his trenchant addresses on this subject, on which he is so great an authority. He was well supported by such veteran sanitarians as Drs. Davies, Honder, Morris, Doysdale, Mole, Rankin, Brierley. On the motion of the chairman, the council of the association was urged to use all its machinery for bringing before members of Parliament the need of further legislation. It was next resolved, on the motion of Dr. Drysdale, that "considering that of late years there have occurred in several cities of the United Kingdom epidemics of smallpox, while in Germany, since 1875, such epidemics have been unheard of on account of the fact that infants are vaccinated and children revaccinated before their twelfth year, this meeting is of opinion that all children should be vaccinated in infancy and revaccinated at the age of ten or twelve."

Perhaps the most far-reaching act of the Swansea meeting was a resolution of the council of the association to appoint a committee to consider the question of undertaking medical defence. It is a question which has long been agitated in the association, and on which the members at present seem much divided in opinion.

The visit of the King and Queen to Ireland has brought

again into prominence their majesties' interest in hospitals and charities. Among the honors conferred on the occasion, knighthoods have been allotted to the presidents of the two royal colleges, Dublin; Dr. Macan, P.R.C.P., and Mr. Lambert Ormsby, P.R.C.S.

Lord Iveagh, to commemorate the occasion, presented the King with £20,000 to divide among the Dublin hospitals and the Newcastle Consumption Hospital in the county of Wicklow.

## THE PHYSICAL BASIS OF LIFE.

To the Editor of the Medical Record:

Sir: In your issue of August 1 appears a "lay sermon" by Dr. Axel E. Gibson, with Huxley's "Physical Basis of Life" as its text. The eloquence and erudition displayed in this discourse, with its suggestion of "world problems," justifies attention to certain errors that appear in the opening paragraphs. The essayist identifies the "gemmules" of Darwin, "plastidules" of Haeckel, and "physiologic units" of Spencer, with the microsomes of the cell body. There is really no warrant for such statement. as the philosophers mentioned merely postulated the existence of certain invisible units intermediate between the chemical unit and the morphological unit or cell, and in no way identified these purely philosophical abstractions with any visible microscopical element in the cell, and certainly not with microsomes outside of the nucleus. Boveri, Lalage, and other eminent cytologists have clearly shown that the physical basis of heredity lies in the nucleus, although the cytoplasm itself is doubtless profoundly affected by emanations or projections from that body. It is true that other philosophers and biologists have also brought forward theories of physiological units, and some of them, notably Weismann, have identified *aggregations* of these invisible units or "biophores" as the chromatin granules or "ids" of the cell nucleus.

Weismann with his biophores, determinants, ids, idants, etc., has given a positive aspect to his development of Darwin's theory of pangenesis, which the latter could not possibly have done, as his views were deduced from general laws and phenomena, and not the result of exact cytological research. Few physicians or scientists, however, are inclined to accept Weismann's conclusions involving, as they do, a negation of the possible transmission of functionally acquired characteristics. Herbert Spencer frankly admits that his own theory of physiological units is a very inadequate working hypothesis, insufficient to account for processes which probably lie beyond our cognition.

The dogmatic form given to the views of these philosophers is liable to prove misleading and confusing to some eager student of life's mysteries.

Eug. L. Fisk, M.D.

346 Broadway, New York.

## Progress of Medical Science.

*Boston Medical and Surgical Journal, August 20, 1903.*

**Medical Treatment of Gastric Ulcer.**—Hubert G. Wilbur says that the main indications which present themselves in the treatment of ulcer of the stomach are (1) to secure rest in bed, that the strength may be saved; and (2) to obtain absolute rest for the stomach until pain, vomiting, and hemorrhage are relieved, relying on nourishment by the bowel to maintain the vital force. Food causes pain by irritating the sensory nerves at the abraded surface, incites to vomiting through the necessity which the stomach feels to eject the mass which it is unable to digest, causes excessive secretion of gastric juice which in itself aggravates the ulcer, and at the same time stimulates the peristaltic action of the muscular coat whereby the liability to hemorrhage is increased. Hence arises the necessity for absolute abstention from all food and drink for at least three or four days. In cases of tormenting thirst small pieces of cracked ice may be given, or the effect of an enema of water may be given. Pain may be relieved by the external application of a flannel compress dipped in a mixture of chloroform, one part, and alcohol, three parts. Obstinate vomiting will sometimes yield to an enema containing sodium bromide, gr. 80, and extract of cannabis indica., gr. ½. In rectal feeding a small amount of concentrated food should be given not oftener than once in eight hours, until a tolerance of the enemata is established. Feeding by the bowel may be continued, when necessary, for at least ten days or two weeks, when a gradual return to stomach feeding may be begun. It is usually necessary to add iron to the food given by enema. In returning to stomach feeding great care must be observed for a long period to give only bland food, avoiding all brown bread, course vegetables, fruits, and other materials which may irritate the vulnerable mucous membrane. Hemorrhage is best combated by turpentine in doses of ♏ xx to xxx of a mixture of two ounces of turpentine beaten up with the white of one egg. In cases of very profuse bleeding, the colon should be flooded with hot salt-solution, a drachm to the pint, and digitalin and strychnine should be given hypodermically.

**Surgical Treatment of Gastric Ulcer.**—John C. Munro urges a more intimate coöperation of the physician and the surgeon in the management of a case of ulcer of the stomach. He grants willingly that the majority of simple gastric ulcer are best treated and cured by the physician, but holds firmly that it is the duty of the latter to seek surgical advice in all obviously serious and obstinate cases. He quotes Mikulicz that "the danger to life from gastric ulcer is at least not less but probably far greater than the danger of a complete modern operation," and he predicts that his plea for more frequent and earlier operation in cases of ulcer of the stomach will, within five years, be considered mild and conservative by the very men who may to-day set him down as too radical. Before condemning operation for ulcer of the stomach because of the discouraging results of operations in the past, we must remember, the writer contends, that there are certain fundamental facts recognized by the surgeon, but not yet fully appreciated by the physician. An operation as performed on the average patient with a mortality so small that it may practically be disregarded becomes serious or even unjustifiable if done in the presence of persistent hemorrhage, prolonged sepsis, starvation, absorption of ptomains, etc. This emphasizes the need of early operation. And even granting the surgical errors of the past, we must not lose sight of the fact that eventually we are to look to surgery for the relief or cure of ulcers incurable by medical means, for the prevention or cure of the malignant degenerations and for relief from the thousand and one distressing sequelæ that do not kill, but that make life worse than death. Up to the present time surgery has by no means solved the whole question of the treatment of ulcer or its complications. There is much still to be learned before we can fairly say that a beginning has been made, but the process of learning must go on with the physician and the surgeon working conjointly in practically all cases of ulcer or suspected ulcer. Later, when both surgeon and physician are educated sufficiently, as is now the case in appendicitis for the most part, to enable each to recognize what types are medical and what are surgical, the combined observation will be demanded in a small proportion only of all cases. This is the ideal for which we must strive.

*Journal of the American Medical Association, Aug. 22, 1903.*

**The Apparent Immunizing Value of Attenuated Tubercle Bacilli.**—E. A. de Schweinitz reviews his earlier work in the belief that if proper attention were given to it there would be less tendency in some quarters to assume an absolute difference between tubercle bacilli obtained from men and those obtained from cattle. He recalls the fact that, in his work published in 1894, he was the first to show that guinea-pigs, that had received large doses of human tubercle bacilli that had largely lost their virulence, were rendered resistant and immune to subsequent inoculations with tuberculous material of bovine origin. Later experiments on cattle are described, and the conclusion is reached that, as these researches show the possibility of vaccinating against bovine tuberculosis by means of tubercle bacilli of human origin, the question at issue narrows itself down to variations in degree of virulence of tubercle bacilli, rather than to differences in the tubercle bacilli themselves. Moreover, the readiness with which bovine, as well as human, tubercle bacilli may be attenuated goes still further to prove the intimate relationship of bacilli obtained from various sources, and emphasizes the influence of environment on the virulence of the bacilli.

**Trigeminal Neuralgia Treated by Intraneural Injections of Osmic Acid.**—John B. Murphy reports a case in which this comparatively new treatment, recommended by W. H. Bennett of London, in 1899, was employed. The patient was a man of seventy-six, the victim of neuralgia for about thirty years. The operation was done on June 11, 1903, under local anæsthesia. The supra- and infra-orbital and mental nerves were exposed, elevated with a blunt hook, and, with a fine hypodermic needle, injected with a few minims of a fresh 1.5 per cent. solution of osmic acid. The wound healed by primary union, and the patient left the hospital well on June 20. When heard from, on July 21, there had been no recurrence of the pain. The manner of action of osmic acid is not understood, but the author inclines to the opinion that the acid produces a degeneration of the nerve on the proximal side of the infection, toward the ganglion, because the pain does not

usually subside completely immediately after the operation as it would if the osmic acid produced only a local destructive effect. Moreover, the relief from pain in the reported cases has been permanent, a result which is very different from that observed after peripheral resection.

**Recent Investigation Bearing on Infectious Diseases of Unknown Etiology.**—Ludwig Hektoen draws the following conclusions from this study: (1) Clinical and experimental observations furnish strong evidence, and in some cases absolute proof, that certain transmissible human and animal diseases of unknown etiology are not toxic, but infectious—that is, caused by living organisms capable of proliferation and metabolic activities. (2) In the case of the human diseases of this group, knowledge is farthest advanced in regard to those that are communicable to animals, viz., hydrophobia, vaccinia, and smallpox—and experiments on human beings have shown that the case of yellow fever occurs in the blood, passes through Berkefeld filters, the filtrate being bacteriologically sterile, according to present method, and that infection occurs through the medium of mosquitos (*Stegomyia fasciata*). (3) Certain morphologic elements in the lesions of vaccinia and smallpox are regarded by some investigators of the highest standing as representing stages in the developmental cycles of protozoa. The causative agents of these diseases do not pass through bacteria-proof filters. (4) The virus of many transmissible animal diseases (foot-and-mouth disease, peripneumonia, rinderpest, sheep-pox, chicken typhus, horse sickness, epithelioma contagiosum of fowls) passes through various filters ordinarily regarded as impermeable to the smallest known bacteria, the filtrates being virulent, though giving no sign of containing visible corpuscular elements. (5) Whether these invisible and, except in peripneumonia, uncultivable viruses are all ultramiscroscopic in size, or invisible also for other reasons, has not been settled definitely; but there is much in favor of the view that they are ultramiscroscopic in size. (6) Further progress in this field may be expected from the application of methods, recently introduced by physicists, in order to furnish ocular demonstration of the existence of particles too small to be seen directly.

*The Medical News, August 22, 1903.*

**Amber Yellow Glass in the Examination and Treatment of Eyes.**—H. H. Seabrook has employed, in oblique and indirect examination of the eye, a lens of two and a half inches focal distance made from a biconvex lens of white glass split and cemented upon a plain glass of amber yellow color. With this lens there is less congestion, lacrymation, photophobia, and pain in examined eyes; it is, therefore, suitable for examination by the oblique method of lesions of the cornea, iris, and ciliary body. Discoloration of the iris with the yellow light may cause some mental confusion to the examiner before he becomes accustomed to it, and the dulled corneal reflex makes the appreciation of a foreign body upon the cornea less easy to the novice, because of diminished contrast between the foreign substance and its background. In examination of the ocular fundus by the indirect method the yellow lens is more comfortable than the white for both examining and examined eyes, and the picture of the background is not much changed by the lessened reflex from the retinal vessels. The sphincter of the iris is not contracted so much by yellow as by white light. In its therapeutic uses the method would seem likely to be of service in cases of asthenopia with hyperæsthesia of the retina, though it has not been tried sufficiently to determine what its secondary effects might be. In two cases of corneal disease with superficial central keratitis there was improved vision with the yellow glass. Patients with more peripheral corneal affections, three with ulcers, four with phlyctenular keratitis, three with pannus were not improved as regards vision, but the latter at least appeared to have less irritation; in one of these, with chronic conjunctivitis following trachoma, persistent pain, increasing in severity as the day advanced, was relieved from the first day the glasses were worn; within five days ocular congestion disappeared. Amber yellow glasses were used successfully in a case of post-operative iritis. A patient with posterior synechiæ and hazy media in both eyes showed diminished vision in one eye, but improvement in the other with yellow glass before atropine, and improvement in both after atropine. Irritation was less, and this was the result in all cases, either in simple tests of the eyes, or when the glasses were regularly worn. Two patients with chorioretinitis and vitreous opacities, one severe, one mild, showed improved vision. The most beneficial results might, perhaps, be expected in cases of diminished vision and hyperæsthesia of the retina, as occurs with glaucoma or tobacco amblyopia, and the author reports three such cases in which decided benefit followed the use of yellow glasses.

*New York Medical Journal, August 22, 1903.*

**Treatment of Papilloma of the Larynx in Children.**—J. E. Summers, Jr., reports three cases of this affection. In the first case he performed tracheotomy to relieve the urgent respiratory symptoms, and some weeks later did a tracheotomy and removed the growths, cauterizing their bases with glacial acetic acid. Four weeks later an attempt was made to remove the tracheal tube, but the dyspnœa returned so persistently that resort was had to intubation. This measure was tried in the hope that the pressure of the tube would cause absorption of the recurrent growths. So far from this happening, however, the growths increased, spreading upward until they overhung the orifice of the tube, rendering a second tracheotomy imperative. Two weeks later the larynx was again opened and the growths were removed, the base of each being curetted and cauterized. The growths returned again after this operation, but no further operative measures were undertaken, and finally the papillomata disappeared and the tube was removed permanently about two years after the first operation. In the other two cases tracheotomy alone was done, and the tubes were removed in about six months, the growths having disappeared. The author was led to report these cases by reading a review of a paper by G. Hunter Mackenzie in which it was stated that he advocated tracheotomy without attempting removal of the growths, the tracheotomy tube to be worn until the disappearance of the papilloma, generally a year or two. Summers says that the laryngoscope is an unsatisfactory instrument in diagnosticating laryngeal disease among young children, and we must, in a measure, depend upon symptoms. "Given the case of a child with the history of a slowly increasing hoarseness, followed by slight or marked aphonia and difficult breathing (the history covering weeks or several months), the diagnosis of papilloma of the larynx can be made." Tracheotomy, he says, is the most available remedy for papilloma of the larynx in children; intubation is a failure, and the justifiability of laryngotomy is questionable.

*American Medicine, August 22, 1903.*

**Successful Treatment of Morphinism.**—J. Ben. Jones reports a case of morphine addiction in a man fifty years of age, who had fallen victim to the drug by being forced to take it for the relief of sciatica. An attempt was made to cure him by sudden withdrawal, the writer having tried the plan of gradual withdrawal in previous cases without success, but the attempt failed signally, and a return to morphine was rendered imperative by symptoms of impending dissolution. After this, repeated trials were made of various advertised cures, but all these remedies evidently contained opium in some form, for in each case an immediate return to the morphine in larger doses was necessary upon discontinuing the so-called cure. The patient was finally treated after the method of Dr. George E. Pettey. This method is founded upon the theory that the essential pathology of morphinism is autotoxæmia, and the chief cause of the phenomena known as withdrawal symptoms is the presence of this toxic matter in the system and not the drug itself. The withdrawal of the drug merely permits these symptoms to develop, but it is not their principal cause. The portal system is very much engorged, thus greatly impeding the flow of blood through that system, and that the heart, deprived of the support given it by morphine is unable to propel the blood through that system against such an obstruction, and this fact accounts for the difficult heart action, oppressed breathing, profuse sweating, extreme prostration and collapse, which occur after the sudden stoppage of morphine. When the system is cleansed of the accumulated effete material, autotoxæmia overcome, and the portal system disengorged, morphine can be at once withdrawn without shock, collapse or danger to life, and the suffering incident to such withdrawal subsides in a few days. This suffering can be obviated or relieved by the administration of hyoscine for a period of from thirty-six to forty-eight hours. At the end of that time the patient will, as a rule, be free from all desire for morphine, and withdrawal symptoms will not return. Acting upon this theory, the patient's kidneys were first flushed by the free drinking of water and by the use of saline enemata. The following day, after a Turkish bath, he took at 4, 6, 8, and 10 P.M. a capsule containing calomel and powdered extract of cascara, of each 2½ grains, ipicac ½ grain, and strychnine ¼ grain. The following morning he had four very large evacuations from the bowel. The previous evening he had had his usual allowance of morphine, but from that time took no more. When the need of it began to be felt he received instead hyoscine hydrobromate in doses of $\frac{1}{150}$ to $\frac{1}{100}$ grain. The hyoscine was continued through this day, and one dose only was given the following day. No medicine of any kind was given after the fourth day, and convalescence was rapid and uninterrupted.

*The Lancet, August* 15, 1903.

**A Problem in Medicolegal Psychology.**—J. S. Mackintosh reports the case of a clergyman who, after a busy morning, and apparently amid surroundings full of happiness and free from any special worries, suddenly shot himself through the head. There was no apparent motive for this evidently unpremeditated act, and careful inquiry showed that he had that morning fallen heavily from his bicycle and had been seeming so much disabled as to be unable to mount the bicycle again. He had gone home and had carefully made his toilet with the exception of his collar and cuffs, and had then gone to the drawer for these articles. Here he had spied his revolver. The reporter is of the opinion that the fall induced that form of cerebral concussion which permits the sufferer to perform various complex and apparently reasoned acts while in a mental condition which is comparable with that of a somnambulist, the epileptic shortly after a fit, and of a certain phase of the hypnotic state. The answer to the natural query: "Why did he load the revolver and put it to his own head?" is thought to be found in a newspaper account that week of a clergyman who had shot himself through the head. The author carefully distinguishes between this mental condition and that observed in persons who destroy themselves as a result of a sudden impulse.

**A Rare Case of Intestinal Obstruction Resulting from a Kick in the Right Iliac Region.**—Gilbert Kempe and E. Kempson Brown report this case. The patient was a stable boy of seventeen years who was kicked in the right iliac region on October 8, 1902. There was no evidence of perforation of any of the hollow viscera, and his general condition remained fairly satisfactory up to the sixteenth day, when meterosim became very troublesome. Marked temporary relief was afforded by the hypodermatic use of strychnine but soon the bowel became absolutely obstructed. It was not thought safe to do more than an enterotomy and insert a Paul's tube into the part affected, the jejunum. This led to some improvement, and after he had been made stronger by both oral and rectal feeding an attempt was made on December 4 to relieve the obstruction by resection and intestinal suture. The patient's condition grew steadily worse for the next five days, so another enterotomy was done on the jejunum. Improvement did not follow for two days, and then only on injecting warm water into the proximal side of the fistula. After that convalescence was steady, and on February 16 the loop of bowel involved in the fecal fistula was excised, the distal portion closed and the proximal portion implanted into the colon by means of a Murphy button. The button came away at the end of a week. The boy completely recovered, and is now doing his ordinary work.

*British Medical Journal, August* 15, 1903.

**Simulation of a Perforating Gastric Ulcer.**—John R. Pollock reports the case of a girl, eighteen years old, who, when he first saw her, was lying in bed in a state of collapse, cold, practically pulseless, with abdominal expression well marked, and complaining of severe pain in the abdomen. On examination the abdomen was found retracted, with complete absence of abdominal respiration. On palpation the muscles were as hard as boards, and deep pressure caused great increase of pain, which was referred principally to the epigastric and left supraclavicular regions. The history given was that at 6.30 A.M. she had a cup of tea in bed, and when she had taken about half she gave a scream and said, "Oh, my stomach," and then fainted. She was given some brandy, and after a time revived, the condition above described coming on at once, accompanied with retching but no vomiting. She fainted twice during the day from pain. On the following day her condition had improved, and four days later she was practically well except for some tenderness of the muscles and pain on pressure over the left ovary. Treatment consisted in the hypodermic injection of morphine and withholding all food and drink. There had been previous attacks of sickness in conjunction with the menses, and the above attack came on on the third day of the flow, which stopped on the fifth day, her usual period lasting seven days. From the first appearances it looked like a clear case of ruptured gastric ulcer, but the subsequent course and eventual recovery showed that this was not the condition present.

**Purulent Pericarditis of Unusual Duration in a Child.**—J. A. Coutts reports the case of a child, four years old, who had been ailing and wasting for ten weeks. The child was extremely pale, with complexion of a dull yellow straw color; the finger tips were slightly bulbous and cyanosed. The liver was much enlarged, but the spleen was apparently of normal size. The child's breathing was not quickened and there was no respiratory distress. There was no orthopnœa and she was able to lie on either side with comfort. On examination of the chest there was evident diminution of expansion on the left side. On percussion there was a dull patch over the left front, extending from the supraclavicular fossa into the cardiac dulness below. This dull area was triangular in shape, with apex upward, and extended laterally from near the anterior axillary border on the left side to the right border of the sternum. Over this area there was marked resistance on percussion, the breath sounds were extremely weak and distinctly bronchial in character, and there were a number of sharp creaky crepitations when the child took a deep breath or coughed, with a doubtful pleuritic creak at times. The dull area was continuous with the cardiac dulness, which extended from one fingerbreadth outside the nipple line in the fourth left intercostal space to one inch outside the right border of the sternum. The note was dull over the third and fourth ribs for about three-quarters of an inch to the right of the sternum. The heart's apex beat was plainly felt in the fifth left intercostal space, three-quarters of an inch outside the nipple line. At the apex the sounds were galloping and weak, and near the base they were muffled but seemed pure. There was no pericardial friction sound to be heard. The possibility of a purulent pericarditis was thought of, but a diagnosis of loculated empyema was finally settled upon. At the autopsy, however, the pericardium was seen extending upward to the second space, an inch and a half to the right of the right sternal edge, and downward for some considerable extent, forming in this direction regular pockets. The pericardium was thickened, and covered all over by thick lymph, but not in the form of long villi, as one sometimes sees. There were about ten ounces of thick greenish pus, but no blood, in the sac. The pus extended chiefly into the pockets already mentioned. The heart and pericardium weighed nine and a half ounces. The heart muscle immediately beneath the epicardium was pale, but elsewhere appeared to be normal.

*Münchener medicinische Wochenschrift, August* 4, 1903.

**Metastatic Gonorrhœal Inflammations of the Eye in the Adult.**—W. Apetz reports a case in which six years after an attack of gonorrhœa a recurrence of the discharge took place accompanied by gonorrhœal joint complications and inflammations of the eyes (conjunctivitis, iritis, etc.). Several such relapses occurred. A reinfection could be absolutely excluded as could also an inoculation of the eye with the urethral discharge. The eye complications may therefore be regarded as metastatic. Several views have been advanced with respect to the nature of such gonorrhœal metastasis, but none of them rest upon a sure footing, although that which regards them as due to the latent effects of gonorrhœal toxins seems the most probable.

**Killing of Tubercle Bacilli in Milk by Heat.**—W. Rullmann disputes the claims of Storch, Tjaden, and Van Engelen that tubercle bacilli are killed in milk which is heated to 60° C. for twenty minutes and kept in constant motion during this time. Experimentation shows that they are not killed by exposure to 65° C. for thirty minutes under these conditions, since guinea-pigs inoculated with tuberculous milk thus treated regularly developed tuberculosis. The degree of heat and exposure necessary to kill tubercle bacilli under these conditions have not as yet been determined by the author, as his series of experiments is not completed.

**Late Hereditary Syphilis.**—Jordan reports two cases. The first was a soldier twenty-two years of age. His previous history was absolutely good, and it is certain that he had never suffered from any venereal infection. He was suddenly seized at the above age with a bilateral gonitis of the knee-joint. All treatment was entirely without result until anti-syphilitic measures were instituted, when rapid recovery ensued. An examination of the hereditary history showed with certainty that both of the parents were syphilitic. The second case was similar to the above, except that the patient was five years of age and that in addition to the gonitis a keratitis was also present. Both of these cases are interesting because they belong to that rare class in which the *first* manifestations of hereditary syphilis appear after the fifth year of life.

*Berliner klinische Wochenschrift, August* 3, 1903

**Value of the Agglutination Reactions in the Diagnosis of Typhoid Fever.**—R. Stern says that the time has passed when for diagnostic purposes the terms positive and negative Widal reactions should be used, but that such reactions should be designated as specific and non-specific or direct and indirect. Certain sera present in other infections agglutinate the typhoid bacillus as well as other bacilli. Such typhoid agglutinations are non-specific or indirect. Sera which agglutinate the typhoid bacillus *only* are specific or direct. In addition there are certain genuine typhoid sera which agglutinate both typhoid and

other organisms in such cases. When highly diluted these sera fail to agglutinate other organisms but still give a positive result with the typhoid bacillus. Such is not, however, always the case Specific agglutinations are positively diagnostic of typhoid infection while non-specific only give a probability of the same.

**Bovine Inoculation Tuberculosis.**—O. Lassar gives the details concerning two or three cases in which tuberculosis was transmitted directly from infected cattle to men by inoculation. All of the patients were men whose daily avocations required them to come into direct contact with infected cattle. There can be no doubt with respect to the diagnosis, since in every instance portions of the involved tissues were submitted to microscopical examination. These cases when taken in conjunction with similar ones leave no room for doubt that bovine tuberculosis is directly transmissible to man, and that such transmission is not of as infrequent occurrence as has been supposed by some.

*Deutsche medicinische Wochenschrift, July* 30, 1903.

**Treatment of Ankylostomiasis.**—Nagel recommends the use of male fern. Of all the agents which have hitherto been used this is the most deadly to this parasite. If given early and in sufficient dose, accompanied by a purgative, all of the worms are usually killed, and very little if any anæmia develops. Formerly the solid extract of male fern has been the preparation most generally used. Recently the amorphous acid of felix mas has been tried with very satisfactory results. This is given in a single does of 0.7 gm., combined with either chloroform or thymol and castor oil. In place of the latter calomel may be used.

**Thrombosis and Embolism in Acute Perityphlitis.**—Middeldorpf reports a case of acute perityphlitis which was accompanied by embolism of the right femoral artery. Gangrene of the leg resulted. Amputation was performed and recovery ensued. Many cases of combined embolism and appendicitis have been reported, but the peculiarity of this case rests in the fact that the former developed coincidentally with the latter and before an operation for the latter condition could be performed. Furthermore, no other emboli or thrombi ever formed. In these cases the embolism of the femoral artery is undoubtedly due to a thrombosis of the external iliac artery, which arises from a continuation of the inflammation from the appendix.

**Strychnine in Polyuria and Diabetes Insipidus.**—Leopold Peilchenfeld says that the amount of urine may be markedly reduced by hypodermic injections of strychnine. The author first noticed this action of strychnine while using it in a case of paralysis of the bladder. Subsequently he has used it with success in several cases of pure diabetes insipidus. The nitrate of strychnine was used in daily doses of .005 g. The action is rapid, the daily amount of urine being at once reduced from 200 to 400 c.c. None of the cases have been a sufficient time under treatment in order to form an opinion of the permanency of the cure. It is probable that this action of strychnine is due to its influence upon the central nervous system. This is shown by the rapidity of its action and the fact that the specific gravity of the reduced urine remains practically identical with that of the previously increased quantity. If the blood vessels of the kidney were affected by the drug we would expect it to produce a concentrated reduced urine.

*French and Italian Journals.*

**Splenectomy in Banti's Disease.**—Jean Roger states that in Egypt there exists a somewhat common affection which clinically resembles Banti's disease, but which possesses its own characteristics. Splenectomy gives excellent results even when performed at an advanced stage of the disease. To avoid hemorrhage and to expedite the operation, a temporary elastic ligature may be placed on the pedicle. The spleen can then be rapidly removed, and a permanent ligature applied.—*La Presse Médicale*, July 25, 1903.

**A Case of Tuberculosis with Leukæmia.**—Tommaso Prodi reports the case of a man suffering from tuberculosis of the larynx, the lungs and the lymphatic glands, and at the same time from a pronounced lymphatic process. Cases of this kind are rare, and are very generally considered to be mere coincidences. The author, however, holds that there is a true relation between the two processes. Pseudoleukæmia is frequently found in connection with latent tuberculosis, and might be considered to be an intermediate link, especially as cases of pseudoleukæmia have been known to become transformed into leukæmia. —*La Riforma Medica*, July 22, 1903.

**Synovitis of the Sheath of the Abductor Pollicis.**—G. Marion states that there may develop on the external portion of the styloid process of the radius an affection characterized by pain and by a swelling attached to the bone, and as hard as bone. The affection is not an osteitis, but a synovitis situated in the sheath of the abductor pollicis. It can be distinguished from an osteitis by the strict limitation of the swelling, by its elongated form, and by the pain caused by moving the thumb. The synovitis is always a serous form, and is due to exaggerated action of the muscle. Treatment is always efficacious, and consists of revulsion and compression.—*Archives Générales de Médecine*, August 4, 1903.

**Early Diagnosis of Ectopic Pregnancy.**—G. Eustache considers ectopic pregnancy to be of more frequent occurrence than is usually supposed. Its early diagnosis is of the utmost importance and can be based: (1) On the anamnesia, suppression, or delay of one or two menstrual periods, sympathetic affections of early pregnancy, previous uterine disease. (2) Pelvic pain of an acute, paroxysmal nature. (3) Discharges of blood of an atypical nature, not at all resembling the menstrual flow, and causing no amelioration of symptoms. (4) The discovery by internal examination, of a swelling on one side of the uterus distinct at first, but later confounded with the other pelvic organs.—*Journal des Sciences Médicales de Lille*, August 1, 1903.

**Hepatic Fever; Biliary Congestion.**—G. Lemoine gives the treatment of this condition as follows: To evacuate the calculi and overcome constipation, olive oil, and castor oil are indicated. If the fever is high and quinine and the usual antipyretics are contraindicated, calomel will cause defervescence. If the heart is weak, and syncope threatens, give caffeine. Finally local revulsion and the rise of alkalies has often overcome hepatic congestion. When the attack is over, the patient must not be neglected, but means must be taken to prevent resorption of toxic products, and facilitate the excretion of bile. Washed sulphur, in doses of gr. 0.10 to 0.15 a day, or calomel gr. 0.05 a day, are excellent. Podophyllum is also valuable.—*Le Nord Médical*, August 1, 1903.

**The Treatment of Pruritus.**—G. Meillère gives the following general therapeutic formula for pruritus: (1) Local anæsthetics: refrigeration, cocaine, orthoform, menthol, chloral, camphor, phenol, resorcin, sulphophenate, guaiacol, salicylate of methyl. (2) Medicines causing a substitutive reaction: the local anæsthetics given above; alcohol, vinegar, chloroform, tincture of iodine, essence of turpentine, hot and dry air. (3) Antiphlogistics: local vasoconstrictors, cocaine, adrenalin, hot water. (4) Agents affecting the integuments: nitrate of silver, picric acid, tannin. (5) Topical anodynes preserving the skin from irritation: lime and oil liniments, glycerinated lime water, oil, vaselin, lanoline, traumaticin, collodion, and casein ointments. The author also gives a variety of prescriptions for the several kinds of pruritus according to situation and causation.—*La Tribune Médicale*, August 1, 1903.

**Impaired Risks.**—M. Schultess, considering affections of the spinal column in their relation to life insurance, says that round shoulders, simple lordosis, and slight scoliosis are acceptable unconditionally. Paralytic typhosis and lordosis are acceptable conditionally, according to the extent of the paralysis and the degree of the deformity, but only when due to infantile paralysis. Kyphosis, due to spondylitis, is acceptable conditionally, at forty-five to fifty years of age. Spondylitis with ankylosis, grave kyphosis with arthritis deformans, and chronic rheumatism, should be refused. Scoliosis of medium gravity may be accepted conditionally, but not beyond sixty years. Grave scoliosis and kyphoscoliosis are acceptable conditionally only after a favorable examination, at forty and forty-five years.—*Revue Internationale de Thérapie Physique*, August 1, 1903.

**Osteotuberculosis with Extremely Acute Course.**—G. Senni describes a form of tuberculosis which attacks especially the short bones, with possible extension to the long bones. Pain, swelling, and fever are the chief symptoms, and these appear very suddenly, with every appearance of an inflammatory process. Diagnosis is difficult, and frequently operative measures only will decide the nature of the trouble. Another form of acute osteotuberculosis appears to attack chiefly the long bones, especially the femur. The lesion begins in the spongy tissue of the epiphyses, whence it extends to the bone marrow, which it completely destroys, replacing it by fungoid masses and caseous foci. It then attacks the compact substance, which is absorbed until only a thin plate remains, that is easily and spontaneously fractured. The author describes cases of each variety of this rare affection. —*Gazzetta Medica di Roma*, July 15, 1903.

# Book Reviews.

THE AUTOBIOGRAPHY OF A THIEF, Recorded by HUTCHINS HAPGOOD, Author of "The Spirit of the Ghetto," etc. New York: Fox, Duffield & Company, 1903.

THIS evidently true tale of a professional criminal is a human document of great interest alike to the sociologist and to the casual reader. It is the story of the son of honest and God-fearing parents, naturally wild, carelessly brought up, and corrupted by street associates. His thievings were many and varied, from pocket-picking and shop-lifting to burglary. He was convicted of penitentiary offences three times, and was familiar with Sing Sing, Auburn, Matteawan, and Dannemora. Naturally, a criminal would not find much to praise in the management of the prisons in which he was detained, yet with all reasonable reservations of this sort, this story affords convincing proof that all is not as it should be in the management of our penal institutions. The fact that the opium eaters who, constitute a large class among professional criminals, can obtain all the drug they crave from the keepers in Sing Sing or Auburn is evidence sufficient that many of these keepers should be themselves behind the bars. The matter-of-fact allusions to bribery and "grafting" among the police are merely confirmatory of what is generally believed concerning the city's "protectors." The author's reformation appears to have been brought about largely in consequence of his having been cured of the opium habit through forcible abstention at Matteawan, where the keepers were not so corruptible as their colleagues in the penitentiary. So, in spite of what he and others have said of the horrors of these institutions for the criminal insane, they seem sometimes to be productive of good.

URIC ACID AS A FACTOR IN THE CAUSATION OF DISEASE. A contribution to the Pathology of High-Blood-pressure, Headache, Epilepsy, Nervousness, Mental Diseases, Asthma, Hay-fever, Paroxysmal Hæmoglobinuria, Anæmia, Bright's Disease, Diabetes, Gout, Rheumatism, Bronchitis, and other disorders. By ALEXANDER HAIG, M.A., M.D. (Oxon.), F.R.C.P., Physician to the Metropolitan Hospital, and the Royal Hospital for Children and Women, etc. Sixth Edition, Revised. Philadelphia: P. Blakiston's Son & Co., 1903.

IN this large book of nearly a thousand pages the last word is said on the uric-acid theory of disease and its prevention. We should say, perhaps, the latest word, for Dr. Haig seems never through with his discoveries of the uric acid or xanthin content of foodstuffs, and in each new edition of his work he tells of some fresh and hitherto unsuspected source of poisoning of poor humanity. In this edition he sets out for the undoing of Boston and cuts off beans as well as peas and asparagus from the diet of homo sapiens, as he derisively calls his fellow mortals. He is rather down on so-called "health foods" as well, for he finds the universal poison in whole-wheat bread and oatmeal. Eggs have gone by the board long ago, but milk, for some reason, is permitted, although it surely is responsible for the uric acid contained (so we are led to believe) in such undue proportions in veal. The author assures us that, after all his excisions, there is still left a generous bill-of-fare from which we can select our daily food—but frankly, we don't believe him. In addition to these changes, the new edition contains a classification of uric-acid diseases, a record of Haig's work with the uric-acid filter, and some new observations on the state of the circulation as indicative of uric-acid poisoning. One need not go with the author of this book to the extremes of his theory to acknowledge that there is a germ of truth in it, and whether coinciding with his views or not, the reader will find much to interest him in the book, and much also to set him to thinking.

PHYSIOLOGICAL ASPECTS OF THE LIQUOR PROBLEM. Investigations made by and under the direction of W. O. ATWATER, JOHN S. BILLINGS, H. P. BOWDITCH, R. H. CHITTENDEN, and W. H. WELCH, Sub-committee of the Committee of Fifty to Investigate the Liquor Problem. Boston and New York: Houghton, Mifflin & Company.

THIS work is one of a series of reports on various aspects of the Liquor Problem, three of which have been already published. This latest report is preliminary in its nature, and is published in accordance with a vote of the Committee of Fifty passed January 10, 1896. The book which contains ten reports and articles is an important contribution to the literature pertaining to the liquor question. Dr. J. S. Billings, who is the editor, writes of "Data relating to the use of alcoholic drinks among brain-workers in the United States," and on "Relations of drink habits to insanity."

Prof. W. O. Atwater gives his well-known views on the nutritive value of alcohol, while Dr. William H. Welch treats of the pathological effects of alcohol. Opinions of the most distinguished authorities, both in this country and in Europe, have been sought and are incorporated in the work. The sub-committee state that its members are by no means entirely in favor of the manner in which physiological instruction is conducted in many of the public schools in various parts of the United States. Although the growing custom of such teaching in almost all the civilized lands of the world should be productive of much good, yet it is scarcely necessary to impose tasks of this nature upon those who are not sufficiently old to be able to avail themselves of the advantage. The reports edited by Dr. Billings are valuable as sources of reliable information upon one of the most important and pressing matters of the hour.

THE GEOGRAPHY OF DISEASE. By FRANK G. CLEMOW, M.D. Edin., D.P.H. Camb., British Delegate to the Ottoman Board of Health, Physician to H. M. Embassy at Constantinople, Secretary for Russia to the Epidemiological Society of London, Hon. Member of the Russian National Health Society, etc. Cambridge, England: University Press, 1903.

THIS volume, which should prove of much practical use, has been well put together by its author. The facts collected therein have been taken from the best English and European works on the subject, and Dr. Clemow has utilized this material to good advantage. Geography of disease up to the present has been made, but to a small extent, the theme of discussion by writers. This neglect, it seems certain, will be remedied in the future, as the value of reference books of this character must be obvious to all. A commendable feature of the volume under review, is its possession of a considerable number of excellent charts, showing the distribution of the more important diseases to which reference is made

DISEASES AND INJURIES OF THE EYE AND THEIR MEDICAL AND SURGICAL TREATMENT. By GEORGE LAWSON, F.R.C.S., Eng., Surgeon Oculist-in-Ordinary to Her Majesty the Late Queen Victoria; Late Member of the Council of the Royal College of Surgeons of England; Consulting Surgeon to the Royal London Ophthalmic Hospital and to the Middlesex Hospital. Sixth edition, with 246 illustrations. Revised and in great measure rewritten by ARNOLD LAWSON, F.R.C.S., Eng., Assistant Surgeon to the Royal London Ophthalmic Hospital, etc. London: Smith, Elder & Co.; New York: G. P. Putnam & Son, 1903.

THIS edition of the well-known work on diseases and injuries of the eye by Mr. George Lawson constitutes a large volume of 587 pages; the previous issue was published in 1885. The great strides that have been made in ophthalmology since that date have made the increase in volume necessary. The work has been revised, and the attempt has been made to bring it up to date.

The book is well printed on heavy paper, and is quite fully illustrated in black and white. The volume is divided into twenty-seven chapters and an appendix and formulary of remedies are added. Particular attention has been given to special injuries of the eye and their treatment. Foreign bodies within the eye and their localization by means of the *x*-ray, according to the Mackenzie-Davidson method, is fully described. The chapter on affections of the extrinsic ocular muscles is quite extensive and complete, full mention being given of the work of Maddox and to the advances in this line of study made by American ophthalmologists.

The author does not give the consideration to the diseases of the eye, caused by microorganisms, that is accorded to them in modern works by German, French, and American writers; nor are the therapeutic measures advocated fully in keeping with present views. The advice given regarding operations on the eye is conservative and is safe to follow.

The work will be of value to the general practitioner who may desire a book for reference on this subject, but it is not sufficiently up to date to be very serviceable to the ophthalmologist.

HAY-FEVER; Its Prevention and Cure. By PERRY DICKIE, M.D. Pp. 173. Philadelphia: Boericke & Tafel, 1903.

THE author states in his preface that "considering its importance we must admit that the study of this disease has been very much neglected by the medical profession as a body. Actuated by such a condition of affairs, the writer ventures to enter upon this comparatively untrodden path," etc., etc. He then "enters" upon a conventional description of the disease, but gives absolutely no new imformation except to mention a few remedies which homeopathic practitioners claim to have found of service. Absolutely no reference whatever is made to the epoch-marking work of Professor Dunbar, which bids fair to settle once and for all many and probably most of the mooted points in connection with this malady.

MANUEL DE LA PROSTATECTOMIE PÉRINÉALE POUR HYPERTROPHIE. Par le Dr. ROBERT PROUST, Prosecteur à la Faculté de Médecine. Paris: C. Naud, 1903.

THIS excellent brochure is a valuable contribution to the ever-increasing literature concerning the treatment of prostatic obstruction. The author has divided the body of his book into five chapters: No. 1, treating of the surgical anatomy; No. 2, treating of the pathological anatomy; No. 3, treating of the indications for operation; No. 4, on the instrumentation and preparation of the patient; No. 5, on operative technique. In an appendix he gives a report of a few cases. The book is beautifully illustrated, and will be a great help to those who are actively working in this department.

The chapters on the surgical and pathological anatomy are especially commendable. Particularly important is his description of the sheath of the prostate which is to be distinguished from the true capsule of the gland.

The operation which he describes and recommends is done purely by the perineal route. He employs the pre-rectal horseshoe-shaped incision and the consequent careful anatomical dissection which exposes the prostate very satisfactorily, but which, on the other hand, has the disadvantage of prolonging the operation and increasing the loss of blood as compared with the median incision. As an aid to the operation he lays great stress on the extreme elevation of the pelvis, or the posture which he calls the *position périnéale inversée*.

The book is quite comprehensive, and is concisely and well written. It is clearly illustrated, and altogether is a valuable contribution to this subject.

PATOLOGIA E TERAPIA DEL ORECCHIO, E DELLE PRIME VIE AEREE (Otologia, Rinologia, Laringologia). Per il Dottore GIUSEPPE GRADENIGO, Professore nella R. Università di Torino. Torino: S. Lattes & Cia., 1903.

THIS ponderous work consists of thirty-two lectures delivered to practitioners and students by the distinguished Italian professor and is edited by his assistant, Cassanello. It covers practically the entire field of diseases of the nose, throat, and ear, and is arranged on the general principles covering treatises in these special fields. Pathological processes, however, are traced throughout the entire anatomical regions considered instead of being separately discussed under each special division of the work. The latter is profusely illustrated and is above criticism in its general typographical features. Gradenigo has been a frequent contributor to current journals for many years, and this volume sums up his collective clinical experience. He displays a most intimate acquaintance with the general literature of his specialties, and his views are presented from a broad standpoint. A commendable feature is the prefixing to each lecture of a syllabus of its contents

GYNECOLOGY: A TEXTBOOK FOR STUDENTS AND A GUIDE FOR PRACTITIONERS. By WILLIAM R. PRYOR, M.D., Professor of Gynecology in the New York Polyclinic Medical School, etc., etc. One hundred and sixty-three illustrations in the text. New York and London: D. Appleton and Company, 1903.

THIS book mirrors the views and the practice of its author. In style it is direct, forceful, dogmatic. Could it be granted that the views and the practice of an individual were all good and sound, the work *might* claim to be both textbook for student and working guide for practitioner. As it is, whilst the book is honest in its teachings and often sound, in so many respects does its text carry views at variance with those of other teachers that both the student and the practitioner should read and digest many other treatises on gynecology would they avoid lying in and working within a rather narrow groove.

The scheme of the book does not entail consideration of anatomy, embryology, or histology. This is an excellent point, since such topics are best studied in special treatises. The pelvic and the abdominal diseases of woman are, at the outset, studied clinically, and next described from the operative standpoint. The gynecology of the past (that of the tampon, the pessary, and of the intrauterine applicator) rightly is not noticed, neither is there much said about the medical side of gynecology. This is a surgical book, written by a man of strong and positive convictions, equipped by ample experience for the expression of such views. We cannot criticise much that we might from our standpoint and that of many others, owing to the limited space at our disposal. Thus we should be sorry to see adopted the radical views expressed in regard to the desirability of many vaginal operations, or the acceptance of what is termed "Pryor's" operation for adherent retroflexion of the uterus. On the whole, however, we commend the book strongly to all who are ready to study it in conjunction with the writings and the teachings of other men. By this we mean that single-handed it is insufficient for the student and the practitioner who is desirous of becoming a *well-rounded* gynecologist.

The book is well indexed and many of the illustrations are original and creditable.

A REFERENCE HANDBOOK OF THE MEDICAL SCIENCES. By Various Writers. New Edition. Edited by ALBERT H. BUCK, M.D. Volume VI. New York: William Wood & Company, 1903.

THIS enormous volume of over one thousand quarto pages includes all the titles comprised in alphabetical sequence between Moss and Rye. Among the important subjects treated of in most satisfactory completeness are Muscles, anatomy, anomalies, and pathology; Myopia; Nails, diseases; Nasal cavities, anatomy, examination, diseases, neuroses, deformities, new growths, parasites, and sinusitis; Naval hygiene and Naval medical service; Nematoda; Nerves, physiology, histology, trauma, inflammation, functional affections, and pathology; Occupation, hygiene; Œsophagus; Ophthalmoscope; Optometry; Organotherapy; Ovaries; Pancreas, anatomy and physiology, diseases, and surgery of; Paralysis; Parasites; Parotid gland; Pelvis, anatomy and deformities; Pericardium; Perineum; Phagocytosis; Pharynx; Placenta, anatomy and pathology; Pneumonia, in adults and in infants; Poisoning, sources, symptoms, and legal aspects; Prostate; Ptomains; Pulse; Quarantine; Recruits, examination of; Reduction division, interesting in its bearings on the problem of heredity; Reflexes; Reparative surgery; Resection of joints; Petina; Rheumatism; and Röntgen rays in medicine, including the Finsen-light method. In addition to these there are a great number of shorter articles on subjects relating to climatology and balneology to materia medica, both vegetable and mineral, to physiology and pathology, and, in short, to every branch of science relating to medicine. The contributors number 149, there are 764 engravings in the text and nine inset plates in black and colors. There is little to add to what has been already said in notices of the previous volumes of this work. The handbook is to the medical man what any of the great encyclopedias is to the general public, a storehouse of knowledge to which one may turn with confidence for information on any topic relating to his profession. This volume contains subjects of less interest, possibly, than some of those previously issued, but that is the fault of the alphabetical arrangement and not of the editor or the writers—the articles are just as carefully prepared and just as conscientiously treated, and just as instructive to one who seeks instruction on the topics here presented. With two more volumes the work will be completed.

OPHTHALMOLOGY. A Manual of Diseases of the Eye. For Students and General Practitioners. By CLARENCE A. VEASEY, A.M., M.D., Demonstrator of Ophthalmology in Jefferson Medical College, Philadelphia. 12mo. 410 pages, with 194 engravings and 10 full-page colored plates. Philadelphia and New York: Lea Brothers & Co., 1903.

THE author acknowledges his special indebtedness to the eye portion of Miller, McEvoy & Weeks' "Quiz Compend on Diseases of the Eye, Ear, Nose, and Throat;" "some, of the valuable material contained therein has been freely utilized in the preparation of this work." The volume presents, however, better paper, printing, and illustrations than are usually furnished in quiz compends.

As the author remarks in his preface: "It is somewhat difficult in a book of this size to decide what is best to include and the amount of space to be allotted to each subject." This must always be an embarrassment to authors of books of this size, and the success of manuals depends largely upon how cleverly the relative importance of various anomalies is impressed upon the student and general practitioner. The latter depend upon the author for assistance in this direction. We know of a number of Manuals of Diseases of the Eye in which the importance of the various diseases has been much more skilfully emphasized than in the volume before us. Thus, three pages are devoted to a consideration of Tumors and Congenital Anomalies of the Iris—all of which are rare—while only ten pages are given to Iritis, and four and one-half to Sympathetic Irritation and Inflammation. This is a serious handicap to a well-written book.

Some of the illustrations are very good and many are acceptable, as all old friends are. Würdemann's colored illustrations of choroiditis are excellent; but for the class of readers for whom this book is intended, colored representations of conditions of greater interest to students and general practitioners, such as Albuminuric Retinitis and Optic Nerve Atrophy, would have been more consistent and useful. Despite these faults the book is attractive, but can scarcely compete with Nettleship, Swanzy, or May.

# Society Reports.

## AMERICAN MEDICAL ASSOCIATION.

### SECTION ON DISEASES OF CHILDREN.

(Continued from page 313.)

*Wednesday, May 6—Second Day.*

**Observations on Prolonged Withdrawal of All Food in the Management of Certain Cases of Intestinal Disorders.**—Dr. THOMAS D. PARKE of Birmingham, Ala., presented this paper. He said that the textbooks did not recommend the withdrawal of food from infants for a period of more than forty-eight hours. The object of his paper was to call attention to the fact that infants might be, with impunity and advantage, deprived of all food except water for a very much longer period. Mention was made of an infant of a few months suffering from ileocolitis and convulsions that had been kept on water and without other food for a period of five days. The stools then becoming of a better character, broths were added. Subsequently a second child, an infant of ten months, was kept for five days upon water, and then egg albumen water was tried, but with an aggravation of all the symptoms. This was accordingly stopped, and after three days more of fasting, the symptoms having improved, diluted food was given, and the child thereafter made a good recovery. An interesting observation was that the child lost flesh only moderately, and that the emaciation was not at all commensurate with preconceived notions of what should occur. Since these two novel experiences, the writer said, he had extended this method of treatment over a period of four seasons. In the majority of cases the withdrawal of food for a few hours was all that was required, but he contended that the cases should be individualized and treated, if the indications were present, by a more prolonged withdrawal of all food. He contended that the character of the stools and the condition of the patient should be the sole indications for a return to food, and not merely the time food had been withdrawn.

Dr. H. M. MCCLANAHAN of Omaha opened the discussion on the foregoing series of papers. He pointed out the meagerness of the literature on normal lactation, and the fact that the majority of medical practitioners did not fully recognize the importance of giving some artificial food when the supply of breast milk was deficient.

Dr. C. G. KERLEY of New York declared that he had never known a woman in any station of life to be unwilling to nurse her infant. Among the wealthy class, where young women were accustomed to a good deal of recreation and indulgence, he made it a practice to allow all nursing infants one bottle a day. One of the commonest errors in the artificial feeding of infants was to give the same food to both sick and well babies. Where it was difficult to make the infant take a sufficient quantity of food, much benefit often resulted from stomach washing. Mothers should be instructed that with the first sign of gastrointestinal derangement to take the child off a milk diet, give it a cathartic, place it on barley water, and seek medical advice. He had seen eight or ten cases of diarrhœa treated with the Shiga serum, and had been favorably impressed with this new treatment.

Dr. R. B. GILBERT of Louisville said that the use of whiskey, and especially of tobacco, by the nursing mother, greatly deteriorated her milk, making it poisonous to the infant. When new-born infants showed a tendency to diarrhœa they should not be allowed to nurse out the colostrum, but the colostrum should be milked out and thrown away. The quality of the breast milk was profoundly influenced by sexual excitement, and, hence, an infant should not be allowed to nurse from the mother for three or four hours after sexual excitement.

Dr. AULD of Chicago said that he had so frequently seen infants of about one year old suffering from convulsions which appeared to have been provoked by milk indigestion, that he was accustomed to stop milk food at this age and put the children on adult food. He had no faith in a child over one year old digesting milk successfully.

Dr. THOMAS S. SOUTHWORTH of New York said that when menstruation caused a temporary disturbance in the nursing infant, it was far better to pump out the breasts during this period and feed the child artificially than to stop breast feeding altogether. It was also well not to be too easily discouraged in our attempts to restore the normal quality of breast milk which seemed to disagree with the nursling.

**Infant Feeding; Its Relation to the Diarrhœal Diseases of Infancy.**—Dr. JAMES G. MASTIN of Chicago read this paper. He said that digestion in infancy occurred almost wholly in the intestine, and that the stomach acted quite as much as a reservoir as an organ of digestion. The young infant was capable of digesting starch and sugar in proportion to the secretory capacity of the pancreas, and starches, sugars, and fats in excess tended to exhaust the secretory function of the glands of digestion by overstimulation. That maternal nursing was superior to any other method of feeding was an established fact, but it must be remembered that mother's milk might not be within the normal limit, even though the woman were in good health. Early and repeated examination of the milk was imperative in order that a proper mode of living might be adopted by the mother. The digestive function of the newborn infant having been once upset, difficulty arose as to the restoration of the normal balance. Our efforts at maintaining maternal nursing were usually successful if carried out properly. When the breast milk was deficient in quantity, one or two supplemental feedings daily were indicated, preferably from a clean spoon. That cow's milk was the best possible substitute for the mother's milk could hardly be denied. The milk should be modified so as to secure the same proportions of fat, proteids, and sugar found in breast milk, this modification including the addition of cereals in order to break up the tough curd of cow's milk. The percentage of proteid should not be greater than one at the beginning. Jacobi has pointed out that cane sugar was preferable to the impure milk sugar of commerce. These observations were intended to apply to the use of "safe" milk, *i. e.* milk containing no pathogenic organisms and not more than 30,000 bacteria to each cubic centimeter. According to Holt, out of 1,943 fatal cases of diarrhœa, only 3 per cent. were fed at the breast exclusively.

Dr. GEORGE W. ACKER of Washington, D. C., continuing the discussion on infant feeding and diarrhœa, said that he could recall many mothers who positively refused to nurse their children. In several instances he had known the wearing of corsets to be responsible for a deficiency in the secretion of milk. Holt had made the statement at one time that only one American woman in ten was able to nurse her child up to the third month, and that it was a curiosity to find an American mother who could nurse after this time. However, it should be remembered that even poor mother's milk was generally better than modified or laboratory milk.

Dr. SOUTHWORTH, speaking of the relation of the Shiga bacillus to infantile diarrhœa, said that he thought it would be found eventually that certain epidemics of intestinal affections in children were due to this bacillus, or to allied forms, and that there still remained a very large proportion of the more acute intestinal affections in which this bacillus was not present. He had seen last winter in hospital a number of cases of infantile diarrhœa associated with the Shiga bacillus. The first symptom was a rise of temperature, and this would be associated with the discharge from the bowel of blood-stained mucus. The stools were not very frequent nor of a very bad character, nevertheless these children would lose several ounces a day, would soon pass into collapse and die within twenty-four hours after the onset of the collapse. The post-mortem examinations showed varying degrees of

enterocolitis, with intense congestion of the lower portion of the intestine.

Dr. H. E. TULEY said that a child was not able to digest as strong a formula of modified milk in hot as in cold weather, and a recognition of this fact would lead to the prevention of considerable sickness.

Dr. A. C. COTTON said that every time even a mouthful of milk in the mother's breast was taken away from the infant an injury was done the little one. He had previously reported about fifty cases of disturbed lactation resulting from excessive coitus.

Dr. DAVIS said she did not wish to be understood as stating that cases in which the breast milk disagreed to such an extent as to necessitate the substitution of artificial food were common; the five cases she had reported in her paper represented an experience of about twelve years with about 1,500 confinements. The early application of the infant to the breast caused the milk to come in more gradually and avoided extreme turgescence of the breasts.

Dr. THOMAS D. PARKE, in closing, said that whenever the baby became sick from indigestion or diarrhœa, he stopped the breast milk just as quickly as he would stop artificial food, and he believed that by this course good results were obtained more quickly and with less risk to the child.

**Case of Probable Gummata of the Liver in a Child of Six.**—Dr. M. OSTHEIMER of Philadelphia presented this paper. The child was a girl whose parents were both syphilitic and alcoholic. On coming under observation there were fever, pain in the side and marked jaundice. The liver was decidedly enlarged, but there was no ascites. The spleen was enlarged. There were no Hutchinson teeth. Protoiodide of mercury and sodium phosphate were given, and this treatment resulted in prompt improvement; nevertheless osteitis developed and tenderness was now at a point midway between the margin of the ribs and the umbilicus. Under mixed treatment all symptoms disappeared in two months. The author then reviewed the literature of the subject.

**Influenza in Children.**—Dr. WILLIAM CARVER WILLIAMS of Chicago read this paper. He said he was of the opinion that influenza was a more malignant disease in children than was generally supposed, and this opinion had been fortified by inquiry among medical acquaintances. It should not be forgotten that the disease was of a remarkably toxic nature, and that the invasion was more insidious than in adults. Dr. F. E. Wynkoop of the Chicago Board of Health had told him that out of 2,460 examinations of cultures from the throats of persons suspected to have diphtheria, 677 showed the Pfeiffer influenza bacillus to be the only pathogenic organism present. Of these 677 cases, in 173 the diagnosis of diphtheria had been definitely made on the clinical findings, and yet no Klebs-Loeffler bacilli were present. Children should not be exposed to the contagion of influenza when other members of the family were known to be suffering from this disease, and they should be carefully guarded against exposures which might lead to catarrhal inflammation and predispose them to infection with influenza. The catarrhal type of influenza was, perhaps, the one most frequently met with in children. The more nearly normal the membranes, the less severe would the disease be if contracted. The nervous, circulatory and febrile types might be regarded as of toxic origin. A variety of the disease receiving little attention was the chronic form. Relapses during convalescence were quite common, and even when the child was apparently restored to health one could not be sure that sequelæ would not develop. The treatment was purely rational and symptomatic, and the indications should be met as they arose. The author's conclusions were: (1) Children of any age were susceptible to the influenza infection; (2) repeated relapses and grave sequelæ were frequent in cases in which the initial seizure was mild; (3) the clinical diagnosis should always be supported by the evidence of the microscope, whenever possible, as the practical certainty thus obtained might be of great value in connection with future developments.

Dr. C. G. KERLEY of New York said that this year he had seen in private practice ten cases of influenza in which it had been necessary to perform paracentesis of the membrana tympani.

Dr. P. J. BARCUS of Crawfordsville, Ind., called attention to the fact that some observers had claimed that when there was an epidemic of scarlet fever prevailing at the same time as one of influenza, the type of the former was unusually mild.

Dr. H. M. MCCLANAHAN of Omaha said that he had noticed that in cases of influenza hydrotherapy failed to control the fever as in other febrile disorders. In his experience there had been more cases of middle-ear disease from grip than from scarlet fever, and the same was true of mastoid abscess. He had been pleased with the results obtained from the administration of quinine by the rectum.

Dr. JOHN C. COOK of Chicago said that he had seen in hospital two babies die suddenly within forty-eight hours of their birth, their mothers being ill with grip. He had seen, during the past winter, four cases of cerebral disorder in which the onset pointed clearly to grip, and in three of these cases at least one of the parents had the grip. He had observed in the recent epidemic of grip several cases characterized by an eruption very closely simulating that of scarlet fever. However, the sore throat and rapid pulse and high fever of scarlet fever were lacking.

Dr. Williams, in closing the discussion, said that he had seen four cases of influenza presenting an eruption, in three of which it closely resembled the rash of scarlet fever.

*Thursday, May 7—Third Day.*

**Capillary Bronchitis.**—Dr. PHILIP F. BARBOUR of Louisvillle presented a paper on this subject. He said that all would agree that in many cases bronchopneumonia was the lesser factor, the real danger to the child being the bronchial element. It was the extent of the bronchitis that was to be feared. The natural tendency was toward extension of the inflammation by continuity of structure. When bronchitis attacked the larger tubes the inflammation was mainly limited to the mucous membrane, and in its extension was usually confined to the mucous layer. As the bronchi became smaller, the histological elements of the bronchial wall became fewer, the non-striated muscular layer became thinner. When the bronchitis extended to the terminal bronchioles, the inflammation no longer involved only the mucous membrane, but also the muscular and fibrous coats. When there was a sudden rise of temperature, and a marked increase in the pulse and respiration rate, the merest tyro knew that there was something more than a bronchitis. When, however, the bronchitis, instead of extending deeply into the air cells, spread widely, dyspnœa and cyanosis developed and became urgent. The danger of capillary bronchitis was that the lungs would be "drowned in their own secretion"—in other words, the danger was mechanical, not febrile as in bronchopneumonia. As a result of the inflammation of the mucous membrane there was marked congestion, and consequently the lumen was diminished. This was still further aggravated by the spasm of the muscular layer. Congestion, spasm, and dryness were the chief elements noted in the early stage, and these factors constituted the main indications for treatment. Hot applications, baths, and revulsives of various kinds were employed. Atropine, by its sedative action on the reflexes, relieved the dyspnœa. The second stage of the disease was characterized by an increase in the secretion, as indicated by a change from the dry, sibilant to the moist râle. The secretion was removable only by deep inspiration or cough, or by rhythmic contractions of the circular fibers in the walls

of the bronchioles. The excessive amount of mucin in the tissues of the child made the secretion of mucus in the tubes relatively greater than in the adult. From this increase of secretion came the chief danger of the second stage. The problem in this stage was how to get air into the lungs, and how to remove the mucus. The latter could be removed by emesis, for which purpose ipecac was probably the best agent. The objection to the irritant emetics was their liability to increase the irritation of the gastric mucosa, which always accompanied this catarrhal condition, and which resulted in part from the swallowing of the mucus. During the coughing or vomiting spells the head should be placed lower than the body in order to get the air of gravity. Much discretion was needed in the use of emetics in order to guard against depression. It should not be practised oftener than two or three times in the twenty-four hours. The expulsion of the mucus would always be favored by any agent which would improve the tone of the muscular coat. Strychnine was best for this purpose, and should be given frequently in small doses and almost to the tetanizing point. Opium acted in an opposite way, and was a most dangerous drug in this disease. Usually after the secretion had been established the mucus was not very viscid, and the chief danger arose from its quantity and the blocking up of the bronchioles with the consequent occurrence of atalectasis. To avoid this, no remedy was equal to atropine or belladonna. There was no objection to the administration of strychnine and atropine at the same time. Aconite had a more desirable action on inflammatory congestion than any other drug, equalizing the circulation and withdrawing the blood from the congested area. Under its use the radial artery was relaxed, and the pulse was made soft. In congestion of the pulmonary tissues aconite would, by its effect on the pulmonary circulation, lessen the amount of blood going to the inflamed area, and thus jugulate the inflammation. Moreover, it prevented the extension of the inflammation along the mucous membrane. The depressing action upon the heart could be obviated by combining it with digitalis, whose antiphlogistic powers had long been known. By using the active principles of these plants greater accuracy of dosage and more effective action would be secured. Under the best treatment the mortality from capillary bronchitis would always be high.

**Management of Catarrhal Pneumonia in Infants and Young Children.**—Dr. CHARLES GILMORE KERLEY of New York presented this paper. He said that this was one of the most formidable ailments the pediatrician was called upon to treat. Among the several hundred cases that had come under his observation not 5 per cent. were primary. It most commonly followed a neglected bronchitis. It occurred with the greatest fatality when associated with diphtheria and measles. Catarrhal pneumonia demanded the best attention possible to give it, not only because of the delicate organ attacked, but because, unlike lobar pneumonia, scarlet fever, diphtheria, and many other diseases of early life, there was no self-limitation or cycle. Every child had a definite resistance to disease, and our effort must be to preserve every strength unit. An immense amount of vitality was wasted in sick children because of irritability, restlessness, and loss of sleep; hence, the first duty was to make the child comfortable, and put it in the best condition to resist disease. We must, therefore, establish a sick-room régime. The value of fresh air was too little appreciated. Direct communication with out-doors was imperative. Perhaps the best and cheapest means of ventilation was the use of a window board, about four inches wide, placed underneath the lower sash, thus bringing the two sashes apart. This insured the entrance of a current of fresh air directed upward, and by pulling down the shade a draught of air upon the patient could be avoided. The temperature of the sick-room in this disease should never register above 70° F. There was a marked tendency to coddle and overclothe pneumonia patients. During the winter children required a medium-weight flannel shirt and the usual night dress. For some years he had discarded the oilsilk jacket because it was cumbersome, could not be kept clean and embarrassed the respiration of the patient. There was but one proper place for the sick infant and that was in a roomy crib. In every febrile disease the digestive capacity was considerably reduced, and if the usual milk diet were continued gastrointestinal disease was very apt to be added to the other disease. The nursing hours should be the same as in health, but the time of nursing should be reduced one-third or one-half. In bottle-fed babies the food should be made half the usual strength. There should be at least one stool in the twenty-four hours. In using medication the efforts of the physician should be to disturb the child as little as possible. If a well child were given syrupy expectorants, stimulants, baths, and other local applications at intervals of an hour or two throughout the twenty-four hours he would have to be a strong child in order not to be made sick. Therefore, the interval between applications and medicines should be made as long as possible, and this could be best done by arranging the régime so that food, medicine, and local applications are attended to at the same time during the night. The author was of the opinion that this was a most important point in the management not only of this but in practically every other disorder of childhood. Among the distinctly remedial measures, steam inhalations with creosote deserved an important place. The patient should be placed in a crib and the latter draped with sheets so as to make a fairly tightly enclosed space. Ten drops of creosote should be added to one quart of water, and this should be boiled in an ordinary croup kettle and the vapor conducted into the crib. This should be done for thirty minutes every three hours, and about once every ten minutes the coverings of the crib should be parted a little to allow of the entrance of fresh air. Steam inhalations for catarrhal pneumonia were so highly thought of by Dr. L. Emmett Holt that in the Babies' Hospital a special room had been constructed in which such patients were placed and connections were made with the system of steam pipes of the hospital. In order that a counter-irritant should be effectual the surface of the skin should be reddened distinctly. The old-fashioned mustard plaster appeared to him to be the most useful in the early stages of bronchopneumonia, or in catarrhal conditions of the chest, although a good revulsive action could be obtained by briskly rubbing the skin with a mixture of oil containing one-third turpentine. The mustard plaster should be made at first of one part mustard and two parts flour moistened with water. After a few minutes it should be removed and the area spread with oil. The mustard plaster should not be used oftener than two or three times in the twenty-four hours, and the physician should map out with a pencil upon the chest just the area to be covered by the mustard plaster. Mustard baths were often very useful in children if given at a temperature of 100° F., and made of the strength of one tablespoonful of mustard to six gallons of water. With regard to medication, the author said that it should be borne in mind that the stomach of a sick child was very easily disturbed. Expectorant drugs must be given with care, and were best prescribed in tablet form, or mixed with water. For a child of one year, $\frac{1}{100}$ of a grain of tartar emetic and $\frac{1}{40}$ of a grain of ipecac answered well when an expectorant was needed. If the cough were very teasing bromide of sodium in small doses might be added. The drugs might be given in powdered form mixed with sugar of milk and water, and two hours after feeding. The ammonia salts were badly borne by the stomach. The muriate of ammonia was of some service, but should not be given in doses of

more than half a grain well diluted, and at an interval of two hours. In those cases in which bathing was not well borne, or was not given intelligently, and the fever ran high, a combination of caffeine and phenacetin at intervals of four to six hours, with a little Dover's powder for great restlessness had been found very useful. For a child of one year old, he would give ⅛ of a grain of caffeine, ½ grain of Dover's powder and ½ grain of phenacetin. When using Dover's powder the effect upon the bowel should be carefully watched. Heart stimulants were commonly used too early, and should certainly not be given unless there was a distinct indication that the heart needed assistance. A heart beating at the rate of 150, not strengthened by sponging or packs, needed assistance, and the drug which had served him best was tincture of strophanthus. It acted as a direct stimulant to the heart muscle, and the heart-beats were made slower and stronger. For a child of one year one drop of strophanthus might be given every three hours. Many physicians were rather timid about pushing the use of strychnine. In many cases of pneumonia it must be given in what seemed to be tremendously large doses, doses which could not be safely employed at other times. It should be given until the desired action on the heart was obtained, or slight physiological effects were developed. Strophanthus and strychnine did their work well, and had no bad effect on the stomach, as was the case with alcohol, digitalis, and ammonia. Alcohol, in the form of whiskey and brandy, was very rarely of service in pneumonia, for, although it would stimulate the heart, this good effect was offset by its disturbing action on the stomach. In some emergencies, when other means failed to meet the indications, it might be given in large doses, half to one drachm well diluted, every two hours to a child one year old. Nitroglycerin, $\frac{1}{100}$ of a grain every three hours, for a child of one year, was useful for marked cyanosis. The one unpleasant effect from its administration that he had observed was the tendency to produce headache. A sponge bath at 90° F. might be given daily for cleansing purposes. If a child were made more comfortable, and slept and ate better when the temperature was reduced, then this should be done. Generally, when the temperature showed a tendency to rise to 104° F. or over it should be reduced. One teaspoonful of salt to a quart of water, or one part of alcohol to four of water, when used as a sponge bath, was most effective, the child being covered with a flannel blanket and sponged under the blanket. The sponging should be continued for ten or fifteen minutes, and then the skin should be rubbed briskly with the hand. If the temperature could not be controlled without very frequent spongings then some other method should be employed. Tub baths had not served him well as an antipyretic. By far the most potent method of controlling the fever was by means of a wet pack. A large bath towel, or any thick material, might be used, and slits should be cut in one end of the towel so that the arms could pass through. The towel should extend from the neck to the middle of the thighs. The arms and the legs, at least from the knees down, should remain free. A hot-water bag, carefully wrapped, should be placed at the feet. The towel should be at first moistened with warm water (95° F.) so as not to cause shock or frighten the child. If the water were made too cold at first it would cause much shock. In a few minutes the towel should be moistened with water at 85° F., and then with water at 80° F. During this time the child should be turned from side to side, but not removed from the pack. The temperature of the water should not be further reduced for half an hour, and then the rectal temperature of the child should be taken. If there was very little or no reduction, and the temperature had been 105° F. at the outset, the water for the pack might be reduced gradually, even as low as 65° or 60° F. The pack could be used in this way even with the child asleep. This pack was very agreeable, so that older children would often ask for the cool water to be renewed. The aim should be to keep the temperature between 102.5 and 103.5° F. He had recently kept a boy of four years, ill with lobar pneumonia, in a wet pack for seventy hours. The towel should be changed for a fresh one twice daily. Oxygen was of great service in very severe cases, given for one or two minutes out of every ten minutes.

Dr. R. B. GILBERT of Louisville said that when an emetic was indicated he preferredt urpeth mineral, because its action was prompt and the subsequent nausea was of short duration.

Dr. THOMAS D. PARKE of Birmingham, Ala., advocated the use of very large doses of strychnine, given by the rectum.

Dr. HUGH A. LEAVELL of Louisville substituted for the usual syrupy mixtures a tablet of antimony and ipecac, $\frac{1}{100}$ of a grain each, when an expectorant was indicated in the early stages.

**The Safranin Reaction in the Urine of Children.**—Dr. W. S. CHRISTOPHER of Chicago presented this paper in abstract, which was read by Dr. A. C. Crofton. This test was comparatively new, but Dr. Christopher had employed it in upward of 3,000 examinations of the urine in children. The test was applied by mixing together and heating 1 c.c. of urine, 5 c.c. of a one per cent. safranin solution and 1 c.c. of caustic soda solution. An exceedingly minute quantity of sugar in the urine would decolorize the safranin solution, but the color would quickly return on slight agitation with air. By an approximate quantitative method what was called "the safranin index" was determined. The following are some of the author's conclusions: (1) Safranin is a reliable and convenient test agent for sugar in the urine, showing sugar when present in quantity much too small to be detected by copper. (2) Safranin is decolorized by sugar but not by uric acid. (3) The safranin index is the number of cubic centimeters of a 1-to-1,000 solution of safranin that are decolorized by 1 c.c. of urine. (4) The normal safranin index is low during the first years of life, but gradually increases, reaching its maximum between the ages of three and four years, after which it slowly decreases for a number of years, but never again becomes so low as in the first year. (5) During the first ten years boys have the safranin index constantly higher than girls. (6) At eleven years the safranin index curves of the two sexes cross, the girl's becoming superior. (7) The curves of urea by ages and sexes closely resemble the corresponding safranin curves. (8) The curves of acidity in disease resemble, in a general way, those of urea and safranin. (9) The safranin and acidity indices vary greatly from day to day. (10) Both the safranin and acid toxæmias play an important rôle in infancy, and are responsible for many of the difficulties in infant feeding. (11) Not less than ten urinary analyses are necessary to determine the safranin index in a child. (12) If the average safranin index is two or more the child may be said to be of the saccharine diathesis. (13) This diathesis was present in about one-third of the children whose urine was examined a sufficient number of times. (14) The management of the saccharine diathesis approaches the management of diabetes. (15) The possibility of diabetes being the outcome of the saccharine diathesis should be borne in mind.

**The Treatment of Scarlet Fever; Its Complications and Sequelæ.**—Dr. H. M. MCCLANAHAN of Omaha presented this paper. He said that for seven years he had adopted the rule of keeping all patients on a liquid diet for not less than four weeks, with the object of preventing renal complications. By a liquid diet he meant milk properly modified to suit the age of the patient. In older children this diet could be modified by adding broths, whey and fruit juices, carbonated water, orangeade, and lemonade. The continuance of the liquid diet not merely for a week

or two but throughout convalescence seemed to him to be the keynote to the treatment. The patient should be kept in bed during this time, thus avoiding the danger of exposing the body to chilling influences by which extra work would be thrown upon the kidneys. Ordinarily if the fever rose to 104° F., it should be controlled, and hydrotherapy was the best means of doing this. A towel wrung out of warm water should be wrapped around the child, and over this a towel wrung out of cool water. Sometimes a full bath was better. The temperature of the bath at the beginning should be about 95°F., and in the course of a few minutes it should be reduced to 80°F. by taking out a quart of warm water and adding a quart of cold water, and repeating this process until the temperature of the water had been reduced to 80°F. in the course of a few minutes. If there were much restlessness it should be controlled by chloral in doses of two or three grains every three or four hours, if need be guarded by digitalis. He favored nasal irrigations with warm saline solution. The child should be wrapped in a towel so as to be completely under the control of the attendant. The first irrigation, at least, should be personally supervised by the physician. The mouth and throat should be first irrigated, and care should be taken to see that during the irrigation of the nose the mouth was kept open. If this were done, deglutition could not well take place, and hence the chief danger of forcing infectious matter into the Eustachian tube would be avoided. He had seen the temperature drop from two to four degrees within an hour after this treatment. When the discharge was fetid he preferred to make use of five grains of potassium permanganate to the pint of warm water. In the septic cases stimulants should always be employed freely. Oily applic ations were useful, not only in hastening desquamation, but particularly in preventing infection of the clothing and room. When the itching was troublesome he made use of a bath of one-per-cent carbolic-acid solution, or, if very severe, of lead water in the strength of one drachm to the pint. Cervical adenitis occurred in all of the septic cases. In such cases he made use of belladonna ointment locally, either with or without ice poultices. Arthritis was a common complication, the elbow and wrists being the joints most commonly involved. For this complication he made use of an ointment composed of sodium salicylate, one drachm to an ounce of a mixture of lanolin and zinc ointment. When otitis complicated scarlet fever it was usually suppurative. Paracentesis was theoretically correct, yet was seldom done in private practice. He favored washing out the ear with hydrogen peroxide to which a little sodium carbonate had been added. If this precaution were taken, and the instillation were made with a medicine dropper he thought there would be no complaint of pain from this application. Stimulating diuretics should be avoided in scarlet fever and laxatives should be used systematically.

**Prolonged or Retained Intubation Tubes, with a Method of Treatment Leading to Their Extraction.**—Dr. B. R. SHURLY of Detroit was the author of this paper. He said that the problem of the avoidance of traumatism was half solved in the selection of a tube of just the right size. Various methods of extraction had been devised, but the O'Dwyer instrument fulfilled all requirements in careful hands. The general rule was to extract all tubes on the fourth day, and a preliminary large dose of diphtheria antitoxin made the success of this method almost certain. If reintubation were required about the sixth day, 1,500 or 2,000 units of antitoxin should be given. In many cases efforts to dispense with the tube at three-day intervals might be made with advantage. Having determined the location of the eroded surface, a 12-per-cent. alum ointment should be applied to this spot, and a string might be left attached to the tube in order to make the extraction as gentle as possible. Tracheotomy was the worst possible thing that could be done, said O'Dwyer, and recent literature from Germany and France confirmed our own methods. The method of direct medication to the larynx in cases of prolonged retention of the tube deserved a more general trial. Adrenalin medication was recommended for cases of œdema. The alum treatment had been successful in practically all of his cases. Cases requiring a tube longer than six days he would classify as prolonged. Rubber tubes only should be used. Large doses of strychnine were of value, and smaller or modified tubes coated with alum ointment or gelatin should be used at each introduction. Tracheotomy was never indicated when intubation could be performed.

**Pseudohydronephrosis or Paranephritic Cyst in a Boy of Three and a Half Years; Operation; Recovery.**—Dr. SAMUEL W. KELLEY of Cleveland was the author of this report, which, in the absence of Dr. Kelley, was read by the secretary. The child had been run over, and while there were no visible signs of injury, the boy appeared to be severely hurt. After a short time it was noticed that the abdomen was swollen. A tumor filled the pancreatic region, but extended back so far that it was thought probable that the tumor was connected with the kidney. There was no pulsation. The growth was evidently cystic. The operation of nephrotomy was done on August 10, 1902, at the Cleveland General Hospital. The pelvis of the kidney was not very large, and contained no calculus or growth that was palpable. The case proved to be one of paranephritic cyst. Gauze and a drainage tube were inserted, and the urine discharged freely around the tube after the operation. The child improved after this operation, and when dismissed with the wound healed he was passing about 24 ounces of urine daily. The fluid in the cyst measured 1,500 c.c., was of a chocolate color, had a specific gravity of 1,013, and was loaded with albumin. No amylolytic ferment was present.

**Officers Elected.**—The following are the officers of the section for the ensuing year: *Chairman*, Dr. Charles G. Kerley of New York; *Secretary*, Dr. Charles F. Wahrer of Fort Madison, Iowa.

## BRITISH MEDICAL ASSOCIATION.

*Seventy-first Annual Meeting, Held at Swansea, July 28, 29, 30, and 31, 1903.*

**Special Report to the Medical Record.**

(Continued from page 318.)

### SECTION OF OBSTETRICS AND GYNECOLOGY.

*Wednesday, July 29—First Day.*

**The President's Address.**—Professor WILLIAM STEPHENSON of Aberdeen gave an introductory address, in which he said that forty years ago the word gynecology was not in use. The younger generation could hardly realise the dread that existed at that time of opening the peritoneal cavity. He well remembered the shock which was given to the professional mind when it was first proposed to use hot water instead of cold for the arrest of uterine hemorrhage. In his earlier days there was a pious dread of interference in cases of obstructed labor and of tumors of the uterus and ovary. A higher standard of medical education was now necessary, that practitioners might be able to know and recognize the gravity of the various conditions, and this was particularly the case in midwifery, because the general practitioner was frequently compelled to be the operator.

The profession has long been conscious that the education of the student in midwifery was unsatisfactory, but the remedy usually proposed, viz., that he should attend more cases, was not the right one, as the number of cases attended was not a criterion of a student's knowledge of the subject, and he (Dr. Stephenson) advocated rather that there should be more oral instruction.

There was at the present day a tendency to separate midwifery from gynecology, but he considered that these subjects could not be divorced. There was a medical and a surgical side of gynecology, but in the textbooks the former was too often overlooked.

A vote of thanks to the president for his address was proposed by Dr. Heywood Smith of London, seconded by Dr. Nelson Jones of Swansea, and carried unanimously.

**The Management of Pregnancy Complicated with Uterine Fibroids.**—Dr. AMAND ROUTH, obstetric physician to the Charing Cross Hospital, London, opened the discussion. He said that in preantiseptic days the mortality of these cases was 50 per cent. for the mother; 60–70 per cent. for the child.

The mortality of cases treated by modern methods had been greatly reduced, and had been given by Pinard as 6 per cent. for the mother; 23 per cent. for the child.

As regards growth during pregnancy, it was universally stated that the fibroids did grow at this time, but C. H. F. Routh and Cullingworth said that they softened, and Whitridge Williams said that the increase in size was due to œdema.

Atrophy during involution did occur in a few cases, but he himself had never seen a fibroid disappear during involution; it was said that this only occurred when lactation was carried out.

Degeneration and necrosis were particularly apt to occur in submucous tumors, and the mass might then be expelled, sometimes without serious symptoms, but usually giving rise to septicæmia.

Infection of the fibroid during the puerperium was common, and if organisms were present even subperitoneal tumors might become infected. Infection was still more common after abortion.

As regards the effect of fibroids on pregnancy, he thought that they were not a common cause of sterility, but that rather the obverse was true, and that sterility caused fibroids. Tubal gestation in association with fibroids was very rare.

As regards the production of malpresentation, statistics showed that in cases of fibroid vertex presentations were 59 per cent. instead of 95 per cent.; transverse presentations were 20 per cent. instead of 4 per cent.; prolapse of funic, 23 per cent.; placenta prævia were 25 per cent. instead of 1 per cent., as regarded obstruction in labor.

Nature's efforts often proved successful in elevating the tumor out of the pelvis after those of the accoucheur had failed. Obstruction depended on position, and was most likely when the fibroids grew from the posterior part of the supravaginal cervix.

*Treatment.*—During pregnancy, replacement should be attempted with patient in knee-chest position, or if necessary an anæsthetic should be given, the foot of the bed being raised. Abortion, which was the treatment thirty years ago, should now be abandoned; the easier it was to induce abortion, the less necessary it was. In absence of urgent symptoms expectant treatment until labor began should be adopted and then the necessary assistance given.

Pain was seldom an indication for operation during pregnancy, and Lewers had shown that though the pain might be severe in the earlier months, it generally improved later in the pregnancy.

If the patient was seen after the child was viable, no attempt should ever be made to drag child past tumor by forceps or version, and if the patient was in labor and we could not replace the tumor, abdominal section was indicated, except in cases of cervical fibroid. Symphyseotomy was quite out of the question. If it was decided at term to do abdominal section, he advised cæsarean section a few days before labor. The following steps might be taken after the cæsarean section, for cæsarean section alone he did not advocate. Sterilization by removing both ovaries with the idea of influencing the growth of the tumor; the speaker did not advocate this.

Myomectomy was advised in the case of young women.

There were three ways of performing this hysterectomy: (1) Porro's operation with extraperitoneal treatment of pedicle; (2) the retro- or subperitoneal operation, and (3) panhysterectomy. He advocated retroperitoneal hysterectomy, and found it simpler in the pregnant than in the non-pregnant state, as it was easier to draw out the tumor and ligate the vessels. The mortality of cæsarean-hysterectomy had dropped from 75 per cent. in 1880 to 20 per cent. at present time.

In cases of septic infection after labor, curetting must not be done, but the uterus may be washed out with strong sodium solution 1 in 4, and if operation required he would do panhysterectomy, as in these cases the more radical the operation the better.

Dr. HEYWOOD SMITH, President British Gynecological Society, discussed the question of marriage in patients with fibroid. He would do his best to discourage a patient with fibroid from marrying.

He thought it best to allow pregnancy to go to term and then to do cæsarean-hysterectomy, and did not advocate myomectomy. He preferred the retroperitoneal method.

Dr. MURDOCH CAMERON of Glasgow thought that in many cases small fibroids, through swelling of surrounding tissues, gave an idea of a big mass during pregnancy. This swelling went down again during involution and gave rise to idea of atrophy.

Dr. HAULTAIN of Edinburgh had no reasonable doubt that fibroids were a potent cause of sterility. Women with fibroids were sterile in 30 per cent of cases. Women without fibroids were sterile in 10 per cent.

Average number of children in women with fibroids, two. In women without, four or five, in the same district. For sloughing after labor he would perform panhysterectomy, even when the fibroid was presenting at the cervix. The presence of fibroids rendered the diagnosis of pregnancy every difficult.

Dr. HORNE of Dublin had seen many cases of fibroids in pregnancy during last few years, and put pregnancy at 1 or 2 per cent. Increase of fibroid during pregnancy depends on œdema; they did not disappear after labor. He narrated a case in which a fibroid appeared certain to obstruct labor, all preparations were made to perform abdominal section; in the meantime labor came on and the tumor was drawn up into the abdomen. He would therefore always wait to see the effect of labor pains before operating.

Dr. J. A. RAWLINGS of Swansea had seen cases of disappearance of fibroid after labor.

Dr. G. WATTS EDEN of London said that, judging from his own experience, he should not on the whole regard fibroids as a serious complication of labor; he had seen many cases even with quite large fibroids go safely through labor; he would hesitate to advise a woman with a fibroid not to marry. He entirely disapproved of interference during pregnancy, especially of inducing abortion. He would like to have the term "pressure symptoms" defined; he would not allow that frequent micturition and pain were pressure symptoms. He was entirely in favor of leaving cases until labor had been some time in progress.

Dr. HELME of Manchester believed that there was hypertrophy of fibroid along with general hypertrophy of uterus during pregnancy. He always removed both ovaries.

Dr. EDGE of Wolverhampton performed panhysterectomy, as cases of supravaginal hysterectomy had been reported in which the cervix had sloughed after the operation, as a result of arrest of its insulation by the ligatures.

Dr. LAMOUX SACKIE of Edinburgh had seen a case in which the tumor underwent natural replacement during labor, but returned, and would not be pushed up when chloroform was given, to extract the placenta.

Dr. Routh, in reply, said there was no object in tying tube to induce sterility in these cases; better to remove ovaries and so have good effect on fibroid. He had never seen disease develop in ovaries which had been left, nor

cancer attacking the cervix which had been left after panhysterectomy.

The operation was easier to perform at full term than earlier in pregnancy.

Dr. PURSLOW of Birmingham then read a paper "On a Case of Persistence of the Urogenital Sinus, with Especial Reference to the Later Theories of the Mode of Development of the Female Genital Tract."

*Thursday, July 30—Second Day.*

**The Diagnosis and Treatment of Uterine Fibroids.**—Prof. MURDOCH CAMERON of Glasgow read a paper on this subject. He looked upon sterility as a result rather than a cause of fibroids. He drew attention to a point noted by himself that a fibroid growing from the fundus had frequently a "bullock's heart shape."

He did not believe in disappearance of fibroids at the menopause. In some soft cystic fibroids there were breast changes rendering the diagnosis from pregnancy difficult. There was usually marked hypertrophy of the ovaries.

*Treatment.*—When causing no symptoms delay was advisable. Hysterectomy was the most satisfactory way of dealing with these tumors. Enucleation and oophorectomy had been generally abandoned.

Dr. HEYWARD SMITH of London thought enucleation sometimes a very good treatment even when there was a broad attachment of the tumor, but we should follow Marion Sims's advice, and when once enucleation was commenced always complete it.

Dr. MACLEAN of Cardiff had found rhythmical contractions present in a fibrocystic tumor.

Dr. J. J. MACAN of London raised the question of the removal of the tumor in some cases for esthetic reasons.

The PRESIDENT considered that operation in fibroids was not justified unless there was a distinct warning of danger to life. He had watched cases for thirty to forty years, and they had not developed any dangerous symptoms.

**A Clinical Study of Internal Hemorrhage in Association with Ectopic Pregnancy.**—Dr. JAMES OLIVER of London read this paper. He thought that the hemorrhage in the early days of tubal gestation did not come from the wall of the tube, which was in contact with the ovum, but from that on each side.

Hemorrhage in uterine gestation was rare before six weeks, but in tubal might begin from the earliest days. The blood finds its way to the peritoneal cavity or the uterus. Tait laid stress on previous history of tubal disease, but his own experience was opposed to this. Pain was usually the first symptom, and there was faintness even when the amount of blood extravasated into the peritoneal cavity was small. Sometimes the appearance of vaginal hemorrhage was the first symptom. In most cases there was preceding amenorrhœa. Decidual membrane was not as common as most authors state. Occasionally micturition was difficult, or there was even retention of urine, but the latter could not always be put down to pressure. Rupture occurred between the sixth and twelfth week, and there might be no physical signs in the pelvis, but marked collapse.

In broad ligament hæmatocele much blood may be effused, as the broad ligament is readily distensible, and a large tumor may result. The mobility of the uterus was affected and an annular constriction of the rectum might be detected, especially when the blood was in the left broad ligament. Hæmatoma in the peritoneal cavity gave rise to a peculiar characteristic doughy sensation to the fingers.

Dr. HORNE of Dublin, vice-president of the section, agreed with Tait's theory of previous sterility.

Dr. KIDD of Dublin thought one cause of ectopic gestation was some inflammatory reaction which had damaged the lining membrane of the tube.

Dr. PURSLOW of Birmingham drew attention to the error of mistaking a tubal gestation for uterine abortion, into which we were likely to fall, and of which he had seen two instances, and said that the severity of the pain and the occurrence of faintness in a case of supposed uterine abortion should make one suspicious that the diagnosis was incorrect.

Dr. T. WATTS EDEN of London said that one after another the explanations which had been given of ectopic gestation had had to be given up. No sign of previous salpyngitis had been found, on careful pathological and microscopical examination, and the tube away from the attachment of the ovum had been found to be perfectly healthy. It had been proved that an ovum in the tube actually penetrated the muscular wall, and this was not the case with an ovum in utero.

Anatomists said that there was a decidual formation in the uterus in every case, but he agreed that the membrane was not always discharged. He thought that the vaginal hemorrhage in these cases came from the uterus and not from the tube. He had met with difficulty in the diagnosis from intrauterine abortion. He thought that cases of extreme fatal bleeding were rare.

Dr. GRIMSDALE of Liverpool said that the majority of his cases had been young newly married women. The most frequent mistake in diagnosis was in connection with uterine abortion. Among the causes he would place congenital malformation in the tubes, such as diverticula.

The President pointed out that the amount of collapse was not proportionate to the extent of the hemorrhage, and that the pulse must be our main guide in deciding the question of operation.

**Cæsarean Section in Dwarfs.**—Dr. MACLEAN of Cardiff reported two successful cases of cæsarean section for contracted pelvis in dwarfs. The patients were sterilized by removing one inch of each Fallopian tube. Both mothers and children recovered.

Dr. OLIPHANT NICHOLSON of Edinburgh read a paper entitled "Some Remarks on the Maternal Circulation in Pregnancy."

*Friday, July 31—Third Day.*

**The Diagnosis and Treatment of Tuberculosis of the Uterus and Adnexa.**—Mr. J. H. TARGETT of Guy's Hospital, London, opened this discussion. He said it was not until 1886 that attention was first drawn to this subject by Hegan. In 1894 a complete account was given by Whitridge Williams, and last year at the congress of gynecologists in Rome the subject was fully discussed. The post-mortem records of the Brompton Hospital for Consumption showed that 6 per cent. of tuberculous females showed disease in the genital organs, but the number of cases in which the disease was primary and limited to the genital organs was much smaller.

The modes of infection were: (1) By the blood stream, the first infection taking place in the lymphatic glands, usually the bronchial, and being carried from there by the blood stream. The tubes were readily infected. (2) From the peritoneum there were three ways in which this occurred: (*a*) From general miliary tuberculosis; from localized disease due to ulceration of bowel. (*b*) From fluids in the peritoneal cavity conveying infection through the abdominal ostium, Tuberculous salpyngitis was found in 50 per cent. of cases of tuberculous peritonitis. (3) Infection from neighboring organs, as the rectum, ileum, or bladder. (4) (*c*) From sexual intercourse; it could not be denied that this occurred, but it was very rare. Tuberculosis of the glans penis was excessively rare, and the infection must occur through the semen.

The Fallopian tubes were involved in 90 per cent. of cases of genital tuberculosis, and the ampullary portion was most often attacked. The disease might take the form of acute tuberculous salpyngitis, caseous salpyngitis, or tuberculous pyosalpynx; the latter presented some special peculiarities; these were absence of adhesions, persistence of the fimbriæ, these not being turned in and obliterated as in ordinary salpyngitis. The contents were

honey-like and frequently sterile bacteriologically. Tuberculosis of the uterus in the majority of cases spread from the tubes.

*Symptoms and Diagnosis.*—It was formerly taught that amenorrhœa was usual, but further experience has shown that is not so. Dysmenorrhœa was usually present. As regarded pelvic pain, he thought that it was not a prominent symptom, unless other organisms were present in addition to the tubercle bacillus. Large pyosalpynx, without pain, especially without recurrent attacks of pain, was generally tuberculous. When tuberculosis affected the body of the uterus it was seldom that there were bacilli in the discharge; he had examined microscopically about 1,000 specimens from uterine curettings and in only seven cases had he found the tubercle bacillus. The previous history was of great importance. The absence of an apparent cause was also important, thus pyosalpynx in a virgin was almost invariably tuberculous in origin.

*Treatment.*—Laparotomy was very beneficial. In some cases pus might be evacuated by a vaginal incision. If thickened tubes were found during a laparotomy for tuberculous peritonitis they should be removed. He had seen a rapidly fatal termination of cases in which caseous, strongly adherent tubes had been removed, and he questioned the wisdom of interference when this condition was found. There was no doubt as to the advisability of removing tuberculous pyosalpynx.

Mr. Targett then gave a lantern demonstration of eighteen most excellent photographs of specimens in illustration of the subject

**Primary Tuberculosis of the Uterus (Cervix).**—Dr. HYNOCH of Dundee, followed with a paper on this subject. He distinguished three forms—ulcerative, miliary, and papillary. The latter extended on to the vaginal portion, but the growth was not friable, though it bled freely on examination. There was menorrhagia in the early cases, amenorrhea in the later. The treatment was by hysterectomy. Curetting was not sufficient on account of the possibility of the uterus being affected.

**Tuberculosis of the Fallopian Tube.**—Dr. ARNOLD LEA of Manchester reported five cases of tuberculous disease of the fallopian tube treated by operation. He said that the diagnosis of the parts removed should never be made without a microscopical examination, as nodules, exactly resembling tubercle, were found in the tube in other conditions. In two of his cases no other part of the body was affected; in only one was there tubercle in the ovary. The symptoms were pain, which was a marked feature in each case. There was usually previous sterility. The previous history, especially of tuberculous lesions elsewhere was important. Evening rise of temperature was generally found.

*Technique of Operation.*—Ligature of the uterus, cornu first, then ligature in sections across the broad ligament. Drainage, if used, should be vaginal.

Dr. HAULTAIN of Edinburgh said that dysmenorrhea was the most constant symptom. He narrated a case of tuberculous disease of cervix in which there was a soft growth of peculiarly blue color on the cervix; this was removed by supravaginal amputation, and under the microscope proved to be tuberculous.

Dr. MACLEAN of Cardiff narrated a case of which the symptoms were obscure pelvic pain for four months; dyspareunia; definite fixed pain referred to the umbilical region; menorrhagia, leucorrhea, and swelling in Douglas's pouch. The left tuberculous tube was removed. The speaker thought operation was always advisable.

Dr. STRATON of Salisbury narrated a case of sexual infection. The husband had tuberculous disease of the kidney. The wife developed a growth on the cervix and vaginal wall which, on microscopical examination, was pronounced to be tuberculous.

Dr. TARGETT, in reply, said that *x*-ray treatment was not likely to be of any service because, in all cases of disease of cervix, nodules were found situated deeply in the tissues; it was doubtful if the pure tubercle bacillus was a pyogenic organism, and when pus was present he would suspect that other microorganisms were also present.

**Hairpin in the Uterus.**—Dr. A. H. N. LEWERS of London reported a case of hairpin in the uterus discovered by *x*-rays. The patient came to hospital saying that she had pushed up a hairpin in order to "open an abscess" and it had slipped from her grasp. Examination by finger and sounding of uterus and bladder failed to reveal the pin. The radiograph showed the pin in uterus, points downward. The patient was anæsthetized and the cervix was dilated with Hegar's dilators. Each point of the hairpin was seized by Spencer Wells' forceps and the pin was thus removed. A piece of the placental tissue was also found in uterus and removed. A severe septic attack followed the operation, with suppuration in the pelvis and thigh, necessitating incisions, but the patient eventually recovered.

Negebauer had collected seventy-four cases of foreign body in uterus, and in sixteen of those the foreign body was a hairpin. This was the first recorded case in which the diagnosis had been made by the *x*-rays.

**A Vote of Thanks** to the president, proposed by Dr. Heywood Smith, and seconded by Dr. J. J. Macan, terminated the proceedings.

### SECTION OF SURGERY.

*Wednesday, July 29—First Day.*

THIS section was presided over by Mr. Edmund Owen of St. Mary's Hospital.

**Intraabdominal Anastomosis.**—Mr. G. H. MAKINS opened the discussion with a paper detailing his experience regarding the most satisfactory methods of operating. As regarded the safest and generally preferable variety of anastomosis, he held that axial or end-to-end union gave the ideal result from both a physiological and a cosmetic point of view. There was only one line of suture with a corresponding limitation of area of possible leakage, but there was the drawback that nutrition was more interfered with. Lateral anastomosis might be called the natural method, the plane peritoneal surfaces being brought together, and the size of the communication being at the command of the operator. There was no danger of a diaphragm formation, and the anastomosis might be made at a distance from the field of operation. Three lines of sutures were needed, and there was some risk of leakage, though slight, from the closed ends. The third form of anastomosis was by lateral implantation. In this there was no risk of diaphragm formation, and only two lines of sutures were required. The method was, however, suitable only for uniting portions of great difference in lumen.

The comparative results of axial and lateral union were then reviewed. The statistics of St. Thomas's Hospital showed a mortality of 53 per cent. following axial anastomosis performed for all causes; but Littlewood, in eleven enterectomies for carcinoma of large bowel had only 27.27 per cent. mortality and one stitch failure. Von Eiselsberg had twelve resections for intussusception followed by axial anastomosis ileocolostomy, with 25 per cent. mortality.

Lateral anastomosis was safer than axial and more suitable for the large intestine. Recent statistics from St. Thomas's showed 30.7 mortality. Schloffer did ileocolostomy ten times, with a mortality of 30 per cent. Ileocolostomy with resection eighteen cases, with 44 per cent. mortality. Roskoschny, thirty-four short-circuit operations, 20.5 per cent. mortality. St. Thomas's Hospital resections for carcinoma of large bowel twenty, axial twelve, with 50 per cent. mortality and five fecal fistulæ, eight lateral unions with 25 per cent. mortality. Fuchsig,

sixteen lateral anastomoses with 37.5 per cent. mortality, twenty-four axial unions with 54.16 per cent. mortality.

In gastroenterostomy the general mortality from all causes did not exceed 30 to 40 per cent., and stitch failures were much fewer; thus Schloffer, in seventy cases, had no stitch failure; at St. Thomas's Hospital, in forty-two cases, there were two stitch failures. Mayo Robson had 103 cases with no stitch failure.

Mr. Makins then proceeded to consider various points affecting all methods of operating. These had to do with the preservation of the wound from infection, the importance of which was obvious. Careful clamping on each side of the field of operation was necessary. He preferred clamps to digital compression. He considered Doyen's the best form of clamp yet devised. The amount of mesentery to be removed depended on the cause of the operation. Thus gangrene of bowel determined the amount of mesentery. But if a new growth had to be excised the amount of intestine to be removed was determined by the extent of disease of the mesentery. In order to avoid hemorrhage it was advisable to remove the mesentery before opening the intestine. This was also best in order to prevent septic infection. Folding of the mesentery, so often done, was not altogether safe. Septic thrombosis might be present. Two tiers of sutures were necessary. He preferred simple continuous sutures. The simpler the method the better; and though Murphy's button was good in theory, there were grave practical disadvantages to be weighed.

Mr. Stanmore Bishop of Manchester followed with a paper founded on a study of twenty-two cases of intestinal anastomosis, most of the operations being undertaken on account of hernia. One case proved fatal through the formation of a diaphragm which became œdematous and caused obstruction. Some gangrenous bowel had been removed and the ends united by a Czerny-Lembert suture. He thought absorbable appliances were suitable only in the upper part of the canal where the liquid contents could act upon them. In the large intestine the condition was different and there could be little or no digestive or solvent action. Mr. Bishop showed a number of appliances and commented upon their relative merits. He spoke favorably of some dough bobbins used by Wackerhagen, as they were easily dissolved; also of Frank's "bone couplers." He described a number of other mechanical supports—O'Hare's, Vidal's, Doyen's, and others. He questioned if a mucous-membrane suture prevented the formation of a diaphragm, and thought the danger of the sutures perforating all the coats of the intestine had been exaggerated. The object of suturing was to get a firm hold of the submucous coat. The dangerous suture was that which yielded because it had not a good hold on the tissues. Mr. Bishop's paper was illustrated by a series of important specimens and a number of diagrams.

Mr. Jordan Lloyd of Birmingham then addressed the section, advocating above everything simplicity of procedure. He employed common sewing needles with ordinary silk, which he, of course, sterilized. Many of the mechanical appliances which had been used added to the risks of the operation. Murphy's button was not simple in application and did not save much time over simple suture. Hemorrhage was the chief danger, and he thought lateral anastomosis as the safest plan should be preferred when possible. He considered the abdominal wound should be large enough to permit easy manipulation.

Mr. Deanesly of Wolverhampton took exception to the statement that lateral anastomosis was a natural method; on the contrary he thought the axial was more natural and he preferred it. In support of this he remarked that in cases of intussusception, when sloughing of the intestine had occurred and subsequently union had led to recovery, it was end-to-end union that had taken place. He employed two tiers of sutures, passing the first through both coats. Accurate suturing was more important than any method. Good silk and needles were the only appliances necessary. He passed each row as a complete, uninterrupted suture. A diaphragm would form in every case, but it would not be large enough to impede action provided too much bowel was not turned in.

Mr. Elsworth of Swansea said he had recently performed anastomosis in six cases. He had used Murphy's button in all, and they had all recovered. He added a few external stitches in support. He thought most of the fatalities in connection with the button were due to defective technique. The parts of the button must be well pressed together.

Mr. Basil Hall of Bradford formerly used the bone bobbin, but had now abandoned it in favor of simple sutures. He used catgut for the inner one, which he had no hesitation in passing through all the coats of the bowel. For the outer he used silk.

Mr. G. G. Hamilton of Liverpool had also given up the button for simple sutures. He had formerly used Murphy's button in two colectomies, and he thought it more adapted for the large than the small intestine. Both patients recovered.

Mr. Sinclair White of Sheffield advocated lateral anastomosis as safer, he thought, than any other plan, and therefore to be preferred when practicable, but admitted it was not in all situations the method of choice. He had operated many times with Murphy's button, but he now used simple suturing. In five cases he never saw the button again after the operation.

Mr. Mitchell of Belfast was greatly in favor of two tiers of sutures, the inner one passing through all the coats, the outer one through the serous muscular and submucous layers. In lateral implantation he made the incision into the intestine transverse, to be parallel with the vessels.

Mr. Mayo Robson was much in favor of sutures, but he thought his bobbin was useful as a support. Murphy's button he considered harmful, for the surgeon could never tell what might happen with it. The bobbin gave a continuous channel, protected the line of sutures as a splint and prevented subsequent contraction.

Mr. Horrocks of Bradford related a case in which he had excised thirty-six inches of intestine for malignant disease. He invaginated the lower into the upper portion and fixed them in place with sutures. The case did well, and he thought that gangrenous bowel might sometimes be invaginated to a considerable extent without undue risk.

Mr. F. Burghard thought hemorrhage was best prevented by continuous sutures passing through all the coats. As to the material of which the sutures were made, he regarded that as a minor point. The diaphragm which sometimes formed after axial anastomosis was evidently caused by too much bowel being turned in.

Mr. Owen, president of the section, expressed much satisfaction with the interesting discussion. He thought the best clamp was the fingers of a good assistant; the next best a thin rubber tubing, not too tightly tied. He was surprised no one had referred to the triangular gap in the mesentery, which he thought should be carefully sewn up.

### SECTION OF SURGERY.

*Thursday, July 30—Second Day.*

**Advanced Tuberculosis of the Knee.**—Less interest was exhibited in the second day's discussion, which was on advanced tuberculous disease of the knee-joint. By the term "advanced" it was intended to indicate that stage in which some sort of operative interference becomes necessary.

Messrs. G. A. Wright and W. F. Haslam of Manchester opened the discussion. Their paper was founded on replies to questions sent to nearly two hundred hospital surgeons. Only seventy-five had answered the

questions at the date of the meeting. Among them were many differences of opinion. The majority put progressive disease and suppuration as the chief indications for surgical interference. Erasion was generally considered the best procedure in the young, but in adults excision was thought preferable by about half those replying. The ordinary horseshoe-shaped incision was mostly recommended, retaining the patella, and when practicable, the crucial ligaments. The diseased bone was scooped away by most, and some applied antiseptics afterward. An elastic tourniquet was generally used, but removed for the dressing.

Opinions in regard to drainage seemed pretty equally divided. Thomas's splint was favored by most, and the majority also agreed that no attempt should be made to obtain a mobile joint.

Having thus summarized the replies to questions, Mr. Wright went on to state his own practice. He operated if there were no improvement after three months' treatment, or if there were evidence of caseation, but if the disease was very far advanced he thought neither excision nor erasion should be performed. He made a transverse patellar incision, divided and wired the bone, left the crucial ligaments whenever possible, scooped out diseased bone, and did not drain except in septic cases. He used an elastic tourniquet without an Esmarch bandage, and took it off before he applied any dressing. He used Thomas's splint for two years after operation, but seldom tried to get a movable joint after operation. Now and then, but not often, shortening occurred after erasion, which he thought a very satisfactory operation if thoroughly done. He first did it in 1881 and had had many successes. Failure, he thought, was generally due to infection. He was of the opinion that in most cases the disease began in the synovial membrane.

Dr. Ward Cousins thought the disease began as often in the bone as in the synovial membrane. He believed in erasion for children. He had excised the joint in patients from fourteen to fifty-two years of age. He removed only a thin layer of bone and scooped out any deeper patches and applied a bracketed back-splint. He had not had to amputate in more than 2 per cent. of all his cases.

Mr. Keetley said the word erasion was a misnomer. The diseased tissue had to be cut out, not scraped. The great point was to remove it all and secure rapid healing, to prevent recurrence.

Mr. Tubby thought the ankylosis obtained was seldom bony.

Mr. Monsarrat had had ten erasions. Nine were now well; the other had to be amputated.

Mr. Sinclair White performed excision early in hospital cases, as they mostly came to that in the end.

Mr. Beetham Robinson thought amputation best in hospital cases if caseous foci were present.

Mr. Mitchell recommended early operation and said faulty application of Thomas's splint often was the cause of after-flexion.

Dr. Latimer of Swansea preferred excision, as it was often impracticable to remove all diseased bone with a gouge.

Dr. Ferguson of Cheltenham performed excision in adults, applied antiseptics and wired the bones.

Mr. Edmund Owen recommended amputation and considered the best result of excision to be only a miserable condition when any bone was removed, a movable joint was not to be expected and a stiff leg was always in the way.

Mr. Jordan Lloyd demurred to this and thought a man's own leg was better than an artificial one.

Mr. Wright in reply remarked that some of the speakers seemed to confuse erasion and excision, but the distinction was important, for excision always interfered with the growth of the bone.

**Gastrojejunostomy.**—Mr. Basil Hall read an account of a new route for posterior gastrojejunostomy. He published reports of four cases last year and had had eight since.

**Gastroenterostomy.**—Mr. Eccles then read a paper on a danger of gastroenterostomy. In the case related there were many adhesions about the pylorus. The patient died of hemorrhage on the fourteenth day. At the autopsy a deep ulcer was found just beyond the pylorus. It had eaten through the wall of the bowel and perforated the hepatic artery. He thought perhaps the manipulation had caused a fresh extension of the ulcer.

*Friday, July 31—Third Day*

**Operative Treatment of Ascites.**—Mr. Sheen of Cardiff read a paper on a case of cirrhosis of the liver and ascites successfully treated by operation. He said he believed that the beneficial result was more due to the prolonged drainage than to the foundation of adhesions, as was supposed to be the case by the originators of the operation. Other speakers referred to cases within their knowledge.

**Prostatectomy.**—Dr. P. J. Freyer read a paper on this subject and showed many specimens. The larger the prostate, he said, the easier was its removal. The "record" in celerity of operation was two minutes from the time of taking the knife in hand until the prostate was on the table. He was now able to deal with smaller prostates than formerly. Much interest was taken in the appearance on the platform of a gentleman, obviously in the best of health and spirits, who described himself as the proprietor of one of the glands on the table. He described his former suffering and their relief by Mr. Freyer, and said he would challenge any member of the association to empty his bladder quicker than he could. With a jaunty step this speaker tripped nimbly down the ladder from the platform among a round of applause and laughter.

Mr. Reginald Harrison of London said that he preferred the perineal route to the suprapubic.

Mr. Jordan Lloyd and other speakers took part in the discussion.

**Epiphyseal Separation.**—Mr. Betham Robinson described two cases of separation of the upper or acetabular epiphysis of the thigh bone in young men. The diagnosis of this injury, he said, was difficult and *x*-rays were of great use. It occurred generally in adolescents and was probably preceded by some change in the cartilage akin to rickets. In children, fracture of the neck was more likely to happen. He referred to the valuable work of Royal Whitman on the subject.

**Phelps' Operation for Club-foot.**—Mr. Muirhead Little read a paper on this subject. The untimely death of Dr. A. M. Phelps, he said, was a loss to surgery in general, and to orthopedic surgery in particular. He said he believed that the low opinion held of the operation in this country was apparently due to a want of attention to the immediate after-treatment. He had had no relapses in his cases and never a complaint of pain on the scar or elsewhere. He had lately adopted a method of treatment by reflecting a flap of skin, which hastened healing and was, he thought, a great improvement and did away with the unsightly scar, but if this method were followed it was more than ever necessary to keep the foot well stretched during healing. He showed photographs of late results from fifteen months to ten and a half years after operation.

Mr. A. H. Tubby described these results as excellent.

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**Deaths from Plague in the Punjab.**—It was stated a short time ago, in the British House of Commons, that the deaths from plague in the Punjab district of India, from January 1 to May 2, numbered 141,789.

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending August 22, 1903;

| | Cases. | Deaths. |
|---|---|---|
| Measles | 117 | 3 |
| Diphtheria and croup | 296 | 24 |
| Scarlet fever | 104 | 4 |
| Smallpox | ... | ... |
| Varicella | 12 | ... |
| Tuberculosis | 271 | 141 |
| Typhoid fever | 109 | 19 |
| Cerebrospinal meningitis | ... | 6 |

**Other Sources of Typhoid Infection than through the Mediumof Drinking Water.**—Seale Harris mentions the following causes, milk, flies, dust, contact infection, uncooked vegetables, oysters, and ice. Dairies which supply milk to cities should be regularly inspected; cows should not be pastured in lowlands upon which the sewage of small towns are drained. Flies present a great problem. Something may be done to destroy flies in their breeding places, which is largely in the excreta from horses, and in human excrement. Chloride of lime will destroy the larvæ. Human excreta used as a fertilizing agent may carry infection. Vegetables should be thoroughly washed in pure water. Ice should be made only of pure water. Finally the prevention of typhoid fever should begin by limiting the infection to the patient under treatment.—*The Mobile Medical and Surgical Journal.*

**Physical Signs of Arteriosclerosis.**—Charles Louis Mix says that arterial conditions are responsible for a larger number of deaths than is ordinarily supposed, on account of their effects upon kidney, heart, and brain, and no physical examination is complete which neglects their consideration. The author gives the methods of diagnosis of the condition. The physical signs of hypertrophy of the heart consist first in an increase in the area of dulness, secondly, an accentuated second aortic sound, and also second pulmonic sound provided the right ventricle is hypertrophied. Arteriosclerosis of the brain cannot, as a rule, be demonstrated by ordinary physical examination. In arteriosclerosis of the kidneys, cardiac hypertrophy sets in earlier, and long before the kidney lesion betrays itself; albumin is less likely to be present, and only after a long period of preceding polyuria; the albuminuria is likely to be transitory; the specific gravity to be higher than in the primary form, and the polyuria less pronounced; the secondary disturbances of kidney and brain are likely to be of rapid course, because of the early evolvement and laming of the arteries and heart.—*The Medical Examiner and Practitioner.*

**Some Remarks on Corsets.**—W. E. Frothingill says that the modern woman wears heavy skirts the weight of which is supported by bands around her waist—that soft portion of the body which is protected by no body walls. How is it possible to wear around this portion of the body bands which support the weight of numerous and often heavy garments? The answer is, by means of the corset. The garment forms a bridge connecting the firm chest wall with the firm pelvis. The use of the corset is to transmit the pressure of the skirt-bands to the hips and the ribs, and so to protect from their pressure the organs in the region of the waist. The conclusion is, that so long as skirt-bands are fastened round the waist, corsets should be worn. They should be stiffer than usually made if they are effectively to protect the soft, middle portion of the body from the pressure of the waistband. The front should be quite straight, and the waist measurement should be at least as large as the wearer's waist, measured over a single, soft garment. The abuse of the article consists in employing it as a means of compressing that which it was meant to protect from compressing, namely, the soft, middle portion of the body. Fashion in corsets has of late made a motion in the right direction, in the straight, stiff front.—*Medical Press and Circular.*

**Note on the Vital and Toxic Theories of Cancer and Their Bearing on the Parasitic Theory.**—G. H. A. Clowes holds that the parasitic theory of the origin of cancer is not in any sesnien compatible with the various toxic or chemical theories; in fact, that the production of the toxins generally recognized as playing an important part in this disease, may most readily be attributed to the introduction of some form of intracellular parasite which, on infecting the cell, proliferates, produces toxins, and then indirectly stimulates the host cell to proliferation. This theory suggests an explanation for: (1) The production in ever-increasing quantities of some body capable of stimulating the cancer cell to enormous proliferation. (2) The selective action displayed by this body for one particular cell, and the direct descendants of that cell, to the exclusion of others of the same type. (3) The apparent impossibility of infecting healthy individuals with the blood of cancer patients, but only by means of intact cells. It may also be said that this line of reasoning is in accord with the findings of those who have investigated tumors with a view to discover some form of parasite.—*Buffalo Medical Journal.*

**Summer Care of Frail Children.**—J. Madison Taylor says that children who continue to manifest a low degree of vitality and slackness in play, always deserve our tenderest care and most diligent investigation. The first safeguard must be to defend them from fussy, parental experimentation and spasmodic over-attention. Quiet is the paramount requisite, and open-air life. The light of the sun is of first importance, but in certain weather this may be too severe. The physician must, of course, ascertain whether there is any impairment of activity in any special organ, and supply appropriate treatment, which can often be best applied mechanically to the spinal area through which these can be reached, for in children, lack of vigor, as a rule, indicates a disturbance of nutrition in the segments of the cord whence arises the vascular innervation to the parts or organs most below par. The author gives careful directions as to the hygienic measures to be observed. Exercise in the form of gardening is especially recommended. Often in frail children motor education is a matter of supreme importance.—*International Medical Magazine.*

**A Modification of Talma's Operation for Ascites.**—Arthur E. Barker performed an operation in the following manner: The abdomen was opened in midline below the navel. When the ascitic fluid had for the most part run off, the omentum, which was very thick and sclerosed, was drawn out and divided down to its middle into two long lobes. The thickened and vascular parietal peritoneum was now stripped off from the abdominal wall on both sides of the medium incision over an area about the size of the hand. In the pockets so formed, a transverse cut was made above in each case for about one and one-half inches. Through the holes thus formed, each lobe of the omentum was passed into the pockets on either side, spread out all over the pocket, and secured to its lowest point by one or two sutures. The abdominal wound was then closed in the usual manner. What was hoped was that the two portions of omentum, being now covered by raw surfaces of vascular connective tissue on both sides, would rapidly become incorporated with the abdominal wall. As it was a question of serous membrane applied to connective tissue and not to serous membrane, the adhesions ought to be firm and permanent, and so lead to an anastomosis of the vessels of both systems, the omental and parietal. Only eight months have elapsed since the operation, but so far there seems good hope of improvement, and the patient is well satisfied with the result.—*Edinburgh Medical Journal.*

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## Original Articles.

### ACUTE BULBAR PARALYSIS DUE TO HEMORRHAGE AND SOFTENING OF THE PONS AND MEDULLA.

WITH REPORTS OF CASES AND AUTOPSIES.

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*Introduction.*—The causes of acute bulbar paralysis in all its forms are extrinsic and intrinsic. The *extrinsic* causes are lesions of the cerebral hemispheres, usually double, but sometimes single. These lead to bulbar symptoms, which are usually associated with other symptoms, such as hemiplegia, and form what is known as pseudobulbar paralysis. Acute ascending multiple neuritis may also lead to bulbar symptoms, and also certain toxic conditions, such as paralytic rabies and acute ascending paralysis. Acute bulbar paralysis is also sometimes caused by a purulent meningitis and by caries of the upper cervical vertebræ or of the occipital bone.

The *intrinsic* causes of acute bulbar paralysis are hemorrhages, softenings from thrombus or embolus, acute poliencephalitis, and suppurative encephalitis. In late years it has been found that a good many cases of acute bulbar disturbances, of more or less limited character, are due to inflammatory processes, and literature of recent years contains rather more upon these inflammatory conditions than upon hemorrhages or softenings.

**Hemorrhage of the Pons-medulla.** It will be my purpose, however, in this paper to discuss simply acute lesions of the pons and the medulla, due to hemorrhages or softenings. Hemorrhages of the pons are comparatively rare. The figures given by those who have collected statistics make the range of frequency vary from less than 1 to nearly 10 per cent. on all hemorrhages. The later and more careful statistics seem to show that pons hemorrhages, as compared with cerebral hemorrhages, are not more than 2 per cent. This about coincides with my own experience. Among sixty consecutive cases of intracranial hemorrhage which I, personally, have seen, only two were pons hemorrhages.*

*COMPARATIVE FREQUENCY OF HEMORRHAGES:

Hemorrhage of the brain, 30 cases.
Hemorrhage of the pons, 6 cases. —ROCHOUX.

Hemorrhage of the brain, 386 cases.
Hemorrhage of the pons, 9 cases. —ANDRAL.

Hemorrhage of the brain, 757 cases.
Hemorrhage of the pons and peduncles, 76 cases.
—GINTRAC.

Hemorrhage of the brain, 153 cases.
Hemorrhage in the protuberance, 21 cases.
—DURAND-FARDEL.

Hemorrhage of the brain, 912 cases.
Hemorrhage of the pons, 91 cases. —FAGGE.

It is interesting to add, in this connection, that Pitt found, among 9,000 post mortems in Guy's Hospital, aneurysms of the basilar artery only nineteen times.

Hemorrhage of the medulla is still more rare than hemorrhage of the pons (only two cases in seventy-five having been reported). I have never seen such a case with autopsy. Of the frequency of thrombotic and embolic softening of the pons and medulla I have no extended statistics. My own experience is, however, that they are more frequent than hemorrhages, and certainly the literature of the subject would show such to be the case. In my own experience the percentage of thrombotic softenings of pons and medulla to cerebral softenings has been about 6 per cent.

*Historical.*—The first communication upon hemorrhage in the pons was made by Cheyne, in his work on Cases of Apoplexy and Lethargy, London, 1812; a little later a case was reported by Burdach (1819), and one by Serres in the same year. These individual reports were soon followed by a long series of cases by the French authors: Rochoux, Cruveilhier, Gintrac, Andral, Longet, Ollivier, Durand-Fardel; by the English: Bright, Abercrombie, and Parker; and by the Germans, Mohr, Romberg, and Bamberger. In 1851 Josias collected a series of fourteen cases. In 1856 Gubler called attention to the diagnostic importance of the so-called "alternate hemiplegia" which has been recognized as characteristic of lesions of the pons. The next most important work upon this subject was by Larcher (Pathologie de la protubérance annulaire, Paris, 1868). In 1877 Bode, in an inaugural thesis, published at Würzburg, collected the histories of sixty-seven cases and wrote a monograph of much value upon this subject, contributing also several cases of his own. In 1899 Dr. Hans Luce, in *Deutsche Zeitschrift für Nervenheilkunde*, Vol. XV, p. 327, collected a series of eighteen cases of pons hemorrhage, and studied them with reference to the question of the convulsions produced by pons lesions.

Since the time of Bode's monograph, I can find no extensive or complete contribution to the subject of hemorrhages in the pons and medulla, though there have been a considerable number of special reports and studies.

I have not attempted to present a full bibliography of hemorrhagic apoplexy of the pons or of the acute softening of the pons, but have utilized the statistics of Bode, Larcher, and Luce, and have collected the important cases from that time, 1877, until the present.

*Points of Investigation.*—A study of the statistics, of the histories of the cases, and of the discussions brought out by them, show that there are a number of points of practical interest which deserve attention at the present time. One of these is the alleged resemblance of pons apoplexies to opium poisoning, a resemblance which has led to a good many mistakes, and is a point which is sometimes of medicolegal importance; another question is that of the relation of convulsions to diseases or lesions in the pons and medulla; a third, the question of the frequency and etiology of lesions of these parts; a fourth, the symptomatology of these lesions, particularly the study of

certain special symptoms and syndromes, and the characteristic dissociation of sensibility; a fifth, the anatomical studies which have been brought out by the investigation of the secondary degenerations from these lesions, and by the disturbance of function caused by certain specially localized lesions.

*Anatomical and Physiological.*—The mid-brain, which includes the cerebral peduncles and corpora quadrigemina; the hind-brain, including the pons, cerebellum and its peduncles; and the after-brain, or medulla, form a unit which is called the brain-stem. This brain-stem is supplied with blood mainly from the vertebral arteries, which themselves rise from the subclavian arteries and run a long, tortuous course within the transverse processes of the cervical vertebræ. Before uniting to form the basilar artery, they give off branches to form the anterior spinal artery and the inferior cerebellar artery, which latter gives off the posterior spinal arteries. (Fig. 1.) The basilar, which is formed just before the vertebrals reach the ventral surface of the pons, gives off the transverse arteries, the median cerebellar arteries, the superior cerebellar and the posterior cerebral arteries, all of which may be considered transverse arteries of varying size. All of these vessels give off branches to the cranial nerve nuclei, and nerve roots, and various accessory branches to the gray and white matter. The left vertebral artery is a little larger than the right, and each vertebral artery is a little smaller than the basilar.

The vascular supply of the mid and hind-brain is fairly well differentiated: the vertebral arteries and their branches supply the medulla, with its contained cranial nuclei, namely, those of the eighth, ninth, tenth, eleventh, and twelfth nerves. The basilar artery and its branches supply the pons and its contained cranial nuclei, third, fourth, fifth, sixth, seventh and eighth nerves. The cerebellum is supplied partly by the branches from the vertebral and partly by branches from the basilar (middle and upper cerebellar). (Fig. 1.)

The nuclei of origin of the third and fourth nerves are supplied specifically by median arteries given off from the upper part of the basilar. The roots of the third and fourth are supplied by root arteries from the same source. The peduncles are supplied by accessory branches from the posterior cerebral. The tubercular quadrigemina are supplied by branches from the posterior cerebral anteriorly, and the inferior cerebellar posteriorly. (Duret.)

The posterior cerebral artery, though given usually by the basilar, is essentially a cerebral artery, and supplies the occipital portion of the brain.*

The pons and medulla contain, speaking generally, long tracts of nerve fibers which run between the cerebrum and cerebellum and the spinal cord; transverse tracts which connect the lobes of the cerebellum; various short association tracts, and finally, nuclear deposits for the cranial nerves and the various long and short tracts.

The course of the long voluntary motor tracts from the brain to the nuclei of the motor-cranial nerves and to the spinal cord is well known and need not be rehearsed here.

Besides these long voluntary tracts there are long efferent tracts from the frontal and temporal lobes which end in nuclei in the ventral pons, and these send fibers to the cerebellum. These frontopontine and temporopontine tracts have probably to do with the automatic coördinated muscular movements of the body and extremities.

They are also pontothalamic fibers which have to do perhaps with involuntary movements of the face and body in expression, and hence there may be in pseudo-lesions forced laughing and crying.

The long afferent or sensory tracts from the spinal cord to the cerebellum and cerebrum consist of the nerves for cutaneous sensation of touch, temperature and pain, the nerves of muscle and articular sense (deep sensibility), the nerves of coördination and equilibrium.

1. The fibers of the *sense of touch* do not seem to have a definite path. Some cross and some do not in the cord. Some appear to go up in the posterior columns with the muscular sensory tract, while some pass up in the lateral columns. Their exact course in the medulla and pons is not known; they cross in part, seem to go part with the muscular tract and not with that of pain and temperature; they probably pass diffusely through the formatio reticularis.

2. The fibers carrying ***sense of temperature and pain*** cross in part, at least, in the spinal cord; they ascend in the deep parts of the posterior horn and in the lateral columns (forming part of

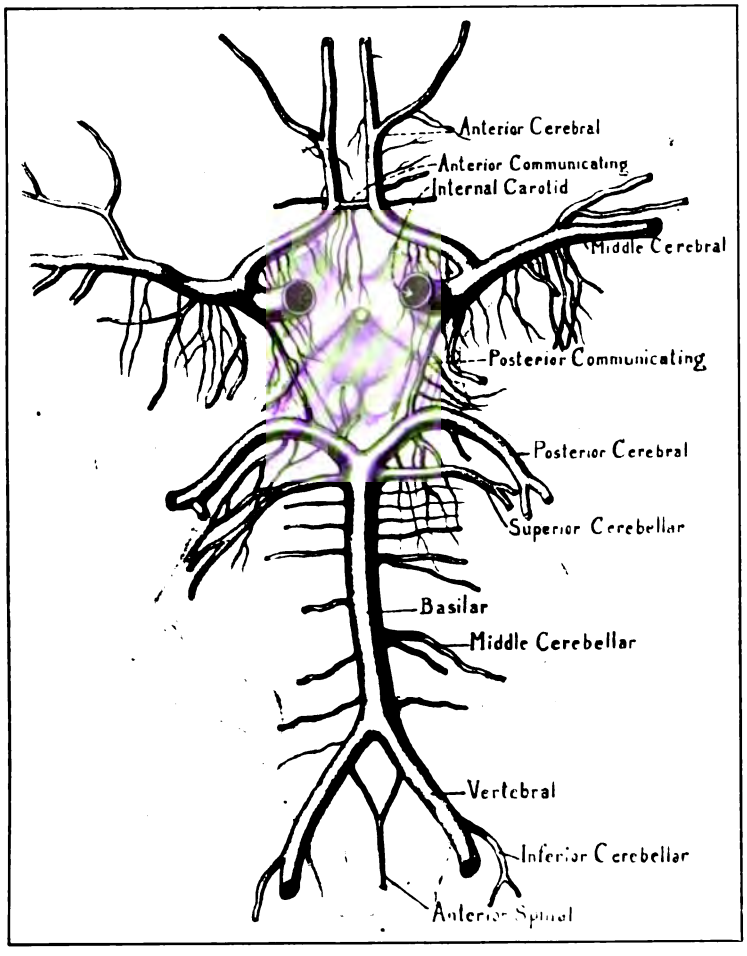


FIG. 1.—Circle of Willis and arteries at the base of the brain, drawn from specimen prepared for author by Dr. McLean. It shows the relative proportion of the different arteries and the actual number of small and large branches. (Drawn by Shannon.)

*According to D'Astros, the posterior cerebral artery gives off five sets of small branches: (1) to the internal parts of the peduncles, called the internal peduncular; (2) external branches to the external part of the peduncles; (3) arteries of the fissure; (4) arteries of the superior peduncles; (5) arteries of the corpora quadrigemina.

ventro-lateral tract of Gowers). As they enter the medulla, they lie to the outer side of the olivary bodies and pass up in the lateral and dorsal part of the medulla, separated quite a little from the muscular-sensory tract. As they reach the pons, however, these two sensory pathways get rather closer together. At the upper part of the pons many (and most of the fibers of the Gowers' tract proper) curve back through the anterior peduncles of the cerebellum, into that organ. Other fibers, however, go through the tegumentum to a nucleus of the thalamus and thence to the sensory-motor convolutions of the cortex.

the lemniscus or fillet. This fillet gradually passes away from the middle line toward the side of the pons, and finally gets near its periphery ascending into the tegumentum and between the corpora quadrigemina above and the motor tracts below, the fibers continue up ending in the thalamus and cortex. From the beginning some fibers (arcuate) are sent also to the cerebellum, mostly crossing.

4. The paths for the *sense of equilibrium* pass up in the direct cerebellar tract and run uncrossed in the corpus restiforme to the cerebellum. Similar fibers representing the equilibrium nerve run from the inferior olive to the cerebellum also in the

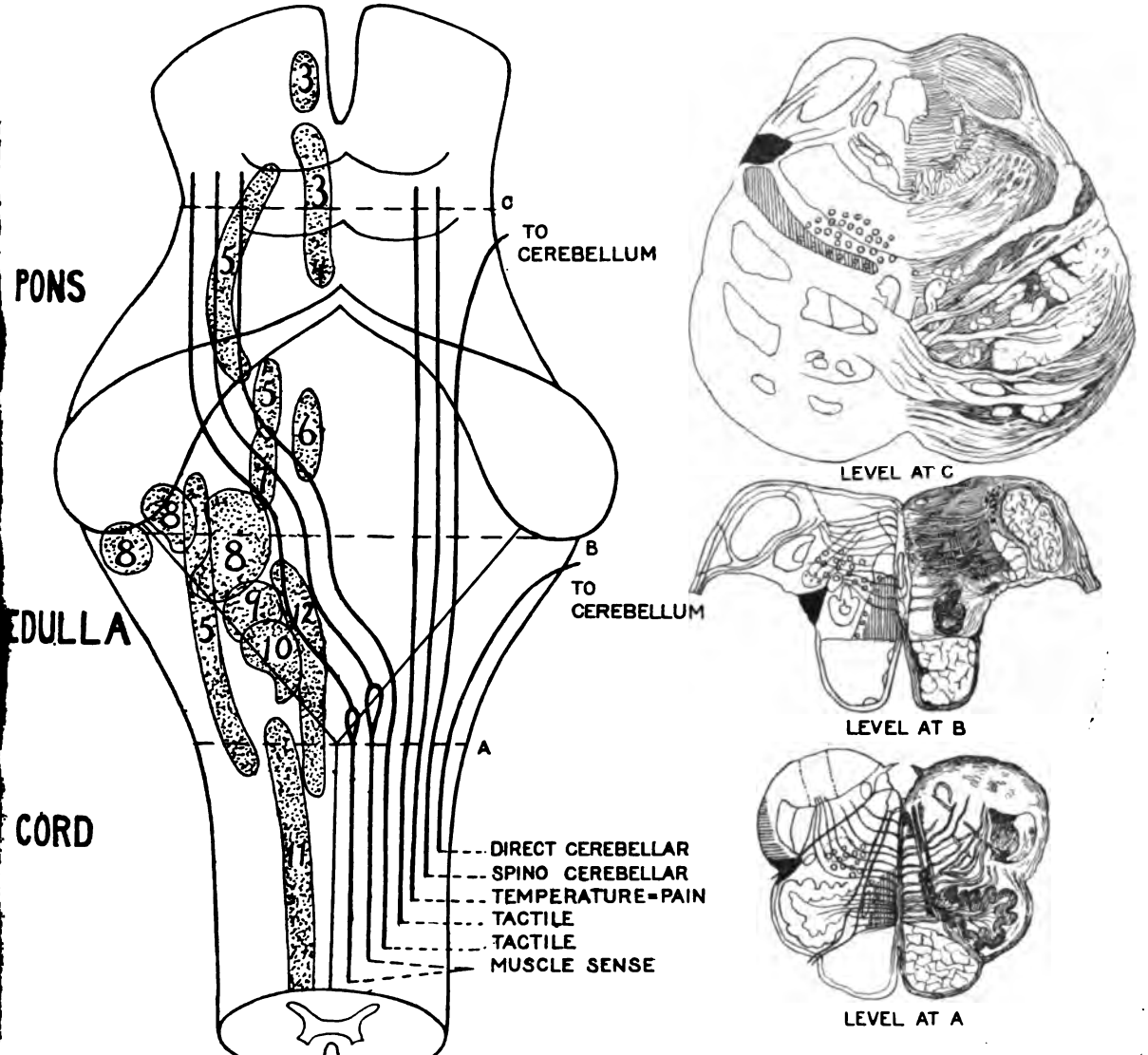


FIG. 2.—The figure on the left shows, on the left half, the location of the nuclei of the cranial nerves. On the right half the courses of the different long afferent tracts are shown. The figures on the right show transections of the pons and medulla at levels A, B, and C. The location of the different afferent paths is indicated as follows:
1. Area shaded with vertical lines—muscle sense path.
2. Area shaded with horizontal lines—direct cerebellar tract.
3. Area of small circles—tactile sense.
4. Area of solid black—temperature-pain sense (part of Gower's tract).
The oval areas, indicating the position of the nuclei of Goll's and Burdach's columns, should be longer.

3. The fibers carrying *muscular sensation* ascend the spinal cord uncrossed until they reach the nuclei of the columns of Goll and of Burdach, at the upper end of the cervical cord. The former nucleus receives the fibers from the lower extremity, the latter those of the upper extremity. The fibers then cross in the medulla forming the sensory decussation. The fibers from the lower extremity pass lower down, *i.e.* more caudally, than those from the upper extremity. They then pass along forming the interolivary tract (ribbon of Reil) near the raphe or middle of the medulla and between the inferior olives. They tend, as they reach the pons, to spread out laterally, forming a flat band called corpus restiforme, the fibers of equilibrium from the vestibular branch of the eighth nerve run also in the corpus restiforme.

The position of the foregoing tracts and of the cranial nerve nuclei is shown in Fig. 2.

There is in the medulla a center for the cervical sympathetic fibers; it is perhaps (Onuf, Collins) in a group of cells lying near the solitary bundle. It is, at any rate, near the origin of the vagus and glossopharyngeal. And, as a consequence, in lesions of the medulla, we may get flushing and sweating of the same side of the face, retraction of the eyeball and narrowing of the palpebral fissure, and contraction of the pupil.

The pulse and respiration are disturbed through injury or irritation of the vagus, but much less in softening than in hemorrhage.

The temperature seems mainly to be affected in irritation and destructive lesions causing compression, such as hemorrhages, and mainly in hemorrhages of the pons.

*Etiology of Hemorrhage, Sex.*—Among 46 cases with autopsy collected by myself, there were, males, 26; females, 20. The statistics of Bode give, males, 40; females, 25; of Larcher, males, 29; females, 15. Total, males, 95; females, 60. The proportion of males to females is therefore not quite 2 to 1.

*Age.*—The statistics collected by myself and others give the following:

| | DANA. | BODE. | LARCHER. | TOTAL. |
|---|---|---|---|---|
| —20 | 2 | — | — = | 2 |
| 21—30 | 6 | 8 | 14 = | 28 |
| 31—40 | 7 | 10 | 17 = | 34 |
| 41—50 | 15 | 12 | 24 = | 51 |
| 51—60 | 8 | 9 | 3 = | 20 |
| 61—70 | 6 | 10 | 15 = | 31 |
| 71— | 2 | 10 | 12 = | 24 |
| | | | | 190 |

This shows that one-fourth of the cases occur in the fourth decade of life; next oftenest between thirty and forty, and between sixty and seventy. The cases under twenty occurred, one at birth in a difficult labor (Dr. Schultz) and one at eighteen, in status epilepticus. The age range differs from that of cerebral hemorrhage, in that practically no cases occur in childhood.

*Other Causes.*—The most frequent of the determining causes mentioned are nephritis, with cardiac hypertrophy and arterial sclerosis. These factors were mentioned fourteen times in forty-four cases. Alcoholism is a concomitant cause, but not very often noted. Syphilis is also rarely observed. Among other causes mentioned are, status epilepticus, forceps delivery, caisson pressure, pernicious anæmia, gastroenteritis, caries of cervical vertebra, meningitis, and secondary hemorrhage from tumors.

The etiological factors seem to be much more often those associated with cardiac hypertrophy, arterial sclerosis and renal disease and are in the same line as the causes of cerebral hemorrhages. Syphilis seems, however, to be decidedly less often a factor. At any rate, I can find it referred to only three times in forty-six cases. Severe exertion has not been found to be an exciting cause, though it is a disease associated with the laboring classes more than is cerebral hemorrhage. Almost all the statistics are from hospital records. Thus, it may be said in general that those who work more with the fore-brain are more liable to hemorrhages there.

*Pathological Anatomy.*—The medulla is sometimes somewhat involved in the pontine hemorrhages, but I can find only two cases of hemorrhage in this part. (Lemcke, Jackson.)

Hemorrhages in the pons are apparently, usually, very severe, but this is due in part to the fact that we base our statistics on cases with autopsy. Probably there are other milder cases which cannot be differentiated from softenings.

| | BODE | DANA. |
|---|---|---|
| Large part of pons destroyed | 27 | 12 |
| Focus in or near center | 17 | 10 |
| More on right side | 18 | 15 |
| More on left side | 13 | 12 |
| Multiple foci | | 5 |
| Cerebral hemorrhage | | 3 |
| Pons and medulla | | 2 |
| Large and breaking into fourth ventricle | | 8 |

Peduncular hemorrhages which may involve some of the pons are not included in these statistics.

Thus, while the earlier statistics of Bode show a large number of severe and total hemorrhages, the later reports show, relatively, more involving only one side. Still there is no doubt that pons hemorrhages have a tendency to invade the median parts, and make a large focus of destruction. Fagge states that out of twelve pons hemorrhages, five broke into the fourth ventricle.

The arteries oftenest involved are the transverse and median branches of the basilar. The basilar itself is rarely ruptured, nor do we find rupture of the vertebrals, or of the posterior cerebrals. There is often found aneurysmal dilations of these arteries, and the pathological process is similar to that in cerebral hemorrhage. There is sometimes a basilar aneurysm, and it is probable that by atheroma and thickening the passage of blood into the posterior cerebrals is made less free, and the blood, consequently dammed back and thrown into the small arteries of the pons. Atheromatous patches on this artery are often observed, and the transverse arteries develop small aneurysms as in cerebal cases. In only two of my collected cases was there any associated focus of cerebral hemorrhage or softening found, in which respect pons hemorrhage differs from pons softening. Capillary hemorrhages were found in three of my collected cases—one of pernicious anæmia, one the case of status epilepticus, and one in a woman of sixty-one. (Cohn.) Durand-Fardel reports a case in an old woman, and several others have been reported. Such cases belong more properly to acute softenings. Multiple foci of hemorrhages occur rarely. More than two were reported in five cases. (Raymond, R. Ronnell, Urain).

*Symptoms.*—The only type of pons hemorrhage which can be really described as having a characteristic *syndrome* is that in which the hemorrhage is severe, either involving a large part of the pons, or breaking into the fourth ventricle or both. The smaller hemorrhage causes symptoms which partake, in a measure, of the typical cases, but shade off into types resembling the acute softenings.

It has to be remembered that about one-half of all pons hemorrhages are severe and typical, that the medulla is usually spared, or is, at least, not primarily involved, and that the posterior cerebrals which supply the peduncles and the occipital lobes are rarely involved in hemorrhages. The pons itself, then, is the part most injured. Besides the motor, sensory and transverse cerebellar tracts, it contains in its dorsal part the nuclei and fibers of origin of the V, VI, VII, and VIII cranial nerves. In almost any severe lesion we would expect involvement of the V (trigeminal), and VI (abducens) nerves; if high up, involvement also of the III (motor oculi); if low down, involvement of the VII (facial), VIII (acoustic).

Only when the medulla is involved would we expect serious involvement of IX (glossopharyngeal), X (vagus), XI (spinal accessory), and XII (hypoglossal).

It is not my purpose to go minutely into the analysis of the symptoms here. The general history of an attack is somewhat as follows: The patient has some prodromal headaches and malaise for a few days, with vertigo and sometimes vomiting. Then he falls suddenly, as if by a lightning stroke, into a coma, usually very profound. There are twitchings of the face or of the limbs or both, but rarely any general convulsion (three cases). The face is flushed, there is a fall of temperature and the pulse is irregular, but not markedly increased or slowed; as a rule, the respiration is slow, 4 or 6 per minute, or more often irregular, and of Cheyne-Stokes type. The pupils are contracted to a pin-point, and do not respond to light, but may be

uneven. There is convergent strabismus or conjugate deviation of the eyes. The limbs are at first stiff, but may be relaxed later and the reflexes increased.

The patient cannot be aroused, but can be made to vomit. A few hours later the temperature rises, sometimes very high—106 to 108—but usually not. There are involuntary movements of the bowels, swallowing is impossible; evidences of dyspnœa are shown. The pulse becomes more rapid, cyanosis develops, the patient dies in six to twenty hours, usually with evidence of paralysis of respiration.

If the hemorrhage is less severe, the coma is less profound or may be absent, the patient shows signs of agonizing suffering and difficulty in respiration, evidences of crossed paralysis, crossed anæsthesia and disturbance of equilibrium and ataxia can be noted.

In still smaller lesions we find no such severe general symptoms, but only those due to a circumscribed focus in one side of the pons, because the smaller lesions are unilateral. The syndrome of pons lesions then is:

1. Headache, malaise, vomiting.
2. Sudden and profound coma.
3. Twitching of the face and limbs or both.
4. Myosis and convergent strabismus or conjugate deviation (away from the side of the lesion).
5. Slow, irregular breathing.
6. Irregular pulse.
7. Dysphagia.
8. Paralysis of limbs or crossed paralysis and exaggerated reflexes.
9. Gradual rise of temperature, sometimes to high point.
10. Death inside of twenty-four hours.

The *prognosis* in severe pons hemorrhage is very bad, death occurring, as already stated, in a few hours. What proportion of all cases get well I cannot say, but as most of the cases of acute bulbo-pontine apoplexies which recover give a history pointing to softening, it is probable that a great majority of hemorrhages are fatal.

### REPORTS OF CASES.

CASE I.—*Hemorrhage of the Pons.* Pauline K., aged twenty-four years, German, admitted to Bellevue Hospital February 17, 1898. Family history negative. Denies all syphilitic history. About three weeks previous, while menstruating, some water was thrown over her and the menses were stopped. She then began to have fainting spells, from which she would soon recover. After having had several of these attacks her speech became affected. Then she began to have trouble in using her left arm and later her left leg, until she became completely paralyzed on the left side. When the patient was admitted to the hospital she seemed well nourished, with flushed face, tongue dry and coated and breath offensive. She was restless and apathetic and in a semi-stuporous condition. The pulse was regular, about 116, respiration 24, temperature 99½°. The lungs were normal, and the heart had a faint systolic murmur at the base. The left arm was paralyzed and the left leg rigid; the right side of the face was paralyzed. There was some difficulty in swallowing and some indistinctness in speech. The epigastric reflexes were absent. Wrist- and elbow-jerks increased more on the right side; knee-jerk increased, slight ankle clonus, but the reflexes were difficult to determine in the left leg owing to its rigidity. The conjunctiva of the right eye was congested. The face was flushed and there was marked dermographia. There were onstipation and retention of urine.

On the 18th paralysis of the right facial was present and the eye could not be closed. There was some paralysis of the right external rectus; the pupils were small and responded to light, but the reaction was slow. The temperature on this day had fallen to 98°, the pulse was 106, and respiration 28. The urine was 1025, acid, no albumin, no peptones; urea .014. The temperature had gradually increased on the 18th, until at noon it was 100⅘°, and on the morning of the 19th gradually rose to 105⅘°, the pulse rising to 140 and the respirations to 32 and finally to 44. The patient grew more stuporous and had four slightly convulsive attacks during which she frothed at the mouth. These attacks were not, however, epileptic, but rather accesses of rigidity, with staring of the eyes. She died on the morning of the 19th, two days after admission. No evidences of anæsthesia could be obtained, and the symptoms consisted, therefore, of a paralysis of the sixth and seventh nerves on the right side, and paralysis and rigidity on the left, with dysarthria and dysphagia, slight convulsive attacks and further high terminal temperature.

An autopsy was made by Dr. Harlow Brooks, and it was noted on the autopsy that the left pupil was smaller than the right. I omit items not connected with the nervous system, or of special importance with relation to this case.

The heart was practically normal; the arch of the aorta showed slight endarteritis, and the coronary artery very slight endarteritis. The caliber of the carotid arteries appeared somewhat diminished in size. The abdominal and thoracic viscera practically normal, and showed no signs of syphilis.

The blood vessels at the base of the brain were intensely congested and in places contained thrombi.

The pia mater was thickened and opalescent over the frontal convolutions; the basal ganglia congested, but there was no lesion in the cerebral hemispheres.

Just to the right of the median line in the anterior portion of the pons is found a hemorrhagic area, 1 to 2 cm. in diameter, extending back through the pons until it occupied almost the entire right side of pons and extends in area to left side, extending backward becoming narrower, till it finally terminated in the posterior surface of pons, left side. The vessel of left side—the tissue of medulla and cervical segments of cord and cerebellum—were apparently normal. The center of involved area contained a clotted mass evidently surrounding a small blood vessel and a small artery leading into involved area at the anterior portion of pons was found, the lumen of which is plugged. Pituitary gland, usual size.

CASE II.—*Hemorrhage of the Pons.* The patient, a man, aged about fifty years, was brought to the hospital suffering from vertigo headache. While walking along the ward on his entrance to the hospital he suddenly fell down in deep unconsciousness and almost immediately expired. No history could be obtained of him. On autopsy a large hemorrhage was found in the pons near the raphe. No notes were taken at the time and the case has little except statistical interest.

**Acute Softening of the Pons-medulla.**—*History.*—After Duchenne had in 1860 described the malady known since then as progressive "glosso-labio-laryngeal palsy," attention was drawn to bulbar palsies of other types and due to other causes. Griesinger (1862) and Lebert (1866) collected and reported cases showing that bulbar palsies might be due to local aneurysms and to softening from other vascular diseases. Joffroy in 1872 emphasized the distinction between degenerative or protopathic

palsy and palsies from other causes; further contributions were made by Hallopeau (These de Paris, 1875), Lichtheim (*Deutsche Archiv für klinische Medicin*, Band XVIII) and Nothnagel (Diagnosis, 1879). In 1885 Oppenheim and Siemerling (Charité-Annalen, Vol. XII) described the different forms of acute bulbar palsy and pseudobulbar palsy, and they gave a bibliography and short analysis of the important cases of acute softening reported up to that date. The cases which I have studied include some not mentioned by these last authors and most of those reported since their article, including my own.

Nearly all the cases utilized in drawing conclusions were reported with autopsy; but there have been some very careful studies made on clinical cases which have much value, for it is comparatively easy to make the local diagnosis, at least in pons-medulla lesions.*

*Etiology.*—Among thirty-nine collected cases, with autopsies, four being personal observations, I found males, 27; females, 11, showing a ratio of over two to one in favor of the male sex. In acute softening, the proportion of males is greater than it is in hemorrhage.

The age relations are shown in the following table:

| | | |
|---|---|---|
| —30 | = | 0 |
| 31—40 | = | 9 |
| 41—50 | = | 10 |
| 51—60 | = | 7 |
| 61—70 | = | 3 |
| 71— | = | 4 |
| | | 33 |

There are no records of acute softening before the age of thirty. The favorite age is between thirty and fifty, during which period most of the softenings are luetic. In old age they are due more to senility and degenerative changes in the arteries.

Among the other causes lues was found in 11, arterial sclerosis in 9, nephritis and arterial sclerosis in 14, cardiac disease in 14, alcoholism in 1, senile atheroma in 2.

No doubt, lues plays a greater part than is shown here, while the arterial changes associated with alcoholism, nephritis, and cardiac hypertrophy are less prominent than in hemorrhage. In two cases the patients were insane and in three other cases the patients were in the early stage of general paresis. In two cases the patients had locomotor ataxia; local tumors, and aneurysm of the vertebral arteries were found in two cases. Schlesinger (*Zeitschrift für klinische Medicin*, No. 32, 1896) mentions three cases caused by sudden lowering of atmospheric pressure on coming out of a caisson.

No special exciting causes could be made out.

It appears to me that excessive work and worry in anæmic and poorly nourished women leads sometimes to bulbar apoplexies.

The great cause of acute bulbar softenings in early and middle life is syphilis. The attacks are not rarely premonitory of an impending tabes or paresis; they indicate that the disease has a rather serious hold on the nervous system, and are of more importance than the casual cranial nerve palsies due to meningitic exudates.

In old age softenings occur because there has been a particularly serious degree of atheroma and sclerosis of the bulbar vessels. What determines it we do not know, but as I said of hemorrhage, it seems that hard manual labor combined, perhaps, with anxiety seems to lead to pathological changes in the vessels of the brain.

*A very complete bibliography of bulbar diseases of all kinds is given by Van Oordt, *Deutsche Zeitschrift für Nervenheilkunde*, Vol 8, p. 137, 1896.

*Symptoms.*—The prodromal symptoms of acute bulbar softening are generally those of an endarteritis and of a syphilitic invasion of the brain. In a small proportion of cases (about 20 per cent. in my statistics) there has been, some months or years previously, thrombosis of a cerebral artery, and consequently, cerebral hemiplegia. The prodromal symptoms then are occasional preliminary attacks of hemiplegia, vertigo, numbness in the limbs, headache, temporary speech disturbance and double vision. Just before the attack in particular the patient may suffer from vertigo, noises in the ears, hoarseness, vomiting, and headache. The Stokes-Adams syndrome may be present (Brissaud). The attack may also be preceded by symptoms of nervous agitation and even of slight mental disturbance, especially in the luetic cases.

The seizure itself is usually sudden, and within a half hour, or an hour, is very nearly complete, usually being accompanied with headache, vertigo and perhaps vomiting. In other cases the symptoms may come on in two or three successive slight attacks, continuing over several days.

After the attack the patient is affected with symptoms depending upon the situation of the lesion. In practically all cases, however, there are two sets of phenomena: first, the bulbar symptoms and second, some form of sensory or motor hemiplegia. The bulbar symptoms consist of ocular motor palsies, a facial or trigeminal paralysis, or both, disturbances in the equilibrium, vertigo, rotating in the ears, difficulty in speech and deglutition. There is rarely any change in temperature. The pulse may be slow or irregular. The hemiplegic symptoms consist of a paralysis, usually, but not always, on the side opposite the cranial nerve involved, so that there is an alternating or crossed hemiplegia, associated with some form of anæsthesia.

The symptom groups in pons-medullary lesions may be of three types:

1. The syndrome of medullary softening. The lesion is of the inferior cerebellar or vertebral or some of their branches.

2. The syndrome of pons softening. The lesion is of some of the transverse branches of the basilar.

3. A general syndrome, including symptoms seen in lesions of both pons and medulla, or in lesions in which the focus, while lying mainly in one part extends into the other. The lesion is a thrombosis or embolism of the vertebral just as it joins the basilar, and leading to some occlusion of the basilar.

1. *The Syndrome of Medulla-softening.*—When the medulla chiefly is affected with focal softening it is due usually to a thrombosis of one of the vertebrals. It may, however, be due to lesion of the inferior cerebellar artery, or of a small branch of this artery or the vetebral. The symptoms vary with the extent and locality of the lesion, but there is a general group which is certainly more common than any other, and which may be said to characterize softenings in this area. These symptoms are:

Disturbances of speech and of swallowing.

Hemiplegia.

Disassociation of cutaneous sensations, there being an anæsthesia to pain and temperature but not of touch upon the affected side.

Ataxia involving either the arm or leg, or both, of the side opposite the paralysis. This ataxia is due to loss of deep sensibility, and there is defective sense of position and astereognosis.

With the ataxia, or perhaps, without it, there may be what Babinski terms *asynergy*, that is to say, a loss of the coördinating activity of the volitional

impulses, so that one segment of the limb is moved without harmonious action with the other. This condition would ordinarily be classed as a form of ataxia.

There is a condition of forced movements, or tendency to fall to one side (lateropulsion).

There is often, though not always, an evidence of paralysis of the sympathetic upon the side of the lesion, shown by a contraction of the pupil upon that side, a diminution in the size of the palpebral fissure, with retraction of the globe, and some congestion of that side of the face.

Besides these rather typical symptoms, we often get some paralysis of the tongue, from involvement of the twelfth nerve, and some disturbance of the heart action. There may be, also, involvement of the trigeminus through injury of the descending root, vertigo and noises in the ears, possibly deafness, and there may be even a facial palsy upon the side opposite the hemiplegia, though this is more common in pons lesions. Some disturbance, also, may occur in the oculomotor nerves, especially the sixth, through involvement of the nucleus of that nerve and of the posterior longitudinal bundle. Convulsions and spasmodic movements are not observed, nor forced laughter and weeping. The lesion is sometimes so extensive as to involve somewhat both sides of the medulla, and then there may be motor and sensory disturbances upon both sides of the body. The importance of the foregoing group of symptoms has been especially emphasized by Babinski (*loc. cit.*).

2. *The Syndrome of Pons Softening.*—Lesions in the pons are most apt to be in the ventral part, near the raphe, and next to this, in the dorsal part of the pons, from involvement of a branch of the basilar artery.

Lesions in the pons have no such single characteristic syndrome as those in the medulla. There are some very clear-cut cases in which there is paralysis of the fifth or of the seventh nerve upon one side and hemiplegia upon the other (crossed hemiplegia), but this type of case is not by any means the most frequent. Lesions in the pons may occur without any involvement of the cranial nerve nuclei, except those connected with deglutition and, perhaps, of speech. (Case 1.) When they occur in the ventral region, there are necessarily disturbances of motility, shown by hemiplegia, by irritative motor disturbances, such as twitchings, and sometimes by forced laughter or weeping and morbid emotional states.

When the lesions are deeper in, reaching nearly to the floor of the fourth ventricle and the gray matter, we begin to get involvement of the sensory tracts, and to have hemianæsthesias. These hemianæsthesias are usually also those of pain and temperature only, and thus, *disassociation of sensibility* is characteristic also of pons lesions.

When the nerve nuclei are involved, it is almost always the nuclei of the motor nerves of the eye and of the trigeminus. So that we may get oculomotor palsies with some trigeminal disturbance upon one side, and hemiplegia, with or without anæsthesias, upon the other.

There are in pons lesions also vertigo, disturbances of hearing and some cerebellar symptoms, but not so often the forced movements that we see when the posterior cerebellar peduncle is involved in strictly medulla lesions. In pons lesions high up the fifth and seventh nerves may be involved on the same side as the hemiplegia. In pons lesions, *dysarthria is more often absent* than present. Thus, Markowski collected eighteen cases of one-sided lesion and found dysarthria absent in ten. In general, then, the absence of involvement of the cranial nerves, from the eighth to the twelfth, the absence of marked sensory troubles, except of the fifth nerve, the *presence of forced laughter* and weeping, motor irritability and the involvement of the oculomotor nerves and of the fifth nerve, would suggest a pons lesion.

The abdominal and skin reflexes are often feeble. Sometimes there is a great deal of pain from irritation of the fifth nerve, and sometimes the pupil may be dilated.

It is possible to have a pons lesion simulating almost exactly a cerebral hemiplegia (Case III), but this is extremely rare. If there is evidence of a bulbar lesion and there is not a crossed paralysis, the lesion must be high in the pons.

3. *The Syndrome of Pons-medullary Softening or Acute Softening of Both Pons and Medulla.*—The symptoms here are really only an extension of the type of medullary softening, the lesion being, as stated, usually a thrombosis which involves the vertebral at its junction with the basilar. The syndrome is a fairly definite one, but mainly so in that it is an enlargement of the picture seen in pure medullary lesions.

Thus we have:

(1) Hemiplegia; (2) pain-temperature, (3) anæsthesia on the same side as hemiplegia; (3) loss of deep (muscular) sensibility, with ataxia, often on opposite side to hemiplegia; (4) lateropulsion to side of lesion; (5) paralysis of various cranial nerves, especially seventh to twelfth, on the side opposite hemiplegia, (6) dysphagia and dysarthria; (7) paralysis of sympathetic on same side as lesion, with myosis and retraction of globe; (8) subjective sensations of vertigo, roaring in ears, pararthria and pain; (9) disturbances in rhythm of pulse and respiration.

*Study of Special Symptoms of Acute Pons-medulla Softenings.*

*Hemiplegia* occured in a little more than one-half of the observed cases, and may be more accentuated in the arm or leg, usually in the arm. Occasionally, with hemiplegia upon one side, there is some weakness of the side opposite, that is, on the same side as the lesion. Hemiplegia with an ocular palsy is oftenest seen; hemiplegia with crossed facial palsy is relatively rare, while hemiplegia with involvement of the fifth nerve is more frequent. Thus in relative frequency we find hemiplegia and eye palsies, hemiplegia and fifth nerve palsies, and hemiplegia and seventh nerve palsies. Hemiplegia is almost always accompanied with anæsthesia, and this anæsthesia is on the same side as the paralysis. In sixteen cases with hemiplegia, there was anæsthesia on the same side in eleven, on the side opposite in one. The hemiplegia and anæsthesia are often accompanied with disturbances of muscular sense and ataxia, and this disturbance is somewhat oftener on the opposite side from the paralysis, *i.e.* on the side of the lesion. In five cases of hemiplegia with ataxia, the ataxia was upon the same side as the hemiplegia in two and on the opposite side in three. The type case is hemiplegia with pain-temperature anæsthesia on one side and some ataxia on the other.

*Convulsive Movements.*—The view originally exploited by Nothnagel, that there was a convulsive center in the pons, is not confirmed by clinical and pathological experience in man. In lesions of the pons, there are practically never any convulsions, due, at least, directly to this lesion. When the onset is quite acute, and the softening involves the ventral part of the pons and the fibers of the motor tract, there may be some trembling and

twitching, as in the case reported in this paper (case 1).

As regards the convulsions in hemorrhages of the pons, an exhaustive study was made by Luce, who was able to collect, however, only one case in which convulsions occurred. But in spite of this, he is led to conclude that the nuclei in the ventral part of the pons are epileptoginous. There is no doubt that in the acute injuries of the pons, when the ventral part is involved, twitching and tonic spasms occur, involving the face and extremities, with sometimes tremors, but these do not amount to actual convulsions, and it must be borne in mind that in the cases in which convulsions have been observed, the patients had not perfectly normal brains; that is to say, they were suffering from arterial sclerosis, nephritis and possibly uræmia, or paresis.

*Forced laughter and crying* has been noted in three cases besides my own (Bechtereff, Ransahoff, Mills).

It is well established (Kirchhoff, *Archiv für Psychologie*, Bd. XXIV, Heft 3) that there is in the thalamus a center which controls the emotive expression of the opposite half of the face, so that when this is destroyed, though the patient can move the face voluntarily, it remains immobile in laughing or crying. It may be supposed then that when this center is cut off from its control by the cortex, there may be involuntary laughter or crying. This center must be in connection with lower bulbar centers for the motor nerves of expression (VII, XI, XII, third cervical, etc.). And it must to an extent inhibit and control the bulbar mechanism. The movements, however, in crying and laughing are originally purely under bulbar control. (I have reported the case of a baby which lived five days and cried continuously; it had only a spinal cord, medulla, pons, and cerebellum, with the merest rudiment of a thalamus.) Hence it can be understood that when certain pathways from cortex or thalamus to the bulb are cut off or irritated the bulbar centers for producing movements of laughing and crying may be loosened from control and go off in explosions; just as there are exaggerated reflexes, trepidations of the limbs, etc., when the voluntary motor path to the limbs is destroyed; and explosive laughter is like an exaggerated reflex, a trepidation, or an ankle clonus.

*Oculomotor Symptoms.*—Some involvement of the motor nerves of the eyes occurs in about one-fourth of the cases. In pons-medullary lesions it is the sixth nerve and its associated branch from the third to the internal rectus that are oftenest affected. When a serious degree of ophthalmoplegia occurs it means a higher and peduncular lesion. In ordinary pons medullary lesions then we find as the common symptoms: Conjugate deviation, paralysis of conjugate deviation, internal strabismus, convergent strabismus, nystagmus.

The old formula that in cerebral lesions the eyes turn away from the paralysis and toward the lesion while in pons disease it is the reverse, has a very limited application. In cerebral lesions when there is great pressure or very large destructive lesion, the conjugate involvement of the eyes is toward the lesion and away from the side paralyzed, but more often in cerebral lesions there is only enough disturbance to irritate the central tracts to the abducens of the opposite side and the internal rectus of the same side, and the eyes consequently turn away from the lesion.

In pons lesions when there is conjugate deviation away from the lesion it is due to irritation of the central path. More often one sees simply paralysis of conjugate deviation toward the side of the lesion. This is due to a paralyzing lesion of the central path to the abducens. Sometimes there is a convergent strabismus, due to lesion of both abducens. If the sixth nerve root is affected we have simply an external strabismus. Nystagmus is often seen in pons and rarely in cerebral lesions. This is due to various causes, but perhaps chiefly to lesions of the central tegmental tract, or of the posterior longitudinal bundle, two tracts which are concerned in the coördination of the eye muscles and in bringing them into relation with the other cranial nerves.

The contraction of the pupils which occurs in pons hemorrhages must be ascribed mainly to the compression and irritation of the third nerve nuclei and, perhaps, to a coincident palsy of the sympathetic center.

*Sensory Symptoms, Pain, and Paræsthesia.*—Pain referred to the parts supplied by the sensory tract are rarely present. Patients complain sometimes of headache, and occasionally of some burning pain or cold pains, but pure neuralgic pains, except those due to an occasional irritation of the fifth nerve, are very infrequent.

Paræsthesias, on the other hand, are quite common. The sense of numbness and pricking is usually present in the anæsthetic limb or side. Cold pains and burning sensations also occur, and are referred to the anæsthetic parts. The discomfort from these is sometimes very great. In hemorrhages of the pons, when the roots of the trigeminus have been torn up, there is at times great agony from this cause, but I find that central pains from lesions of the pons and medulla, other than those due to irritation of the trigeminus, are very rare. It seems to be a general physiological law that only irritation of the peripheral sensory neuron causes pain. The central pains which are sometimes described as occurring in brain disease, are extremely rare, and it is a question whether they are not, after all, psychical. Even paræsthesias are much less common from lesions of a central sensory neuron than from lesion of the peripheral nerve.

The anæsthesias which occur in the pons and medullary softenings are peculiarly distinctive. The anasthesia is characterized by the fact that it involves more or less perfectly the tract for pain and temperature, and not for touch or muscular sense. Among twenty reported cases, I find hemianæsthesia affecting pain and temperature or else temperature alone in eighteen of the cases. Tactile anæsthesia, however, is occasionally present; it may be on the same side with the pain-temperature anæsthesia, or it may involve both sides. In two of my cases there was involvement of the temperature sense alone, and in one case this affected only the cold sensations. In one case the temperature anæsthesia, occurred upon the left side, while there was a temporary hemiplegia upon the right.

The usual motor-sensory syndrome in pons-medullary lesions, would be a hemiplegia, with pain-temperature anæsthesia upon the side of the paralysis, and muscular anæsthesia (ataxia), either upon the same side or upon the opposite side, more often the latter.

A good many cases are reported with anæsthesia of the face on the same side as the hemiplegia and anæsthesia of the body. Here the lesion must be in the upper half of the pons above the decussation of the cerebral tract to the trigeminus.

*Hemianopsia* is in rare cases observed in pons lesions. It would occur oftener, probably, if the posterior cerebral were not so readily supplied by blood from the posterior communicating. Besides,

pons softenings usually are due to lesions of the basilar near its origin from the vertebrals.

*Disturbance of deglutition* is due particularly to involvement of the deglutition center which lies in the motor root of the vagus (*nucleus ambiguus*). A disturbance of deglutition can be produced when only one side is involved.*

*Disturbances of speech* (dysarthria) are almost always present, and may be due not only to lesion of the vagus-glosso-pharyngeal nuclei, but to the upper motor path to these nuclei in the accessory lemniscus; also to injury of the root fibers of the vagus.* This nucleus sends motor fibers to the larynx. (Dees.)

Dysarthria is an important symptom when due to paralysis of the vocal cords, since the presence of such a palsy excludes pseudobulbar palsy.

*Vertigo* is a very common and often distressing symptom in pons and medulla lesions. It may be confounded by patients with the disturbance of equilibrium caused by lesions there, and often the two things go together. Vertigo of a very marked type is due, most often, to a lesion of the *corpora restiformia*, but it is also produced probably by lesions involving the nucleus and central paths of the vestibular nerve.

*Lateropulsion* or forced movements to one side, usually to the side of the lesion, occurs in lesions involving the *corpus restiforme*, the tract from the inferior olive to the cerebellum, or the middle peduncle of the cerebellum.

*Reflexes.*—If the motor tract is seriously involved we get an exaggeration of the deep reflexes, but in other cases, these are not particularly disturbed. Usually the abdominal reflexes are either feeble or abolished.

*Temperature, Pulse, and Respiration.*—The temperature is usually normal or slightly raised.

The pulse may be slow, but is usually irregular, and rapid.

The respiration, unless the lesion is severe, is usually not much disturbed. Disturbances of the respiration, temperature, and heart rhythm are due to involvement of the vagus and its nucleus. (Van Oordt, *loc. cit.*)

Paralysis of the larynx is due, according to Dees, to involvement of the central nucleus of the ninth and tenth nerves.

*Paralysis of the sympathetic* may occur in either pons or medullary lesions. It causes reduction of the palpebral fissure, slight retraction of the globe, myosis, reddening and, perhaps, sweating, on the side of the lesion.

*A systolic blowing sound* heard over the mastoid is sometimes heard in arteriosclerosis of the vertebral with aneurysmal dilatation as it passes into the basilar. This is due, according to Wallenberg, to stricture of the vertebral, causing increased pressure in the carotid.

*Pathological Anatomy.*—On this subject I have nothing new to offer and shall speak but briefly. The lesion is almost always an endarteritis, usually of syphilitic origin, but sometimes due to other causes and associated with alcoholism and nephritis and old age. In senile cases, like Case IV, there is only a very extraordinary degree of atheroma and senile thickening. Not rarely aneurysmal dilations are found on the vertebral or basilar arteries.

The following statistics show that the left side is more often affected. The basilar artery and the pons are slightly more often affected than the the vertebrals and the medulla. The *most common lesion* is a thrombosis of the vertebral with secondary thrombosis of the posterior part of the basilar. Thrombosis of the anterior basilar, as occurred in Case I, is very rare. I find notes of but one other case.

Simple senile softening of the pons, as in Case IV, is also very rare. I find one case besides my own. (Leyden.)

*Location of Lesion in Softening.*—The main seat of the lesion was: in the medulla, 13; in the pons, 19; in the pons and medulla, 7.

The lesions in the medulla were: on the right side, 5; on the left side, 8; in the pons, on the right side, 6; on the left side, 10; near the middle, 3. This shows an especial preponderance for the left side.

The arteries mainly affected were:

| | Right | Left | Total |
|---|---|---|---|
| Inferior cerebellar | 3 | 4 | 7 |
| Basilar | | | 12 |
| Vertebral | 1 | 7 | 8 |
| Both vertebrals | | | 2 |
| Multiple | | | 2 |
| Associated softenings in the cerebrum were observed in | | | 10 |

The basilar is usually soon involved by extension when a thrombosis occurs in the vertebral. The vertebral thrombosis may lead to thrombosis of the inferior cerebellar secondarily.

Embolism is very rare. Hallopeau and Leyden report cases.

*Comparison of Acute Hemorrhages and Softenings in the Pons-medulla.*—The medulla is rarely affected by hemorrhages.

Softenings affect the medulla and pons about equally; pons and pons-medulla softenings are twice as frequent as medulla lesions alone.

In non-syphilitic cases a lesion confined to the pons is rather more apt to be hemorrhagic than softening, especially if it be severe and occur in connection with nephritis and arterial sclerosis, whereas a lesion of the medulla is practically always a softening.

Both hemorrhages and softenings occur in men about twice as often as in women.

Softenings occur rather earlier in life than hemorrhages and are more frequent also in old age. Hemorrhages are relatively rare from fifty to sixty, while softenings do not drop off to the same extent.

Syphilis is a very much commoner factor in softenings, being present in over one-third of my cases, and probably is much more frequent than this percentage indicates. Arterial sclerosis, cardiac hypertrophy, and nephritis are the prominent causal factors in hemorrhage; the last two factors are rarely noted in softenings, except in extreme age.

We would expect hemorrhages, perhaps only capillary, in a bulbar paralysis developed in connection with pernicious anæmia, caisson accidents, status epilepticus, and child-birth.

Hemorrhages have usually fewer prodromata; the onset is more sudden and the conditions more severe, and the prognosis more serious. Twitchings and convulsive movements, profound coma, contracted pupils, and serious respiratory disturbances belong to hemorrhages rather than softenings. Hemorrhages occur almost entirely in the hard-laboring and hospital classes. Softenings are met with in all grades of society.

### PERSONAL CASES.

CASE I.*—*Syphilitic endarteritis and thrombosis of basilar artery, softening.*

*Van Oordt, *Deutsche Zeitschrift für Nervenheilkunde*, Vol. 8, p. 210.

*This case was examined by me and shown to my class. The notes and diagnosis were made by Dr. J. R. Hunt, who also made the histological examination and notes.

*Summary.*—Male, age thirty-two years. Prodromal headache and emotional irritability; sudden development of vertigo and left hemiplegia; later right hemiparesis; tremblings of limbs, forced crying and laughter, roaring in ears, dysarthria. Later complete anarthria, and glossoplegia, dysphagia, no sensory symptoms, temperature normal, pulse 120. Death. Autopsy: Thrombosis of anterior basilar and softening of anterior pons in its ventral part only.

[BY DR. HUNT.]

The patient, J. L., was a young man, aged thirty-two years, Canadian, cigarmaker by occupation, single, family history negative. He used alcohol in moderation, tobacco in excess. In January, 1899, contracted syphilis with mild secondary cutaneous manifestations and general adenopathy. Received seven weeks' dispensary treatment and all symptoms disappeared. In June, 1901, he became very much depressed, would burst into tears over trivial causes. At this time he also had headaches and was generally weak and run down. The headaches continued with intermissions and increased severity until December, 1901, when he was forced to discontinue his work for three weeks. One year before this his eyes had been so weak as to interfere with reading. He received internal treatment at an eye clinic, where he was told the affection was syphilitic in character. On January 18, 1902, while at work, he was seized with sudden weakness and vertigo and was unable to speak for half an hour. A few hours later he became completely paralyzed on the left side. This improved on the succeeding day, when the right side became paretic.

Was admitted to Bellevue Hospital, January 19, 1902, and walked into the ward, the left arm visibly paretic; while his bed was being prepared the left leg became completely paralyzed. He would burst into paroxysmal fits of weeping every few minutes. He complained of very severe headache and vertigo, roaring in the ears and some difficulty in articulation. Temperature 98.6° F., pulse 120, respiration 28. Urine negative.

Status on admission, January 19, 1902: Good physique, well nourished, moderately anæmic. Is in a very emotional state; in attempting to answer questions or perform simple acts consequent upon the examination he is subject to *spasmodic attacks of crying;* sometimes this weeping will be turned suddenly into laughter. There is general tremor involving the head, extremities and tongue, more especially on the left side. It is coarse, jerky, and irregular, not intentional in character, and resembles, but in a very exaggerated form, the tremblings accompanying a severe chill. His mind is clear and memory unimpaired. There is complete left-sided hemiplegia, including the lower branches of the left facial, and deviation of the tongue to the left. Marked rigidity with ankle and wrist clonus and Babinsky reflex on the left side. Skin reflexes are absent.

The right side is paretic; the tendon reflexes are exaggerated; Babinsky reflex present; skin reflexes present. Except for a moderate dysarthria, speech is unimpaired. The pupils are equal, all reactions present. Ocular excursions normal. Examination of thoracic and abdominal organs negative.

January 24. Sudden loss of power of speech. Could only utter inarticulate sounds.

January 26. Status: The patient is conscious and carries out simple orders. Pupils are equal and respond promptly to accommodation, feebly to light; ocular excursions normal; no nystagmus. Movements of the jaw are very weak and feeble, the mouth can only be partially opened. The tongue cannot be protruded beyond the teeth. Swallowing of liquids is accompanied with coughing and regurgitation through the nose. On attempting to swallow the larynx scarcely moves. Cannot articulate a single word; hears watch-tick on the right but not on the left. Incontinence of urine for twenty-four hours (inability to call). The right side is weak but the limbs can be moved. Ankle clonus present; no Babinsky. Pain sense is keen on both sides. Breathing is irregular in rhythm. Pulse is rapid and compressible.

January 27. Respiration rapid and shallow; pulse rapid and feeble; unconscious; died at 8 P.M.

*Autopsy.*—The basilar artery from its middle to the junction of the posterior cerebrals is converted into a white, rounded cord, the other vessels of the circle of Willis are normal to the naked eye. (Fig. 3.) The larger vessels arising from the basilar, *i. e.* the posterior cerebrals and the superior cerebellar, are

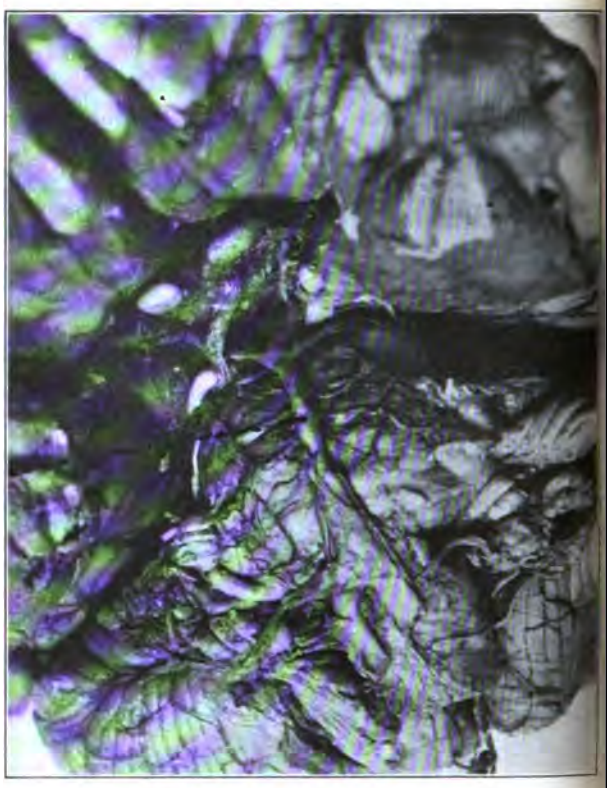

FIG. 3.—Base of brain, showing thrombosis of basilar artery.

distended with blood, but the walls are normal. There is swelling and softening of the pons on its basilar aspect, especially on the right side. Small patches of fatty degeneration on the intima of the thoracic aorta; heart normal; no hypertrophy. Old tuberculosis (healed) with adhesions at both apices. Hypostatic congestion of both lungs. The other organs, save for moderate congestion, are normal. No gummata found.

*Histological Examination.*—Serial sections were made of the affected portion of the basilar artery. There was a very high grade of concentric endarteritis and the lumen was almost—but nowhere completely—occluded. (Fig. 4.) It contained an old thrombus composed of fibrin, inclosing a few white and red cells. The thickening of the artery is essentially an endarteritis, but the media and adventitia are extensively infiltrated with round cells. In one portion of the adventitia extending into the media, is an area of necrosis with epithelioid but without giant cells (gumma). (Fig. 4.) The anterior cerebrals and middle cerebrals, save for a slight round-celled infiltration of the adventitia, are normal. The choroid plexuses contain many corpora amylacea, but the vessels are normal. The small central arteries of the thalamus and the cerebellum are

likewise normal. Transverse section of the velum interpositum shows round-celled infiltration of the adventitia in a few of the larger vessels.

Marchi sections of the cord show an absence of the secondary degenerations, the paralysis not having been of sufficiently long standing. In the upper half of the pons is an area of softening,

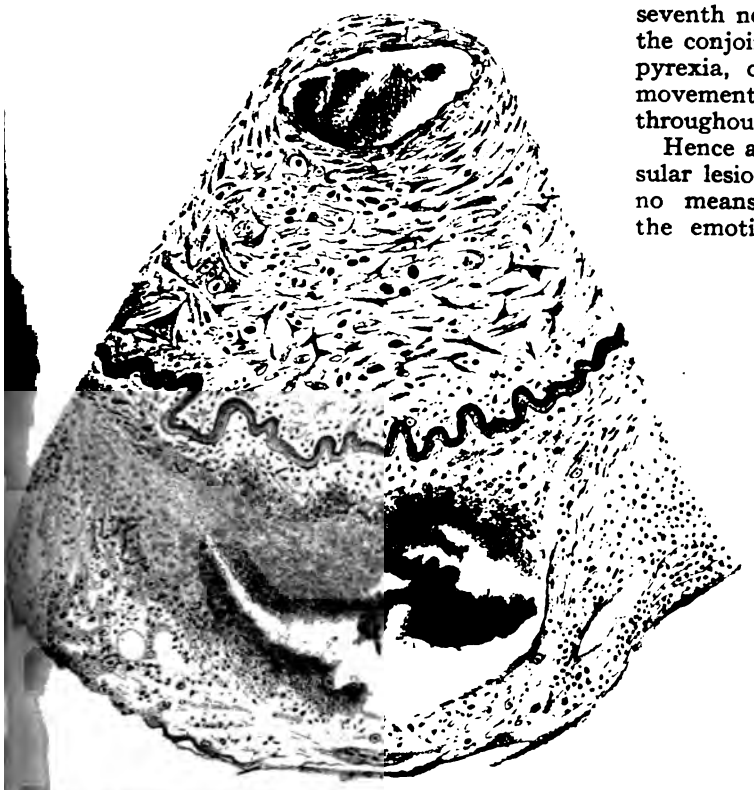

Fig. 4.—Section of basilar artery showing endarteritis, and small gumma of the adventitia.

greater on the right than on the left side, and situated in that portion traversed by the pyramidal tracts. The median and lateral fillet are untouched. The medulla and lower pons, save for a moderate round-celled infiltration of the pia and congestion of the vessels, are normal. There is one minute perivascular hemorrhage in the medulla. Nuclei of the cranial nerves are normal. (Fig. 5.)

The lesion extended upward to the upper limit of the pons, so that it could still be just seen on section made at this level. Below it extended to below the middle of the pons. There was no lesion in the cerebral hemispheres and cerebellum or the spinal cord.

*Remarks.*—Thrombosis of the cerebral half of the basilar artery is very rare. I find only one other case recorded, hence, in a measure, the peculiarity of the symptoms. Hemorrhages, however, are not infrequent in arteries branching from the middle and upper portions. The total anarthria would exclude a pseudobulbar palsy.

The case is of further interest in demonstrating that a complete occlusion of the anterior portion of the basilar may affect only the central portion of the pons. The cranial nerve nuclei and net fibers and the sensory tracts remaining intact. The collateral circulation received through the posterior cerebrals and the lower basilar evidently sufficed to maintain the nutrition of these parts.

The more characteristic symptoms of a positive lesion; as alternate paralysis of the fifth, sixth, and seventh nerves, conjugate deviation or paralysis of the conjoint movements of the eyes, myosis, hyperpyrexia, convulsions, sensory disturbances, forced movements, and oculomotor symptoms were absent throughout.

Hence a differential diagnosis from a double capsular lesion, *i. e.* a pseudobulbar paralysis, was by no means easy. The severity and constancy of the emotional outburst and the peculiar coarse general tremor, however, were in favor of a pons localization.

In view of the unusual findings in the medulla, the bulbar palsy must be referred to a lesion of the fiber-tracts in the pons carrying motor impulses from the cortex to the cranial nerve nuclei.

Case II.—Summary: Male, age forty-eight years. Emotional excitement, dysarthria and hoarseness, dysphagia; later delirium. Right side: some tactile anæsthesia, pain anæsthesia, some ataxia, slight hemiparesis. Left side: small palpebral fissure, marked ataxia of arm.

Autopsy: Thrombosis of left vertebral at junction with basilar artery. Softening in left pons. Small spot of softening in right medulla.

The patient was a steward on a steamer. He had always enjoyed good health, and was said to have been a sober and temperate man Three or four days before his admission to the hospital he was

Fig. 5.—Transection of pons, showing areas of acute softening, limited to the ventral and motor parts.

confined to bed and apparently very sick. He was occasionally delirious and complained of having a severe cold, having some difficulty in articulating, which was probably due to the beginning thrombosis. It was stated that he used to be a very heavy man, weighing over 200 pounds, but that he had, in the last six months, been reduced in flesh to 130 or

140 pounds. He had complained during this time of a partial paralysis of his left arm and of a cough. When the patient was admitted his mind was in such a condition that he could give no trustworthy account of himself. The appetite was fair, though he had some general bronchitis. He talked very hoarsely, as though there was some difficulty with the muscles of the larynx. When he drank anything, a little fluid entered the larynx, causing violent coughing.

Examination, made on his admission to Bellevue Hospital, February 28, showed a man quite stout, with some degree of conjunctivitis of the left eye. The left palpebral fissure was smaller than the right. There was no evidence of any marked paralysis of the arms or legs. There was some loss of pain and locality sense along the whole right side below the spine of the scapula; the contact sense is not diminished. There was also, on the right side, a marked ataxia of the leg, and the patient on this account was unable to walk unaided or to stand alone. There was, perhaps, with this ataxia, some motor weakness, but it was difficult to determine. On the left side there was a marked ataxia of the movements of the arm. There was, therefore, an ataxia and anæsthesia of cutaneous sensation for pain and locality upon the right side and on the left side marked ataxia of the arm. There was some little disturbance in articulation, and a distinct difficulty in deglutition; the larynx was not examined.

The patient became, in the next two or three days, delirious and excited. His ideas were extravagant, he always felt "first rate," and he had, to a certain degree, delusions of grandeur. The patient had no fever, pulse continued good, urine was high colored, acid, 1030, no sugar or albumin; the temperature ranged from normal to 99½, pulse was about 100. He died very suddenly on the morning of the fifth day after admission.

*Autopsy.*—The brain was congested, the meninges thickened and opaque. There was considerable bloody serum in the lateral ventricles. The membrane on the floor of the fourth ventricle was thickened. The arteries at the base were thickened and somewhat atheromatous. The basilar artery showed the presence of an aneurysm of the size of a pea at its junction with the two vertebral arteries; the vertebrals showed an endarteritis. The left vertebral artery was plugged, there was a softened spot in the left side of the pons extending to the middle peduncle of the pons and in the left side of the medulla near the dorsal surface; also a softened area in the posterior part of the optic thalamus; ependymitis of the lateral ventricles. The lungs showed spots of lobular pneumonia; the heart, fatty degeneration and atheroma of the aorta. There were some appearances over the front of the legs suggestive of syphilis.

The brain was lost before it could be further examined, but there were two lesions—one in the right pons and the other in the left medulla.

CASE III.—*Thrombosis and softening of right side of ventral pons.*

*Summary.*—Male, aged seventy-four years, no previous history; sudden left hemiplegia with some rigidity, face on same side involved. Emotional irritability, no forced laughter or crying, slight sensory disturbances. Softening in right side of ventral pons.

The patient, Orlando V., married, aged seventy-four years, U. S., was admitted to Bellevue Hospital on May 26, without any previous history except that he had been found suffering from hemiplegia. He was a large man, quite senile in appearance, but not emaciated.

The mind was clear, but he seemed rather childish and was restless and impatient, grasping his paralyzed hand and continually asking when he would get well. There was no dysarthria or trouble with swallowing. There was a paralysis of the left side of the body of the ordinary type, *i. e.* the lower face was moderately affected, the upper face hardly at all. The left arm was quite helpless, the leg somewhat less so, he could not walk but he could draw up the leg and move the arm a little. The eye muscles were not affected. There was some rigidity of the left arm and leg; the knee-jerks and elbow-jerks were lessened on the left and normal on the right. There was flexor response in the left foot, but not in the right. Epigastric reflexes not present. There seemed to be a very slight obtunding of cutaneous sensibility to pain on the left leg and arm. The urine had to be drawn with catheter. It had sp. gr. of 1020, albumin and hyaline casts. Pulse on admission 72. Respiration 20. Temperature 97⅕ F., rising next day to 99⅘. The heart was large and there was a slight systolic murmur at the apex. The arteries were hard. The pulse, however, of rather weak tension. The temperature continued 98° and 99° F. On the ninth day it was taken twice in each axilla.

Right axilla, 97.2—97.4; left axilla, 97—97.4, showing no essential difference.

The patient continued to become more restless; he complained of no especial pain, and did not have any fits of crying or laughing. He slept badly and had to be given morphine at times at night. He continued to grow weaker, his mind became more confused and dull. He passed fæces involuntarily. There was no change in his paralysis; no spasmodic symptoms developed. He died June 13 of exhaustion, eighteen days after admission.

*Autopsy.*—The vessels at the base were whitened and thickened with atheromatous changes to an extraordinary degree, but there was no complete obliteration of any of the vessels.

On palpation the right ventral surface of the pons was felt soft, and transections showed that there was a softened area involving the ventral part of the pons through nearly its whole length. The softened area was largest in the upper half of the pons where it involved the deep transverse fibers and the motor tracts and pons nuclei. The lesion became slightly smaller posteriorly, and at the level of the medulla the tissue was firm and apparently normal. The softening was limited entirely to the motor part of the pons and did not involve the superficial transverse fibers nor those of the trapezium. The softening was white and not so pultaceous as to fall out when sections were made. No specially obliterated vessel was found. On the corresponding ventral left half of the pons near a small recent hemorrhage about the size of a pea. The medulla was normal.

CASE IV.—*Thrombosis of pons, crossed hemiplegia, paralysis of left trigeminus and right half of body.*

Male, aged thirty-six, previous history negative, except that he had drank moderately and had been active in athletics. Denied absolutely ever having had syphilis. He suffered from eczema, and was treated for this by Dr. Geo. H. Fox, with whom I saw the case. In August he noticed a feeling of numbness upon the left side of the face, but this was not accompanied by any other marked symptoms. On November 30 he became a little dizzy and went to bed feeling well. Next morning he awoke paralyzed on the right side, in the arm and leg and on the left side of the face. Seen by me the next day, he showed a moderate facial paralysis of the left side, a marked paralysis of the right arm, less of the leg, and a complete anæsthesia of the left side of the face and left half of the mouth and

ongue as far back as the pillars of the fauces. he uvula hung straight. The muscles of mastiation on the left side were slightly affected. He ad some dysarthria, but no trouble in swallowing. here was some paræsthesia on the right side, but o anæsthesia, and no form of objective sensory isturbance. There was no loss of sense of taste the anæsthetic side of the tongue, and no aparent disurbance of mucous or salivary secretion. he left eye showed slight myosis.

The patient gradually improved, but a month ter he had another slight attack of hemiplegia, ttacking mainly the left arm.

Case V.—*Crossed hemiplegia; paralysis of left facial and right side of body, with anæsthesia.*

Sebastian K., aged sixty years, German. The paent was admitted to Bellevue Hospital without prelous history. The patient had the marks of adanced senility; his mind was dull, and had some fficulty in speech. There was complete parysis of the right upper extremity, partial parysis of the right lower, and total paralysis of e left side of the face. The skin reflexes were sent on the paralyzed side; deep reflexes present. nsation to pain was diminished on the paralyzed e. Patient became more and more apathetic, d suffered from incontinence of urine and fæces; d-sores developed. Death; no autopsy.

Case VI.—*Cerebral syphilis, thrombosis of branch right vertebral, right hemiplegia, thermoanæsthesia, ralysis of left vocal cord. Later general paresis.*

C. H., aged thirty-nine years, married. The tient had always been a strong, vigorous man, t he had indulged in alcohol a good deal, and d been infected with lues eight years before I w him. About a year before my examination of n he had an attack of right hemiplegia and right rmoanæsthesia, with a paralysis of the arytenoids, that he had some difficulty in speech. The ent was sent to me by Dr. Holbrook Curtis, o made an examination of the larynx, and furhed me with this diagnosis. The laryngeal ralysis was on the left side. He recovered enly from the hemiplegia, and when I saw him d simply a loss of the heat and cold sense upon e right side of the body; some of the laryngeal ralysis was still present; no ataxia. There were ggerated reflexes, but no ankle clonus or exsor response of the toes. In other words, the ects of his attack were nearly gone. It was evit, however, that he had a slight softening in the side of the medulla. He subsequently developed resis and died in about two years.

Case VII.—*Summary:* Male, forty years, syphilis incient tabes. Sudden development on *right side:* of ataxia, tile anæsthesia, analgesia of lower face, paræsthesia of t, paræsthesia of cold in lower face, slight hemianop-; no paralysis. *On left side:* analgesia and thermoesthesia; paræsthesia of cold; no cutaneous anæsthesia; paralysis; no dysarthria or dysphagia; no lateropulsn. Lesion probably in lower half of left pons.

The patient had a luetic infection at the age of enty; for the past five years he had suffered from htening pains in the legs; for one and a half years e bladder had been slow. A year ago he had an ttack of grip followed by left facial herpes. About me months before I saw him he had an attack of ght hemitaxia, with no disturbance of speech or ss of consciousness, or difficulty in swallowing. le was obliged to remain in bed a month on account f awkwardness of the right side; along with this disurbance on the right side, he had a loss of pain sense n the left side and over a spot on the right side of he chin. His condition of analgesia and ataxia mproved, but he suffered from subjective sensaions of heat on the right side and of freezing cold ain over the left side of the face.

When seen by me he had rigid pupils and a slight right hemianopsia, which he said came on at the time of his attack. The knee-jerks were exaggerated. He had lightning pains and the visceral weaknesses of posterior sclerosis. Physical examination showed him to be a person in good general health, able to walk fairly well, with no hemiplegia or motor paralysis. There was ataxia of the right side, shown by inability to place the finger at a definite point or recognize the position of the limbs, but there were no forced movements. He had, at the time of his attack, some right tactile anæsthesia, but never any motor paralysis. There was anæsthesia to heat and cold on the left side of the arm, trunk, and leg and slight analgesia over the same area; also an analgesic spot on the right side of the face in the distribution of the inferior branch of the fifth nerve. He had allochiria, that is, on pinching the left side of the body, he would feel it on the right side, at a corresponding point. His right hemianopsia appeared more marked in damp weather and when he was tired. The ataxia was only moderate. He could use the hand clumsily, could put the finger fairly well to the tip of the nose, recognize weights and the position of the limb, and it was mainly a defect in motor coördination. He has the Brauch-Romberg symptom, but could stand with the eyes closed and feet wide apart. There was a slight tremor in the right hand. His left thermoanæsthesia was absolute. Even freezing solutions cause only pain and hot things the same. He had a slight analgesia on the left side, and he did not feel a strong electric current. Coördination of the left side wss perfect. He had had no disturbance of speech, of deglutition or of the tongue. He had a drooping of the right lid, but the ocular movements were normal. There was some tickling and paræsthesia of the left side of the face where he once had herpes. The left pupil was larger than the right, but reacted to light. He had a hyperhidrosis of the left hand.

I infer that this patient must have had a thrombosis affecting the medulla, involving the median and outer lemniscus and parts external on the left side.

Case VIII.—Female age fifty-two years; two healthy children. The patient had been subjected to much worry for the past two or three years. Habits good, no infection. One week ago had a very severe headache; late in the day, slight ptosis. Walked home and went to bed. In two days this was nearly well. Then the ptosis returned with involvement also of the left eye and thickness of speech, but no hemiplegia. She again went to bed and gradually became semi-comatose. In the last two days she had Cheyne-Stokes respiration.

When examined by me the patient was in bed, unconscious, though she could be partially roused at first. She put out her tongue and moved her hands, arms, and legs fairly well and coördinately. She had Cheyne-Stokes respiration. Pulse 106, regular. She had complete double ptosis. Both pupils were dilated and did not react to light. The right eye turned out, the left was straight. All ocular movements paralyzed. All other cranial nerves seemed normal, except that she had difficulty in swallowing and that her speech was thick. Knee-jerks were exaggerated; slight clonus, more on right. Babinsky present on both sides. Epigastric reflexes gone on both sides. No anæsthesia. The patient died three days later.

Case IX.—*Syphilitic endarteritis and thrombosis of branch of upper basilar, right hemiplegia, thermoanæsthesia, with some ataxia of left arm.*

Male, aged forty-four years, lived an active life,

participating in outdoor sports, and had always been temperate. About eight years before I saw him he had an infection which was thoroughly treated. Six months before I saw him he had a slight attack of hemiplegia on the right side, with thermoanæsthesia of the left side. There was also a slight ataxia of the left arm.

When seen by me he still had some traces of the right hemiplegia, but could walk fairly well. There was still complete thermoanæsthesia of the left side, and a very slight trace of ataxia in the left arm. No hemianopsia. He subsequently suffered for one or two years from general symptoms of arterial sclerosis of the brain, but gradually improved. He had at times a slight right hemianopsia. Thus the symptoms were: Right side, hemiplegia (temporary). Left side, thermoanæsthesia (permanent); slight ataxia (temporary).

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## ABSCESS OF THE LEFT TEMPOROSPHENOIDAL LOBE OF OTITIC ORIGIN; OPERATION; RECOVERY.*


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THE symptoms which led to the diagnosis of abscess of the temporosphenoidal lobe in the patient under consideration were rapid development of choked disc, slow pulse rate, intense headache, and vomiting. The important localizing symptom of abscess of the left temporosphenoidal lobe, amnestic aphasia, was absent before the operation, but appeared immediately after it. Other interesting features of the case were (1) the discharge of pus from the abscess cavity followed by the flow of a clear watery fluid, evidently ventricular; (2) the rapid recovery of the patient in spite of the communication of the abscess cavity with the ventricles of the brain.

J. K., aged seventeen, an Austrian by birth and furrier by trade, was admitted to the Mt. Sinai Hospital on April 15, 1903. He complained of pain behind the left ear. During the past three days he had had several chills. Both ears had been discharging a long time, and the left ear always more than the right. On admission he suffered from frontal headache and photophobia. The left mastoid region was tender on deep pressure and the corresponding middle ear was filled with granula-

*Read at the meeting of the American Otological Society at Washington, May 12, 1903.

tions and cholesteatomatous masses. The attic of the right ear was also diseased. Temperature 104°, pulse 92, respiration 28. Examination of the lungs, heart, liver, spleen, and abdomen gave negative results. The pupils were small and equal and reacted well. Ophthalmoscopically the optic discs appeared somewhat swollen, redder than usual, and the retinal veins were dilated and tortuous.

Operation, April 15, 1903. Nitrous oxide and ether anæsthesia. Usual incision for the radical operation with an additional cut 3 cm. in length at right angles posteriorly. Entire mastoid exposed. Cortex hard and apparently healthy. Interior of mastoid down to the apex, diploic in structure and softened. The supero-posterior wall of the external auditory canal had disappeared—the radical operation had been performed by nature. The tympanic cavity was filled with granulations, the antrum packed with cholesteatomatous material. The sigmoid sinus was far forward, only 4 mm. from the external auditory canal and surrounded by diploic cells. The emissary vein was likewise imbedded in softened diploic bone structure. The sigmoid sinus and the emissary vein were laid bare. The upper knee of the sinus was covered with a thin grayish exudate, while its other parts and the emissary vein presented the normal blue appearance. The cholesteatomatous masses were removed from the antrum and the granulations from the tympanic cavity. No ossicles and no tympanic membrane were found. The antrum, very large, size of a filbert, showed a perforation through its roof. The opening measured 1 cm. in diameter. The dura mater, prolapsed into the antrum, was covered with hard granulation tissue. In the tympanic roof a small spot of discoloration was seen. The opening in the antral roof was enlarged by the removal of bone, including the discolored area in the tympanic roof. In the dura mater no other changes save those mentioned above were found, and no pus was encountered in the cranial cavity. A small erosion was discovered in the bone over the horizontal semicircular canal.

At the termination of the operation, which lasted over one hour, the wound was irrigated with sterile salt solution, flushed with absolute, alcohol, and dressed with iodoform gauze.

April 16.—Temperature still 102.8°, pulse slow, 70 to 80.

April 17.—Temperature 101°, pulse 80; general condition much improved.

April 20.—Temperature 98.6°; general condition good. Soft diet.

April 22.—Vomited this morning. Severe frontal headache. Photophobia. Optic discs red and swollen. Wound looks well. Temperature 99° to 100.4°. Pulse varying greatly in frequency, 48 to 84.

April 24.—Still complains of headache, but takes nourishment. No focal symptoms. No amnestic aphasia. Temperature 98° to 100.4°. Pulse 54 to 76. No vomiting. Late in the evening of the 24th the patient began to moan and said that his headache was unbearable. Ophthalmoscopic examination showed marked double optic neuritis (choked disc); sensorium clear.

Operation, April 25. Nitrous oxide and ether anæsthesia. Wound curetted, irrigated, and treated with absolute alcohol. Incision 1½ inches upward, exposing squama. Temporal ridge and portions of squama, tympanic, and antral roofs were completely removed. The exposed dura was thoroughly cleansed with absolute alcohol. Aspiration through under surface of brain in region of the tympanic roof. The needle was carried one inch upward and one syringeful of thick pus was obtained. A crucial incision through dura mater and the under surface of brain was then made and gave exit to about two ounces of thick yellow pus. Finger introduced into the brain could feel a limiting membrane. No irrigation of brain abscess. Drainage by narrow selvaged strips of iodoform gauze. Wet dressing. During the operation the pulse rose from 64 to 100.

April 26.—Marked amnestic aphasia, which did not exist before the operation. The patient could not name objects shown to him, but described their use in fluent language. Temperature 101.2°, pulse 60. Slight headache. Pupils equal. No taches. No rigidity of neck. Reflexes normal.

At the dressing of the wound, the withdrawal of the gauze was followed first by a discharge of pus, and then by a flow of a considerable quantity of clear watery fluid. After the dressing the pulse rose from 60 to 88. The symptom of aphasia was less apparent, the patient naming several objects but tiring after a few questions. Choked disc still pronounced on both sides.

April 27.—Temperature 99.4°, pulse 86. General condition improved. Aphasia less marked; patient could name several objects. At the dressing, pus and watery fluid evacuated from brain abscess.

April 28.—Temperature 99.2°. Pulse 96. Patient feels well. Good appetite. No aphasia. No retention of pus. Left pupil larger than right. Choked disc still present.

The patient made a rapid recovery and was presented at the May meeting of the New York Otological Society.

36 East Fifty-seventh Street.

## THE RATIONAL TREATMENT FOR MOUTH-BREATHING.

By W. H. FITZGERALD, M. D.,
LARYNGOLOGIST AT ST. FRANCIS HOSPITAL,
HARTFORD, CONN.

That nature intended man for all climates is unquestioned, but if man live other than nature intended he should he must be content with dire consequences so far as health is concerned. And why is it that certain individuals enjoy better health in certain climates than in others?

To my mind the reason in a majority of cases is that they are mouth-breathers and bear better the mild than the severe climate.

Who are afflicted with chronic nose, throat and chest affections? The mouth-breather always, and we will never stamp out such conditions as pulmonary tuberculosis, together with numerous other affections of the respiratory tract, until we—the human family—have learned to take every inspiration through the nose.

I have taken the liberty to divide mouth-breathers into two classes, confirmed and moderate. The *first* breathes almost continually with open mouth. The *second* is not conscious that he breathes other than through the normal channels and will not admit that he does otherwise until you convince him such is the case. It is my custom to engage the doubting one in conversation or have him read for me, when he will be surprised to learn that he has spoken several sentences or read many paragraphs without once closing his mouth. He it is who after lecturing or reading aloud, or perhaps singing, is dry of mouth and husky of speech and wonders why.

*Treatment:* Restore the nose to as nearly a normal condition, physiologically speaking, as possible, and then insist upon your patient using it. So long as the spray, douche, and solution treatment generally are patronized just so long will we fail to

get good results, for, as Dr. Leland remarks, the nose wants air and not water.

Douching and spraying are contrary to nature and should never be practised.

Solutions in the nose seldom cure, and are very often excitants, not only to the nose, but to the accessory cavities and ear. Every inspiration taken through the mouth is at the expense of the nose, favoring hypertrophies, and thus causing anomalies of the respiratory and adjacent tracts.

When the patient is a mouth-breather through habit, and this may be determined by having him breathe first through one nostril and then the other, it is my custon to order him to breathe forcibly through his nostrils at the rate of one respiration per second for ten seconds, this to constitute one exercise, to be repeated often, perhaps eight or ten times during the day. He will find that this more than compensates for his spray, for having used the spray in the morning he is "filled up," as he expresses it, long before noon. His nose he can exercise at will and thus keep it free. The exercise I prescribe for all patients during the process of repair following operations, to be continued until they are confirmed nasal-breathers. A mouth guard should be worn at night for a few weeks. In my practice the most satisfactory form of mouth guard has been a small strip of adhesive plaster (fine oxide lined) worn vertically across center of mouth.

If we are going to cure nasal catarrh and other respiratory difficulties, the respiratory tract being freed of all obstructions and irritable areas, the patient must be taught to breathe normally.

Irritable areas are not always detected by the probe, therefore we cannot depend upon that method, but must note that these patches have a characteristic appearance. They are found not only in the nose but ofttimes in the nasopharynx and pharynx as well, and are of a pale, water-logged appearance. They may be obliterated surgically or by cauterization, and if the nose thereafter is properly used like areas do not return. This may be said for all hypertrophic removals. To bring about a permanent patency of the eustachian tube the individual must become a nasal-breather, therefore it is absolutely essential to overcome or permanently improve most varieties of deafness and tinnitus aurium that the patient breathe through the nose at all times. The eustachian catheter is often harmful, acting as a mechanical irritant, and thus assisting the progress of an already thickened and, perhaps, irritable membrane.

The dilatation of the cheeks of the patient, and the inflation, perhaps for the first few treatments, of air medicated and thereafter occasionally with air in its purity, or Professor Politzer's method, the patient being careful between times to continue his breathing exercise, are vastly superior to other forms of inflation. Air is what the thickened eustachian orifice needs to return it to a normal state, and this applies to the thickened or collapsed eustachian tube and middle ear as well, also the accessory nasal cavities.

The oxygen treatment is familiar, but why use oxygen artificially when air breathed normally will supply it?

Your patient can go to a milder climate and breathe with open mouth and be benefited, but would it not be far better for him to remain at home, breathe through his nose and fully recover?

Commence with the babe. Make it a special point that it breathe through the nose. If it cannot, know the reason why. Certainly if the Indian mother recognized the necessity and insisted that her babe breathe properly, the civilized mother of to-day should. Follow it from babyhood to childhood; impress the necessity upon it as a child and, barring accident, it will never breathe otherwise. If it is found, following an accident from fall or blow, that the nose is not free have the fault corrected. Normal breathing will help materially to bring about perfect development, and without normal breathing such development cannot be attained.

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## THE INTERNAL ADMINISTRATION OF METHYLENE BLUE AS AN AID IN THE DIAGNOSIS OF URETHROPERINEAL FISTULA.

By RICHARD LIGHTBURN SUTTON, M.D.
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THE injection of certain staining solutions into the various canals and hollow viscera in order to determine the presence or absence of abnormal openings has been successfully practised for years, but it is seldom that one finds a drug given by the mouth, with the intention of causing a marked coloration of some particular excretion, thus bringing to light any sinuses or fistulæ which may exist.

The following case will serve as an illustration: T. J. L., white, twenty-eight years, admitted to hospital April 17, 1903, suffering from perineal abscess. He was treated for abscess in the same location about one year ago. He has had several attacks of gonorrhœa, and there is now a slight purulent discharge. No history of complete stricture or retention of urine. A No. 20 French sound was passed, but a contracted external meatus precluded the use of a larger size.

The abscess was incised, under cocaine anæsthesia, a few hours after the patient was admitted. Careful examination with a fine, blunt-pointed probe failed to reveal the presence of a suspected communication with either the rectum or genito-urinary tract. There was no swelling, œdema, pain, or tenderness in the region of the triangular ligament, and the urine was passed freely and without apparent effort, consequently infiltration from a ruptured bladder or urethra was considered improbable. No abnormal openings leading into the rectum or anus could be discovered.

The wound was dressed with plain, sterile gauze, and capsules containing methylene blue and oleum santali were ordered for the urethral inflammation. When the dressings were removed on the following morning it was noticed that the material was stained a light indigo color. This led to a closer examination of the urethra, and the remains of an old annular stricture were found just anterior to the membranous portion.

To render the diagnosis positive and to clear up all doubt as to the condition present, the external wound was thoroughly cleansed and a small protected gauze pad was applied and secured snugly in place by means of a T-bandage, while the internal medication was continued. The dressings were removed late in the evening, and were found discolored as before, although the patient experienced no difficulty whatever in passing the normal amount of urine through the natural channel.

The stricture was gradually dilated by the use of sounds in the usual manner, until the channel was practically normal in size. After the first week the discharge of urine through the sinus entirely ceased, but the external wound was kept open for some time, by means of gauze packing, in order to prevent the formation of a pocket.

This method of diagnosis is particularly applicable to those cases in which a fistula communicating with the genito-urinary tract is suspected, or

when the connecting channel is so tortuous and irregular as to prevent the passage of a probe. Its simplicity, reliability, and freedom from pain certainly recommend its trial in these cases.

## A POSSIBLE CASE OF INFANT POISONING AS A RESULT OF ABNORMAL MENTAL AND PHYSICAL CONDITION IN THE MOTHER.

By CHESTER J. STEDMAN, M.D.,
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CONTRACT SURGEON U. S. ARMY.

HENRY W., a rather large, well-developed baby of seven months, had, previous to the following incident, always enjoyed good health. He had been nourished from birth, entirely from the mother's breast.

On Saturday, June 27, 1903, the child nursed, as usual, about 4.30 A.M. About 7 A.M., as his mother was again preparing to give him the breast, he suddenly stiffened out and became practically unconscious; the spasm lasted for only a few moments, but seemed to leave the child in a more or less dazed condition. About 8.45 A.M. he had another spasm, or convulsion, similar to the first, and passing away quite as rapidly. About fifteen minutes after the second convulsion, the child's bowels moved; the motion consisting of about the normal amount of semi-solid fecal matter, but containing, also, a considerable intermingling of blood. Immediately following the movement of the bowels, vomiting took place; the vomited matter being slight in amount, and having the appearance of slimy water; but containing no blood. About 11 A.M. there was a second movement from the bowels, less in amount than the first; but containing, also, a slight amount of blood. The amount of blood in either motion was not large.

I first saw the child about noon. Beyond a slight apathy, he had every appearance of a normal child. There was no temperature, and he gave no signs of distress. The mother showed me the last stool, which she had saved; although mostly absorbed by the napkin, it still showed unmistakable evidence of having contained a slight amount of blood. I gave the child a small dose of paregoric, and requested that I be immediately sent for in case he should become worse.

On Sunday evening I saw the child again, at which time he appeared perfectly well. The mother told me that the only symptom of trouble he had shown, since Saturday morning, was another blood-tinged motion from the bowel, which occurred about 6 A.M. Sunday; this motion being larger, and containing more blood, than either of those of the previous day. The child's bowels moved twice more on Sunday; but the motions, which were slightly watery, contained no blood.

To the best of the mother's knowledge, the child had taken absolutely nothing but breast milk into its stomach.

The major part of the foregoing account is given practically as it was told me by the mother. She further told me that, on Friday morning, she had felt it necessary to take a dose of salts; but that, contrary to custom, the salts had produced no effect, her bowels remaining unopened all day. She also told me that she had been very much worried, on Friday, over some household matters.

The case is submitted, not as absolute evidence, but, rather, as suggesting the possibility that the digestive disturbance of the breast-fed infant may have been secondary to the aforementioned physical and mental condition of the mother.

## A CASE OF SMALLPOX IN THE FŒTUS.

By J. H. FRANKLIN, M.D.,
SPRING VALLEY, ILL.

W. M., an American, aged thirty-two years, became ill on the evening of March 1. A physician was called on March 3 and the typical eruption of smallpox appeared on March 4. The family, consisting of the wife and three children, were vaccinated on March 5. Mr. M.'s case ran the typical course of variola.

Mrs. M., of German descent, aged twenty-eight years, was seven and a half months pregnant at the time her husband was attacked. She had had one miscarriage two years previous to this time. She claimed she had never been vaccinated, although, having been born in Germany, she may have been vaccinated when an infant, but no scar was visible. Five days after the first vaccination she was vaccinated again, successfully. During the time of the quarantine, which was until April 1, Mrs. M. complained of no constitutional symptoms whatever and there was no skin eruption of any kind. Two weeks following the raising of the quarantine, or on April 14, she began to have labor pains, and on the afternoon of that date was delivered of a full-term child with the typical eruption of smallpox in the pustular stage. The lesions on the child were large, at least a quarter of an inch in diameter and deeply umbilicated, and while very numerous, were discrete. The child had evidently been dead for several days, as it was slightly macerated. The mother made an uneventful recovery, no rise of temperature occurring, and she was up on the tenth day.

This woman never complained of constitutional symptoms of any kind, for which reason it is extremely improbable that she had variola without eruption.

**Enlarged Tonsils a Cause of Middle-ear Catarrh.**—C. P. Linhart says that when the tonsils are of abnormal size the patient is subject to frequent colds with acute inflammation of the tonsils and other lymphatic glands, and when the surrounding tissue is hyperplastic, the additional swelling of the glandular tissue increases the obstruction to the opening to the eustachian tubes, leading to disturbances in the eustachian tubes and middle ear which occasionally produces a purulent inflammation of the middle ear. The author reports two illustrative cases. Removal of the tonsils improved the hearing.—*Columbus Medical Journal.*

**Report of a Case of Tonsillar Ulcer of Vincent.**—Lawrence J. Royster describes the case of a child with normal pulse and temperature, and apparently no indisposition beyond pain on swallowing. The lymph nodes at the angle of the jaw on the right side were greatly enlarged; on the right tonsil there was a patch of grayish deposit, nearly as large as the tonsil, slightly depressed and having a very ragged outline. The edges were redder than the normal color of the tonsil, and on removing the membrane, or rather slough, which came away without resistance (but had a great tendency to reform rapidly), the ulcerated and bleeding base of the lesion could be seen. The tonsil was hard and indurated. The diagnosis from diphtheria was made from the normal general condition, and marked tendency to chronicity. The diagnosis from syphilitic ulcer was difficult, but as the patient was only seven years old the author dismissed it from his mind, and Vincent's ulcer occurring to his mind, he made a smear from the edge of the ulceration, stained it with dilute carbol fuchsin, and then found the fusiform bacillus and spirillum of Vincent. Treatment consisted of hot gargles of normal salt solution, and tincture of iodine applied locally. The ulcer had entirely disappeared three days after treatment was instituted.—*Archives of Pediatrics.*

# MEDICAL RECORD:

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## THE PRESENT POSITION OF SUTURE OF THE BLOOD VESSELS.

UNDER this title Dr. Arthur H. Burgess gives, in the *Medical Chronicle* for May, 1903, a critical review of this subject, citing in abstract the published cases and the technique resorted to. His main conclusions are: The opinion appears to be steadily gaining ground that, whenever possible, wounds of the larger blood vessels shou d be treated in such a manner that healing of the vessel wall may take place without the lumen of the vessel becoming occluded during the process, and several successful instances of this have now been recorded, more especially in connection with the large veins. The two chief procedures advocated for this purpose are (1) lateral ligature of the vessel, and (2) direct suture of the wound in its wall, the former being advisable only in punctured or small incised wounds, and only in connection with the veins, whilst the latter is of much wider applicability. . . . Arterial suture being as yet only in its infancy, it is impossible to establish its precise indications and limitations, or the exact technique of its performance. It is only applicable to the larger arteries, and is especially serviceable whenever there is reason to fear that ligature of the vessel might possibly result in gangrene. The arterial wall must be in a healthy state, and the wound must run an aseptic course. Moreover, it must be possible to control the circulation, both proximally and distally, at a distance from the wound sufficient to allow of the necessary manipulations. This control may be applied digitally or by rubber-padded clamps, such as those specially introduced by Crile (*Annals of Surgery*, April, 1902) for the temporary closure of the carotid arteries. Great care should be exercised that the pressure does not injure the endothelium, and on this account temporary ligature is not advisable. Cleanly incised wounds and those in a longitudinal direction are the most favorable for suture. If the edges are much lacerated that portion of the artery should be excised, if not too extensive, and the continuity restored by Murphy's method of invagination. This procedure is also to be utilized whenever a transverse wound involves more than one-half of the circumference of the artery. Fine silk forms the best suture material, and should be threaded on ordinary domestic sewing needles of as small a size as can be conveniently handled. The suture should take up the two outer coats only, and may be an interrupted (twelve to sixteen to the inch) or a continuous one, preferably the latter. When the suture is completed the distal clamp should be removed first, allowing a reflux of blood which will test the efficiency of the sutures before they are exposed to the full force of the blood-stream. The sheath of the artery should be carefully sutured, so that it may form a barrier against sepsis should the wound suppurate superficially. The risk of the subsequent development of an aneurysm at the sutured site appears to be very slight, and no instance of it has yet been recorded, either in the human subject or in the numerous experiments on animals. It is probable that in the invagination method the proliferation of endothelium ultimately occludes the vessel entirely, but in the meantime the collateral circulation will have sufficiently established itself to prevent any consequent ill effect.

The authors then cite Matas's operation upon aneurysmal sacs (*Annals of Surgery*, February, 1903) as a recent extension of work along this line. The circulation being controlled proximally (and, if necessary, distally also), an incision is made in the long axis of the sac, the clots are turned out, and the mouths of all vessels entering the sac are exposed. These orifices are then closed from within the sac by entering a full curved needle carrying chromatized catgut sutures, one-quarter to one-sixth inch beyond the margin of the orifice of one side, the needle then reappearing at the margin, re-entering at the opposite margin, and finally reappearing at a corresponding distance beyond, taking a firm hold of the endothelium and underlying fibrous tissues during its passage through either side. In the sacculated aneurysm the single orifice is sutured similarly, care being taken not to encroach upon the lumen of the vessel. Upon relaxation of the compression there should be no leakage at the point of suture. Where there is abundant material a second row of strengthening stitches is passed and the skin then turned in to obliterate the cavity, after the manner of obliterating bone cavities by cutaneo-periosteal flaps. Matas has treated four patients in this way. He suggests (but has not actually carried out) the restoration of the arterial channel of a fusiform aneurysm by stitching the edges of longitudinal elliptic excisions, moulding the new vessel wall upon an inserted rubber tube, which is withdrawn just before the last stitches are taken at the center of the incision. Concerning suture of the veins the author remarks that it is interesting to note the terror of the pre-antiseptic surgeon caused by a wound of a large vein, and how the fear of gangrene was ever before him when he ligated. Indeed ligature of the femoral artery was generally recognized as the correct practice in case of a wound of the femoral vein. Still even before antiseptics some surgeons ligated large veins without gangrene, and since the introduction of antiseptics this procedure has become devoid of danger. Indeed, the inferior vena cava has been ligated three times with two recoveries. A more ideal method of treatment, however, is that of closing the wound without obliterating the vein by lateral ligature, lateral application of forcipressure forceps, or suture of the wound. The circulation being temporarily shut off, interrupted sutures of fine catgut or silk are passed with a full curved needle, not more than three or four millimeters apart through all the coats of the vessel. Over these a second row is passed, taking

up the cellular sheath and the surrounding connective tissue. For suture to be practicable the wound must be linear, not too extensive, and in the long axis of the vein. Following the suture, a small parietal thrombus forms which scarcely encroaches on the lumen, and which becomes covered by endothelium and organized, so that ultimately a firm cicatrix is formed. Henzel prefers suture to lateral ligature as encroaching less upon the lumen, giving a surer guarantee against secondary hemorrhage, and involving less risk of embolism. Recent experiments upon animals have also demonstrated the feasibility of the establishment of anastomosis between two contiguous veins (*e. g.* the portal and the cava), and also the establishment of an arteriovenous anastomosis. In neither of two reported cases, however, did the established anastomosis between the femoral artery and vein operate to arrest the precedent gangrene. At the autopsy on one of the cases the orifice of anastomosis was found patent, but greatly reduced in size. Jaboulay has suggested the invagination of the proximal end of a divided artery into the distal end of a vein in conditions of defective cerebral circulation, but it has not yet been practised. Experiments on the cadaver have shown that fluid injected into the peripheral end of the divided internal jugular was promptly returned by all the deep and superficial veins of the head and neck, but in the limbs it was impossible to overcome the resistance offered by the valves. Still, in arteriovenous aneurysms the pulsation is sometimes transmitted rather far down the vein, so that the valves probably yield somewhat to prolonged pressure. Possibly, too, in advanced life they are somewhat more patent. Nevertheless the evidence in favor of the value of the establishment of arteriovenous anastomosis for the relief of endarteritis obliterans is not convincing.

## THE BASIS OF LIFE.

THE more or less identical questions of what life in its narrow sense is and what is its physical basis are just now exciting some discussion in both the scientific journals and the newspapers. The question has never been in abeyance since the promulgation of Darwin's law of evolution, that is, among scientific men; but it is only recently that the lay press has appreciated the usefulness for its purposes of a more or less sensational discussion of electricity, ions, protoplasm, and other terms with the significance of which its writers express such perfect familiarity. There is even a tendency among laboratory workers and scientific theorizers to announce generalizations and to give to the world what the observer would like to believe or to prove, in marked contrast with the work of some of the patient accumulators of facts of a generation ago. This is an undesirable state of affairs, since it gives an exaggerated value to facts already in our possession, and a distorted view of our proper lines of investigation in the future.

In discussing a subject like the present one, it is absolutely necessary that there should be an accurate conception of the meaning of the terms used. If this rule is observed such redundant expressions as "ultimate atom" will not be met with, and the question as to what "life" is will be one of physiology and chemistry, cleared of all psychological and poetical verbiage.

What we really know on this subject is much, and it is little. We know that the typical cell is formed from protoplasm, which is a substance composed of highly complex organic matter, and that under a favorable environment this protoplasm will manifest properties which clearly depend upon the integrity of some so far undiscovered atomic arrangements, for when the environment becomes unfavorable, and the atomic arrangement is changed, the protoplasm ceases to show evidences of "life" and is broken up into a number of less complex substances, many of which are easily identified. The active process exhibited by such protoplasm and commonly called "the vital process" or life is frequently alluded to as "mysterious" when something supernatural is meant. The process is mysterious, but it is not supernatural, and there is absolutely no reason to suppose that it depends upon any psychical, spiritual, or supernatural influence, force, or afflatus to which the protoplasm may be subjected. The quality of mystery depends upon our inability at present to understand the finer chemical and physiochemical relations of the atoms in complex bodies like protoplasm, and the laws which govern alterations in such relations. Our ignorance in this regard is not hopeless, if we can judge by the enormous advances of the past two decades in organic chemistry, especially in the department of synthetic work. Another difficulty in the use of terms is that caused by the limitations of the human mind, which in forming any conception in an abstruse subject always personifies something, though unintentionally and unconsciously, and refers everything to mental processes which are glorified and exalted counterparts of its own activities. In other words, the human mind cannot conceive of an impersonal universal force without looking for some, at least, of those qualities which make all human minds more or less circumscribed psychological arrangements.

Another law which we have formulated in our study of cellular processes is that activity in cells is in general proportional to their chemical and physiological complexity, and it is a reasonable inference that there is an ascending scale of physiochemical activity, at least in organic substances, until such a stage of atomic and chemical complexity is reached that the phenomena, which we designate as vital, are observed. In the case of many inorganic and in some organic substances, we have good reason to believe that we know the interatomic relations and some of the laws that govern their changes. In the case of the more complex bodies, we have not yet reached this condition of knowledge, though we have so far found nothing to indicate that the atoms in bodies like protoplasm are not governed by laws differing rather in degree than in kind from those which control the atoms in less complex compounds.

In regard to the relation of electricity to vital processes and manifestations, there is dense obscurity in the lay mind, and in the minds of some scientific observers there seems to be a certain amount of misapprehension and unwarranted deduction. The average layman seems to believe that electricity and life are interchangeable terms, and

the better taught observer is apparently often under the impression that, because electrical influences have marked effect upon vital processes and many organic substances, there must be a close relationship between electrical force and what he considers to be by analogy the vital force. The deduction is false, and the inference that there is an entity which can be justly described as a vital force is unwarranted by any real evidence so far in our possession. We believe electricity to be a form of energy, and we may say that vital processes are manifestations of energy, but the two are not necessarily convertible, and the fact that a change in electrical state has apparently been demonstrated to occur in the course of certain vital manifestations, does not show that this electrical change is an essential part of the processes which are occurring, or that it plays any causative rôle whatever. The solution of the question and the promulgation of a satisfactory definition of life are matters of absorbing interest, but we are far from having enough facts at our command to begin to draw conclusions, and we must wait until the chemist and the physiologist have worked together much longer than they have up to the present before we can get an agreement among scientists as to what they mean when they talk about "life."

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### Inebriate Women.

In these days when drinking is said to be greatly on the increase among women of all civilized nations, and in this country and in Great Britain among those of what are known as members of the upper circles, a discussion of inebriety as it affects the female sex may not be out of place. In the first instance, it would seem that the fact cannot be denied that there has been, among women of the smart set, both here and in Great Britain, a certain tendency toward the imbibing of stimulating beverages, but at the same time it is equally certain that the situation in this respect has been greatly exaggerated. The women of the lower classes in London and in some of the other large cities of the United Kingdom, have for long had the reputation of being somewhat addicted to drink. Whether, however, this failing has not been enlarged upon is a point which requires closer investigation before condemning them as a class.

Undoubtedly many of the articles which have widely pervaded the pages of journals and society papers in this country and in Great Britain have not been distinguished by a close regard for strict veracity. A well-known writer, in a London weekly journal a short time ago, drew a harrowing picture of the extent to which secret tippling is indulged in by ladies of the best society on the other side. He assured his readers that it was a common practice with women of rank to use their milliners and confectioners as a means of satisfying their vitiated tastes. As regards the milliners, they were induced by their customers to put down spirits and wines under the head of lace and so forth in the bills sent in to their husbands. That this picture is overdrawn is plain on the face of it. Nevertheless, those who have made it their business to discover the truth confidently assert that drinking has decidedly increased among women generally within recent times. The reason for these degenerated habits is, perhaps, not far to seek. Women in society, or in command of almost unlimited money, lead a life of continuous wear and tear; this after a time, and quickly with those who have inherited a neurotic temperament, brings on nervous exhaustion, which they endeavor to fight with alcohol or with drugs.

In the *Medical Times and Hospital Gazette* of August 1, 1903, the opinions expressed with regard to inebriate women by Dr. Braithwaite, the Inspector under the British Inebriate Acts is referred to. It has been regarded for so many years as an undoubted truth that women who have become confirmed drunkards are beyond all hope, that the statement has come to be looked upon as incontrovertible. At the present time this opinion by no means possesses the weight which it possessed once.

Dr. Braithwaite, who, of course, speaks with the authority of one who has had wide experience on the subject, is a dissenter from the old-time view, and says that, "as a matter of fact, women who give themselves a fair chance have at least an equal chance of good result," and he quotes instances. He thinks too that the popular impression does incalculable harm, for the woman who has given away to drink despairs of recovery, and her friends regard her with suspicion, although she has apparently reformed.

Women who have taken to the drink habit practice it in secret, as a rule, long ere the vice is discovered. When this occurs, they are pointed at by the hand of scorn, and becoming utterly careless of consequences, and losing all self-respect, brazenly pursue the downward path. It is this feeling on the part of a woman of position who is found to be addicted to the drink habit, and who thinking that she has thereby forfeited all claim to respect or esteem, that is probably an important factor in rendering her especially hard to treat successfully. As the *Medical Times and Hospital Gazette* remarks, "The matter is such an important one from the point of view of the common weal that it is to be hoped that other doctors, inspectors, and persons of similar experience will offer their testimony. Such a discussion would be welcomed, and could not be productive of anything but good."

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### Stature of the Japanese.

The *Sei-I-Kwai Medical Journal* announces, in a recent issue, that Surgeon-Captain Nakamura of the Hiroshima Army Division has written an important paper on the question of the stature of the Japanese. The view has been expressed on more than one occasion, that the physique of the people has been keeping pace with their remarkable material, scientific, and literary progress. For several years Surgeon-Captain Nakamura has been collecting statistics bearing upon this point, and the result of his investigations go to show that these premises have been correct. The data collected cover the period of eleven years ending 1902, and appear to prove, in a convincing manner, that at any rate the Japanese as a race have increased in stature, steadily and systematically. Japan enforces conscription, and the number of men examined practically included all those who had reached the age at which they were liable for army service. Consequently the figures obtained were comprehensive and to be depended upon.

According to the *Sei-I-Kwai Medical Journal*, "The data given proves that the number of those who measure 5.4 shaku (5 feet 4½ inches) or above and 5.2 (5 feet $1\frac{7}{10}$ inches) to 5.4 shaku is steadily advancing, and that the number of those coming under the two shorter headings is gradually declining. In 1892, for instance, those who measured above 5.2 shaku numbered 42 out of every 100 examined, and the

corresponding number increased to 44 in 1902. On the other hand, the number of those whose height was below 5.2 shaku decreased from 58 to 52 during the same period. If in gaining in height the Japanese have not lost in muscle and weight, the showing should be most encouraging as a sign that the national physique is developing *pari passu* with the wonderful growth exhibited in other directions.

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THE TREATMENT OF GOITER BY DISTILLED OR RAIN WATER.

In the *Lancet*, July 18, and again on July 25, were letters from two medical men describing the successful effect following the treatment of goiter by the use of distilled or rain water. In the first letter Dr. C. A. Rayne of London gave the history of three cases of goiter which in one instance yielded entirely to this remedial measure, and in the two others showed considerable amelioration. He claimed that giving the patient no drink but rain or distilled water was an entirely new method, and in this view he was upheld by Dr. F. Roberts of London, who also said he thought an important discovery had been made.

However, Dr. Louis E. Stevenson, writing to the *Lancet* of a later date, denied that the treatment was by any means new, but said that it had been familiar to physicians in diverse parts of the world for a long time. The writer further said that several cases of cure by this means had occurred in his own practice, and that he had pointed this out some years ago, at a meeting of the Border Branch of the British Medical Association.

Dr. Rayne had raised the question whether some other maladies to which we are become more liable, may not be related to some undiscovered influence in our water-supplies, which are more and more derived from reservoirs and collections through strata of an unknown nature. Dr. Stevenson, on the other hand, did not think that the cure depended on either rain or distilled water, but on the fact that the patient was drinking a fluid free from the goitrous poison, and in proof of this he quoted the following instance from the writings of St. Lager: "Kessler says that round Schemnitz in Hungary the goitrigenous action of the waters is so evident that those who go to drink the water of a neighboring valley have the satisfaction of seeing their tumors disappear."

Other instances of a like nature could be quoted. Among these another, also from St. Lager, in which it was shown by the evidence of military surgeons who had observed epidemics of goiter in many places, that the officers and non-commissioned officers who drank only wine escaped the disease. That rain water or distilled water, whatever be the cause, has a good effect on the course of the disease may be regarded as certain, and it would seem more than likely that the disease is due to some quality of the water consumed.

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**Orrhotherapy in the Typhoid Fever of Children.**—Alberto Josias concludes from his experience in the treatment of fifty cases of typhoid fever: (1) That the average death rate caused by typhoid fever among children in the Parisian hospitals, where they are treated by cold bathing and drugs, averages 14.2 per cent. (2) The average death rate among children suffering from typhoid fever in the Bretonneau Hospital, where they are treated by anti-typhoid serum and cold bathing (72° F.), is 4 per cent. These statistics establish beyond doubt the value of the serum. Its discovery by M. Chantemesse is a distinct advance in scientific medicine.—*Medical Press and Circular.*

## News of the Week.

**A Plague Scare from Cuba.**—A few days ago a morning paper printed a long article on a mysterious and exceedingly fatal disease (possibly plague or yellow fever) which was said to have appeared at Daiquirí near Santiago de Cuba. According to the description given, the disease "attacks persons who have suffered from intermittent malaria fever; commences with very heavy chills, lasting from fifteen to twenty minutes; high fever 107°; severe pains in joints and anxiety at end of chills or before patient begins vomiting, which is almost impossible to control. About six hours from commencement of attack the patient assumes a yellow color, more or less pronounced, in proportion to the attack, this always, however, being more pronounced than in yellow fever. The breathing becomes labored, affecting all the thoracic and abdominal muscles. Hiccough is frequent. Patients not treated during first few hours of attack have not the slightest hope of recovery. Pulse is 160; respiration, 38 to 58. A microscopical examination of the blood shows the microorganism of malaria. Treatment: frequent doses of quinine." A copy of this report, made by the company physician, was sent by the officers of the steel company, among whose miners the affection was noted, to the pathologists of the Jefferson College Hospital and University Hospital of Philadelphia, and of the Medical Department of Columbia University in New York, and in the process found its way into print. It was the officers of the company, however, who wished to be enlightened as to the nature of the disease, and not the physician, who had already made the diagnosis of pernicious malaria. This diagnosis has been confirmed by Dr. Carlos Finlay, Chief Health Officer of Cuba, who denies the existence at Daiquirí or elsewhere in the island of either plague or yellow fever, the only cases of fever there being malarial, among which there are always likely to be pernicious or hæmoglobinuric forms. Indeed, three deaths from blackwater fever were reported from Daiquirí during July.

**Recrudescence of the Cattle Plague in Massachusetts.**—It is reported that four cases of foot-and-mouth disease were recently discovered in a herd of cattle at Wakefield, Mass. In consequence of this the Maine Board of Cattle Commissioners has reëstablished the quarantine against Massachusetts cattle.

**Fourth of July Tetanus.**—In the *Journal of the American Medical Association* of August 29 is a special article giving statistics of the deaths from tetanus secondary to wounds received in celebrating Independence Day after the inane method followed in most of the northern States. According to the figures compiled by the writer of this article there were 415 deaths from this cause. Most of the victims were boys, and most of the deaths resulted from blank cartridge explosions, causing wounds in the hands. Of the deaths 49 are credited to Illinois, while New York reports only 36. Pennsylvania leads the list with 82 deaths. Ohio had 67 deaths. The deaths in other of the States of the Middle West were as follows: Indiana, 11; Wisconsin, 11; Michigan, 29; Iowa, 14; Minnesota, 16, and Missouri, 29.

**Municipal Hospital, Philadelphia.**—Dr. W. M. Welch has been retired as physician in chief to become diagnostician and consulting physician, Dr. Jay F. Schamberg has resigned as assistant physician, and Dr. B. Franklin Royer has been made chief resident physician.

**The Medical Corps of the Turkish Army.**—Reports from Constantinople say that seven hundred medical and veterinary students have received their diplomas and commissions without having passed the usual examinations, and have been drafted into the Turkish army.

**Dr. Alfred Meyer** of New York City has been appointed chairman of a committee in charge of the Section on Sanatorium Treatment of Tuberculosis of the American Congress on Tuberculosis, to be held in Washington, D. C., April 4, 5, and 6, 1905. It is probable that the climatic and other methods of treatment will be comprised under the work of this committee.

**The Pasteur System Attacked.**—Dr. Duata, professor of hygiene at the University of Perugia in Italy, has published in a Milan newspaper a severe arraignment of the Pasteur treatment of rabies, which he says causes but does not cure the disease. Before the introduction of this mode of treatment, he says, the average annual number of cases of rabies in Italy was sixty-five, but since the institution of the Pasteur method the annual average has risen to eighty-five.

**Physicians Charged with Drug Pilfering.**—Three young physicians connected with the St. Louis Board of Health have been charged by the Health Commissioner with stealing drugs from the pharmacy of the city poor house, and warrants for their arrest for petit larceny have been issued.

**Edison's Cancer Cure.**—The latest cure for cancer is announced by Mr. Thomas A. Edison, the inventor. He has invented a new theory of the pathogenesis of cancer, which we are unable to grasp from the specifications published. But the cure is very simple; one has but to take a hypodermic syringeful of blood from a healthy subject and inject it into the body of the affected person in the region of the cancer. The trick is easy enough and its inventor gives it free to the world, for, although he has, it is said, taken out nearly 800 patents on his various inventions, he is safe in believing none would be granted him on this.

**North Dakota State Medical Society.**—At the recent annual meeting of this society the following officers were elected: *President*, Dr. W. H. Bodenstab of New Salem; *Vice-Presidents*, Drs. J. A. Rankine of Jamestown and Paul Sorkness of Fargo; *Secretary*, Dr. C. L. Brimi of Cooperstown; *Treasurer*, Dr. W. H. M. Phillip of Hope; *Delegate to the American Medical Association*, Dr. V. H. Stickney of Dickinson.

**The Restoration of the Army Canteen.**—In his annual report as Commander of the Department of Texas, Gen. Frederick D. Grant renews the argument for the restoration of the post exchange or canteen. The canteen, he says, is the enlisted soldier's clubroom, into which no vice or degradation can intrude. There the soldier is guaranteed certain privileges which, so long as not abused, prove a bulwark against the temptations and dangers that now surround almost every post in the army, and especially border posts. To close the doors of the soldier's garrison club and send him out into the haunts of iniquity and vice run by moral vultures is a wrong to the soldier as well as to the community in which the soldier is stationed.

**Christian Science as Dangerous for Animals as for Men.**—A Texan farmer recently brought suit against a railroad for fatally injuring his team of horses. The testimony was straight, and it seemed that the plaintiff would win his contention without doubt. He went on the stand in his own behalf, and what he said in answer to questions strengthened his case until the attorney for the railroad asked him what treatment he had given the horses. He answered that he had given them the Christian Science treatment only. He had prayed for them, but had put nothing on their wounds and had done nothing to relieve them. The jury thereupon decided that he had caused the death of his horses by neglect, and returned a verdict for the railroad company.

**Strike of Club Doctors in Germany.**—For some months there has been going on a controversy between the management of the German National Sick Insurance Funds and several thousands of physicians employed by the free hospitals, or in outdoor relief. About three months ago the physicians threatened to leave the State's service in a body unless their compensation was increased from 7½ cents a visit to at least 10 cents. They also demanded certain other ameliorations in their condition. The physicians in the Muhlhausen Hospital, under the leadership of Dr. Schloss, actually did go on strike for a time, but resumed their duties pending an investigation. Dr. Schloss died quite suddenly last week, and the police arrested Dr. Schwartz, superintendent of the Muhlhausen Hospital, on the charge of having killed his colleague in a duel. It was known that the two had had a violent quarrel and hence the suspicions of the authorities. The alleged surviving principal and the seconds apparently tried to conceal the cause of Dr. Schloss's death, attributing it to blood poisoning, according to one report, and to an operation according to another. The police took possession of the body as it was about to be cremated at Gotha, and the arrest of Dr. Schwartz followed. He was, however, released the following day, as the testimony plainly showed that the suspicions of the police had no foundation in fact.

**Dr. Augustus Pohlman**, for the last three years instructor in anatomy in the medical department at Cornell University, has resigned to accept an assistant professorship in anatomy in Johns Hopkins University.

**Lincoln Hospital to Be Enlarged.**—Plans have been filed with The Bronx Building Bureau for the enlargement and remodelling of the Lincoln Hospital at One Hundred and Forty-first street and Concord avenue, Bronx borough. An extension, 28 by 31 feet, is to be added, the improvements costing $15,000.

**A Money Lender's Legacy to Charities.**—Sam Lewis, the most famous and most fashionable usurer in England in the past generation, who died two years ago leaving a fortune of £2,500,000, bequeathed over £1,500,000 to charitable and other public uses, including £400,000 for dwellings for the poor in any part of England that the trustees may select, and £100,000 for the Jewish Hospital.

**Increased Health Board Estimate.**—Health Commissioner Lederle of New York City has sent to the Mayor's office his estimate of the expenses of the Health Department for 1904. He asks for a total appropriation of $1,631,500, an increase of $583,778 over the appropriation for the current year. Of the amount asked for $1,060,840 is for salaries. There is an increase of $20,000 in the salary list of the office employees, the increase being due to the necessity for a larger force of employees and to a proposed increase in salary of some of the present staff. Of the appropriation asked for, the sum of $570,660 is for miscellaneous funds. These funds are divided as follows: For the removal of night

soil, offal, and dead animals, $78,300; for sanitary police, $128,400; for supplies and contingencies, $45,760; for disinfection, $49,550; for hospital fund, $158,250; for support of ambulance service, $24,800; for laboratory fund, $30,600; for abatement of nuisances, $5,000, and for the construction and equipment of a new steamboat, $50,000.

**Yellow Fever in Mexico.**—Much concern is felt over the wide extent of the epidemic of yellow fever on the Gulf coast of Mexico. On Saturday last there were eighty-five yellow-fever patients at Merida. At Progreso there were nineteen patients, and the sanitary authorities fear the spread of the disease to other points in the Yucatan peninsula. The fever is epidemic in several towns between Tampico and Monterey, and at Linares and Victoria the daily death rate is very large. It is also spreading to towns situated some distance from the railroad. At Tampico the death rate has increased during the past few days despite the efforts of the Mexican health authorities to control the epidemic. Upon instructions from Austin, a quarantine has been established at El Paso, Texas, against Monterey, Victoria, and Linares.

**Drugs Cannot Be Sent by Mail to Sweden.**—Attention has been called to the fact that pharmaceutical preparations can be forwarded in the mails to Sweden only when sent to drug stores and certain scientists and manufacturers who have been granted official permission to receive them. All drugs which reach that country bearing other addresses are returned by the Swedish authorities.

**A Woman Dentist Starved to Death in the Klondike.**—The death from starvation of Mrs. Edith White, a dentist, is reported from Alaska. She was a graduate of the Dental Department of the Minnesota State University, and was a practising dentist in Dawson City for some years. She started from that place to go into the interior, and nothing more was heard of her until her body was found on the banks of Copper River. With the body was found a diary in which the starving woman had recorded her sufferings.

**A New Journal of Syphilography.**—Dr. T. Barthélemy, physician to Saint-Lazare in Paris and formerly chief of clinic at the Hospital Saint-Louis, has begun the publication of a monthly journal, *La Syphilis*, which will be devoted exclusively to the study of the disease designated by its title. The first number, dated July, 1903, contains an article on "Syphilis of the Stomach," by Prof. Alfred Fournier, an analytical review by Dr. Lévy-Bing of two articles on the same subject by Prof. Dienlafoy, and an article entitled "General Program of Syphilography" by the editor. There are also reports of clinics by Drs. Gaucher and Brocq, and an account by Dr. Barthélemy of an untreated case of lues. Following these are the usual abstracts from other journals, society reports, correspondence, therapeutic notes, and bibliography.

**A Tent Colony for Consumptives.**—Scranton, Pa., is making efforts to provide for its consumptive residents who cannot care for themselves. A free dispensary is conducted in the city, and a tent colony has just been started on West Mountain, not far away. The site comprises about thirty acres, fourteen hundred feet above sea level. About half of the tract is under cultivation; the other half is covered with an attractive forest. This is the undertaking of a private society, which is raising its funds by appealing to all the citizens of the place for contributions. The first patients were taken down early in August, and already an improvement is noticed. Tents have been provided for fifteen, but almost the same number of applicants have been refused. The plan is to erect permanent buildings in the fall. There is a report that another hospital also is contemplated.

**The Late Dr. Jannat Ernestine Hills.**—At a special meeting, held August 1, 1903, the medical staff of the Willard State Hospital unanimously adopted the following resolution:

"Dr. Hills had been a member of the staff since November 14, 1895, and had born her full share of the burden of work. To the patients she was ever a sympathetic, interested, and sturdy friend, as well as their faithful physician. She gave to them what was best in her personal and professional life, intermingling with the services required by her position those small kindnesses of word and deed which go so far in promoting happiness, and which are an unfailing indication of a benevolent heart. To her associates of the medical staff she was a warm-hearted, generous, encouraging loyal friend, and a helpful and willing colleague. Whatever she did was done heartily, and the claims of duty, charity, and friendship never appealed to her in vain. It is, Therefore,

"*Resolved*, That we hereby express our sincere sorrow that she has been taken away, and our heartfelt sympathy with her relatives in their sore affliction, and

"That a copy of this memorial be placed on the files of the hospital, a copy sent to her sisters and brothers, and a copy furnished for publication to the medical and lay press. For the medical staff,

"WM. AUSTIN MACY, M.D., Superintendent."

**Obituary Notes.**—Dr. R. HENDERSON GRAHAM of Washington, D. C., died there on August 24 of peritonitis, aged fifty-three years. Dr. Graham was a native of Ohio, but removed to Washington in 1889. He was a graduate of the Columbus, Ohio, Medical College in 1879.

Dr. JOHN M. EVANS, after whom the town of Evansville, Wis., was named, died there on August 23, aged eighty-three years. He was a graduate of the Indiana Medical College in the class of 1846. Dr. Evans was the first mayor of Evansville, and served in the legislature at different times. He also was prominent in Masonic circles.

Dr. ALEXANDER MONTAGUE ATHERTON, twenty-eight years old, died at Liberty, New York, August 28. He was born at Honolulu, and was graduated in arts from Wesleyan University at Middletown, Conn. Later he studied medicine and obtained his degree from Johns Hopkins University in 1901. He won a service in the City Hospital, Blackwell's Island, New York, where, during his interneship, his health began to fail. Dr. Atherton recently married Miss Eleanor Louise Baker of Providence, R. I., and leaves besides his widow, his mother, two sisters and two brothers, all of Honolulu.

Dr. GEORGE B. RUSSELL, one of the oldest and best-known physicians in Michigan, died at his home in Detroit, on August 31, aged eighty-seven years. He was born in Russellville, Chester County, Pa., and was graduated from the Jefferson Medical College in 1836. His first hard service was during the cholera epidemic in Philadelphia, in 1836, and again in the outbreaks which raged in that city in 1844 and 1845. He subsequently removed to Detroit.

Dr. WILLIAM E. ALLEN died at Scranton, Pa., on August 25. He was a veteran of the Civil War and for twelve years Health Officer of the city of Scranton. He was a graduate of the Albany Medical College, in the class of 1856.

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

MORE ECHOES FROM SWANSEA—THE LATE DRS. PLAYFAIR, SWAYNE, BALFOUR, TATHAM—APOTHECARIES WHO ARE PHYSICIANS AND SURGEONS—SMALLPOX.

LONDON, August 14, 1903.

As friends turn up after their Swansea outing—a large proportion only staying in town a short time before their more definite holiday—we hear more about the meeting of the association, especially from a social point of view. The first impression from all reports was one of abounding Welsh hospitality, and this is confirmed in all directions. The amusements, too, were on a large scale, and though Swansea cannot boast of much beauty it is an excellent center from which to explore the splendid scenery of Wales, its own near surroundings offering considerable attractions.

Of course Welsh subjects were prominent. Welshmen who had achieved any sort of distinction came in for many attentions, and those who were otherwise unknown found a Welsh parentage or birthplace a passport to pleasant places. Dr. F. Roberts began his address in medicine by alluding to the fact that forty-five years ago the President, Dr. Griffiths, who had just introduced him, and he himself left their native land to begin their career together at University College, London. He could, he said, go back further, for he was apprenticed in Carmarthen, and so could speak of his jubilee in the profession.

This year's souvenir, presented by Messrs. Burroughs and Welcome, also happily partook of the genius loci. It was an elegant illustrated little book on "Antient Cymric Medicine." A president-elect in search of a subject might take a hint from this now that we are waking up to the subject of the history of medicine.

Another souvenir (presented by the mayor and corporation) was a noteworthy little book illustrating the docks, shipping, and manufactures of Swansea, as well as some of the most charming views in the neighborhood.

A novelty in accommodation was a camp for members who would like to try a tent life for a few days. Only thirteen members availed themselves of this, but they must have found it a most agreeable change from their ordinary mode of life. Each had a tent to himself and each was made an honorary member of the yacht club for the time. Here is another hint for future organizers.

The annual representative meeting should develop into an important part of the proceedings, but in the first year of this new departure it was hardly to be expected that anything striking would occur. Sir Victor Horsley was elected chairman, and in thanking the meeting declared this the "highest honor the profession—always most kind and generous to him—had conferred upon him." This strikes me as rather an exaggerated view of the value of this mark of confidence among medico-politicians. It was decided not to admit reporters for the local press to these meetings of representatives—a very sensible decision, considering the observations likely to be made anent medico-political and ethical matters.

I was pleased to hear that a protest was made against encumbering the journal with two supplements. For years the *excerpta minora* of other journals have been relegated to a supplement, and now medico-political stuff is to occupy another. The editor, however, seems to have satisfied the meeting that this plan was approved by the majority—so let the majority rule. But the journal is terribly heavy (unwieldy? or—or both?). For those who want to bind it I would suggest making up four volumes a year of it.

The ethical committee has been very busy for many months attending to other people's business, and naturally put in a full appearance at the meeting "to bring accusations of advertising," so it is said by some, but perhaps they or their friends were annoyed. It is rather a ticklish subject, and some of our ethical rabbis are apt to display *trop de zèle*.

"There are numerous 'antis' about," said Dr. Roberts toward the conclusion of his address, "but for downright impudence and insolence the antivivisectionists 'hold the field.'" This was, of course, very shocking to poor Stephen Coleridge who, wrote to the Swansea papers that it made "a claim on behalf of doctors to dictate to mankind on a question of ethics." His logic and his ethics seem on a par.

Dr. William S. Playfair died yesterday at St. Andrews, to which he traveled last month by easy stages from Florence, where he had an attack of apoplexy. Never very strong, his health had declined very much of late, and some months ago he went to Italy. He was born in 1836. His father, Dr. George Playfair was Inspector-General of Hospitals, Bengal, and William, when he grew up himself, and graduated M.D. (1856) entered the Bengal service and served in Oude through the mutiny. Afterward he officiated as professor of surgery in the Calcutta College. His health did not stand the climate, and he returned to England about 1863. He established himself as an obstetric physician in London, and became professor of midwifery at King's College, serving also on the staff of the hospital. He also held other appointments, including that of accoucheur to the Duchess of Saxe-Coburg-Gotha and the Duchess of Connaught. He was for some time examiner in his specialty at both the London and Cambridge Universities. His textbook has gone through nine editions here, and I do not know to what extent it has been reprinted on your side, but no doubt you are aware that it was for long a very favorite manual with both students and practitioners. You will also remember a painful incident in his otherwise successful career—the action brought against him in 1896 by a patient for breach of professional confidence. She was awarded heavy damages. A testimonial of confidence and sympathy was subsequently presented to him. The funeral takes place to-morrow at St. Andrews, where his two brothers, Lyon and Sir Lambert, are buried. Lyon was many years professor of chemistry at Edinburgh, but when the university was enfranchised abandoned science for politics, became postmaster-general and Lord Playfair.

Dr. J. G. Swayne of Bristol, whose "Obstetric Aphorisms" was a favorite book with several generations of students, died on the 1st instant, aged eighty-four. He was born in Bristol (1819) and educated at the college and Royal Infirmary there. He came to London then, and after a course of study at Guy's Hospital graduated at the London University, taking the M.B. in 1842 with two gold medals (medicine and midwifery). Three years later he proceeded to M.D. He became lecturer at the Bristol School and obstetric physician to the hospital, appointments he held for about half a century. He was also physician to the Children's Hospital and other Bristol institutions.

Another octogenarian physician of great reputation passed away on the 9th instant, viz., George William Balfour of Edinburgh, M.D., F.R.C.P.E., etc., whose name you will recognize as one of His Majesty's Physicians-in-Ordinary for Scotland. His death is to me a personal loss, though I had lately had but little direct communication with him. Past associations come to the memory with extra distinctness as they always seem to do when our friends are called away, and as life advances how often our seniors precede us. He was related to R. L. Stevenson, so you may suppose he was interested in literary questions and had a fund of information about them. But what is perhaps of more importance to your readers is the great position he so long held as an authority on diseases of the heart, though his profound acquaintance with the whole range of medicine made him one of the great clinical teachers in Edinburgh—so famed for its great teachers. He has left his mark in the Royal Infirmary, and successive generations of grateful and admiring students will cherish his memory.

Dr. John Tatham died on the 3d instant, aged sixty-nine years. He was consulting physician to Brompton Hospital for Consumption, where he had worked steadily for a number of years. He was M.D. of St. Andrews and F.R.C.P. He has been for some time an invalid.

An association of scientists of the Apothecaries' Society has been formed to press effectively their claims to a designation expressive of their qualification to practise medicine, surgery, and midwifery. They are at a disadvantage in this respect in comparison with the scientists of the conjoint board, who can flaunt the names of two royal colleges. But they must get an Act of Parliament to effect a change—no easy task—and while attempting it they are assuming something in calling themselves the "Association of Physicians and Surgeons of the Society of Apothecaries."

The epidemic of smallpox at Cambridge continues. Last week the total number of cases reached 130, and there were eight deaths. It is unfortunate that at first the outbreak was either denied or spoken of as chickenpox.

In a northern town the out-patients in the waiting room were told that one who had been among them was found to have smallpox, and all were offered vaccination. A panic ensued, and in the rush for the door one woman, unable to reach it, is said to have dropped her baby out of the window and jumped after it. No doubt a ground floor window. Some of the anti's think it was vaccination the patients were so afraid of.

A few fresh cases have occurred in the western suburbs of London, Ealing and Brentford, fifteen or sixteen altogether, generally mild.

## LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

DIFFICULTIES IN OBTAINING DISTILLED WATER—CONTAMINATION OF THE MANILA WATER SUPPLY—HEALTH CONDITIONS—PARADE OF BOARD OF HEALTH OFFICIALS—SANITARY DISTRICTING OF MANILA—QUARANTINE IN FORMER TIMES—PROSECUTION OF QUACKS—INSUFFICIENT PAY OF HEALTH OFFICERS—RECOGNITION OF THE MANILA MEDICAL SOCIETY BY THE AMERICAN MEDICAL ASSOCIATION.

MANILA, July 6, 1903.

An incident has lately occurred in Manila which shows how many cases of cholera and dysentery, occurring in persons who believed that they had taken every precaution against these diseases, may readily be explained. It seems that a prominent American Government official was taken down with dysentery and many of the clerks in his office also suffered from intestinal disorders, and suspicion fell upon the supply of "distilled" water furnished for drinking purposes at the office. The Filipinos whose duty it was to procure the water from the government distillery were interrogated, and they swore by all the saints that the water had been procured from the proper source. A sample was, however, sent to the government laboratories for examination and was found to be an unusually foul water, containing the amœba of dysentery. Confronted with this evidence of their faithlessness, the Filipinos then confessed that they had procured the drinking water from the most handy source of supply, in spite of the fact that but little more trouble was required to get the distilled water ordered. The average Filipino, who is perfectly willing himself to use the most filthy and obviously contaminated water for drinking and cooking purposes, commonly regards the Americans as somewhat crazy on this water question, and he humors the American in his "whim" for distilled water just so long as he is himself under the surveillance of some person with power to make him follow instructions in this respect. He does not understand why he should be forced to walk or ride any distance to procure water when there may be an abundant supply close at hand. He is absolutely untrustworthy in such matters, yet it is quite impossible to watch a servant or employee at all times, and many Americans, particularly those who have to live in the cheaper class of boarding-houses, are practically obliged to place their health and lives at his mercy. Even in the higher class of places, this holds true and the best and most expensive hotel in Manila was lately detected serving to its guests water advertised as being distilled but which had never been near the fire. The Filipinos, Chinese, and Spaniards all appear to stand about on the same level in respect to sanitary matters, and refuse or evade the performance of duties upon which the most elementary rules of health for these islands depend. Fortunately, the incident quoted has resulted in nothing more serious than putting the official and a large part of his subordinates into hospital for some days, and has drawn attention to the very great danger resulting from the placing of too much responsibility upon an indolent and perverse Malay. The papers have commented freely on the episode, and the American colony will probably be more careful in the immediate future. Apparently the only way to be absolutely safe is to get the water for one's self from the distilling plants, and the next best thing would be the institution of coupon tickets which could be punched only at the place where such water is distributed. The necessity for pure water has been so frequently and forcibly emphasized, by sickness and death from the use of water from an infected source, that the government distilleries have lately reduced the price of distilled water to two cents a gallon, and the newspapers are urging a still further reduction in cost. To those accustomed to the pure cold waters of the homeland, the absolute necessity for boiled water here is not at first apparent, but experience shows that all except the natives who use the surface waters of the Orient, without boiling, are absolutely certain to contract water-borne disease sooner or later—and usually sooner.

As a number of cases of cholera have lately appeared in several of the small towns located on the water shed from which the water supply of Manila is drawn, and as apparently the local authorities were both unwilling and unable to take the proper measures to suppress the disease and prevent the water supply of the city from becoming infected, the Board of Health has taken sanitary matters out of their hands and assumed absolute control. For the past fifteen months the country people have been kept away from the river by an armed guard, and they feel that their interests have not been considered in connection with the welfare of Manila. The Filipino is essentially an amphibious creature, and this deprivation of the use of the Mariquina river has been almost in the nature of a calamity to those living in the vicinity. They were allowed to contaminate the water to their heart's content in the good old Spanish days, and present restrictions are regarded as a direct infringement of their rights. As a result the people are hostile to sanitary control, break every sanitary regulation where it can be done with impunity, and have been certain of avoiding punishment at the hands of the native judges when detected in breaches of sanitary regulations. The Board of Health is fortunately now dealing directly with them with a firm hand. A medical inspector is in charge of the entire watershed, and is assisted by about forty American and Filipino sanitary inspectors. A disinfecting gang with outfit has been sent up from Manila, a company of native constabulary has been assigned to duty as sanitary police, and the river is quarantined and patrolled by a considerable force of American soldiers. As a result of these energetic measures, cholera is being rapidly stamped out and the city water supply has so far been kept free from infection by cholera. This water question in Manila will always be a most serious problem until the water is drawn from a source above contamination. The surveys to this end have already been completed and plans are being perfected as rapidly as possible. The engineer in charge states that he will be able to bring pure water into Manila within six months after beginning work, though the construction of the permanent dam will require about two years for its completion.

The reports issued by the Board of Health, including June 30, 1903, give the following information relative to past health conditions: During the entire cholera epidemic in Manila, since March 21, 1902, there have been 4,981 cases with 3,844 deaths; of these 313 cases and 288 deaths have occurred during the six months January 1 to June 30, giving a case mortality of 90.85 per cent. for the six months and 77.25 per cent. for the entire outbreak in Manila. Five-sixths of all the cases occurring in the last six months occurred during the month of May, when the Pasig river and canals became infected. Of the 39 cases occurring in the month of June, 38 proved fatal, a mortality of 97.43 per cent. The total cases from cholera throughout the islands since the outbreak of cholera are reported as 137,112, with 86,460 deaths. These figures are undoubtedly too small, as many cases and deaths have unquestionably never been entered on the official returns. The end of June finds the islands widely infected with cholera, but no serious epidemic prevailing at any point. A case now and then crops up in Manila, but the disease seems to be entirely under control in that city, and not liable to occur, except sporadically, if present success in preventing infection of the water supply is continued.

The outbreak of plague in Manila shows a total of 172 cases with 147 deaths during the six months, giving a mortality of 85.46 per cent. among the persons attacked. Hongkong has had nearly ten times as many cases during the same period, with a case mortality of over 90 per cent. Bombay has had, during the three months of January, February, and March alone, no less than 11,041 deaths from plague; and an annual death rate for these three months at the rate of 102 per thousand, which was largely due to plague. Only one case of plague has occurred in the Philippine provinces, in the person of a new arrival from Manila. Nearly all the cases in Manila have occurred in the Chinese districts and among Chinese. General inoculation of Chinese with antiplague prophylactic seems to have averted a serious epidemic.

There have been eighty-five cases of smallpox, with eleven deaths, occurring in Manila in the six months prior to June 30.

In the recent Fourth of July parade in Manila, the Board of Health made a fine showing, which received many compliments from the local press. The display included twenty-five vaccinators in their natty white uniforms, and forty sanitary inspectors in gray uniforms trimmed with green. There were eighty ratcatchers, in the white shirt, trousers and straw hat of the country, each carrying a rat-trap containing a live rat. These were followed by the corps of Pail Conservancy System men, one hundred strong, in white trousers, blue coats, and straw hats with red, white, and blue bands. Each man carried a large flag. There was a detachment of litter bearers of the ambulance service and several gangs of disinfectors, both in the same uniform as the sanitary inspectors. All these men marched like veterans, a fact explained by reason of a large proportion of them having at one time been insurrecto soldiers. The Board of Health display was concluded by decorated ambulances, disinfecting carts, and a float showing a Filipino house in which vacinators and inoculators against plague were at work.

All employees of the Board of Health are now attractively uniformed, a fact which adds much to their efficiency and pride in their work. The Filipino takes to a uniform like a duck to water; as it is not only a factor in personal adornment, but is an outward sign of the possession of dearly prized official authority which materially increases their importance among their own people. This racial love of power and display has been no small agent in attracting a good class of Filipinos to positions, under the government, for moderate pay, and the privilege of wearing a neat official uniform is more preferable to them than to occupy a better paid position without official status.

Manila has lately been re-divided into seven sanitary districts, each under a physician employed by the Board of Health. The sanitary work has been re-arranged and the force of employees re-organized, so as to reduce expenses without interfering with the efficient performance of duty. The sanitary machinery has been gradually developed by evolution during the existence of the Board of Health, and its work is now carried on in a most excellent manner. During the Spanish control, there was practically no sanitary organization except on paper.

While the Spaniards had enacted very drastic sanitary laws, these seem to have been enforced by the authorities largely for purposes of "graft" and corruption, and the sanitary deficiencies of persons with means could be conveniently overlooked if they were willing to pay for their immunity. As an instance in point, the story is told that with the appearance of plague in Hongkong and China, the Spaniards promptly authorized the detention in quarantine for twenty-one days of ships from infected points; when, in the opinion of the board of Spanish quarantine doctors at Mariveles, such quarantine was necessary. It is said that a certain English steamer arrived from Shanghai, with 600 coolies aboard, and was promptly ordered into twenty-one days' quarantine by the boarding officer. The ship's captain, however, quite understanding the situation, promptly requested that the medical board inspect his ship, and in the meantime sent around and collected some 3,500 pesos from the coolies and cabin passengers. When the medical board arrived, it was ushered into a cabin turned over to it for its "deliberations," upon the table of which stood the sack of silver. After some time the captain was informed that the ship was found in better condition than was anticipated and that only a delay of seven days' quarantine would be necessary. The captain, understanding from this that enough stuff had not been put up, thereupon urged the members of the board to remain with him for lunch, and in the meantime sent around and collected two pesos more from each passenger, or some 1,500 in all, making a total of about 5,000 Spanish dollars. This additional money was taken to the captain's cabin and put on the end of the lunch table, and when lunch was announced the captain requested the board to proceed and he would join them shortly. When he finally appeared, the board informed him that upon further consideration it appeared that the ship might safely proceed to Manila without more delay. With the large trade of Manila practically under their control, it was no wonder that the estimable medical gentlemen of the Spanish quarantine service were soon able to retire on a competency. The only people who could bring an effective complaint against such misuse of quarantine, namely, the steamship companies, did not choose to do so, as it would have involved them in difficulties with the Spanish authorities, who had it practically in their power to ruin the business of any company. Besides, this misuse of quarantine was really much to their financial advantage, as they could advertise that their ships were recognized as being so sanitary as not to be delayed by quarantine at Manila, and passengers and freight would be landed without delay or loss by deterioration. For this reason they asked and received higher rates for passenger and freight transportation, and when Manila was reached it was the passengers who were each assessed a small sum to pay the necessary blackmail, the shipowners bearing no part of such expense. The passengers themselves were glad to pay and thus avoid the tedious detention in quarantine which would otherwise have resulted—and everything was satisfactory except as regards the public welfare which, in Spanish times, did not count where money was to be gained.

The Board of Health has lately engaged in the prosecution of quack doctors under the provisions of the new medical practice act. One native "practicante" is in prison waiting trial for having caused the death of a child by an overdose of morphine, and an American ex-cavalry soldier has been convicted and fined for engaging in practice as a physician. So far the Board of Health has rather held its hand against the Chinese quack doctors, of whom there are many here, as the Chinese population still places much confidence in their own physicians and drugs, and the time is as yet scarcely opportune to take action against these men. With the exception of one educated Chinese physician who is a graduate of a reputable school, the others are ignorant impostors who pretend to diagnose disease by feeling the pulse or inspecting a sample of the urine. Besides the racial distrust of the Chinese for anything outside their own civilization, the fact that these quacks expect only a small fee appeals to their sense of economy. It is etiquette among all the Chinese doctors never to ask a fee or send a bill, but the patient or his relatives hand the doctor a sum of money wrapped in a piece of red paper at the conclusion of his visit. Usually this sum is only one or two pesos, for while the Chinaman is willing to pay liberally for anything else he wants, he seems to hold the services of his doctor as being of small financial value. Such a thing as a Chinese physician daring to set a valuation on his own services is unheard of, and would immediately lose him his practice, so that he is unable, like the American physician, to charge a rich patient enough to recompense him for gratuitous service rendered the indigent. If the Chinaman calls in a foreign physician he expects to pay a good-sized bill, but he denies this right of charge to physicians of his own race and would stand aghast if such a native physician should enter his shop, select some tea or silk, put his own valuation on it, and tender the shopkeeper its appraised value in pesos wrapped in red paper as he left the store. While physicians all over the world seem to have a hard time in making a living, the lot of the Chinese doctor seems to be doubly unhappy in this respect.

The Board of Health has lately lost a number of its best physicians, formerly medical officers of volunteers. These men were given their army pay and allowances after their discharge from the military service, but this arrangement continued not only until the end of the fiscal year. As under the new schedule of pay their pay was to be considerably reduced, a number of them chose to return to the United States. Four of these ex-volunteers are still continued at $2,500 per annum, while the civil-service physicians receive but $2,000. Obviously this rate of pay is not sufficient to attract and retain the best class of men. While a physician can support a family comfortably on such a sum in the provinces, in Manila it would represent merely a bare existence devoid of the little luxuries that make life tolerable in the tropics. In Manila, also, there is practically no opportunity for those in Government service to engage in outside practice.

Major Geo. H. Torney, the surgeon in charge of the large military hospital in Manila, is seriously ill with amœbic dysentery and will be returned to the United States for treatment on the next transport. He will be relieved by Major J. M. Banister, lately stationed at West Point, who is one of the most skilful operating surgeons in the army. A very large amount of operative surgery is done at this hospital, as its 350 beds are filled all the time with selected cases sent in for operation and treatment.

The Manila Medical Society has lately received notice of recognition by the American Medical Association, and admission to membership therein on the same basis as that of the medical societies of other States or territories, provided that its organization be extended to cover the island of Luzon and such other portion of the Philippines as may organize medical societies. This will necessitate a reorganization of the society on broader lines and will add much to its strength and importance. The society has at present some forty members on its list, and can readily secure a working membership of several times that number. At the last meeting the constitution and by-laws were so amended as to permit the publication of a journal named *Philippine Medicine*, to be the organ of the society, the establishment of which is now being projected.

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**Operation for Prolapsed Rectum by Extraperitoneal Fixation of the Intestine.**—J. Rotter has modified Eiselsberg's operation of colopexy so that the intestine is made fast to the abdominal wall devoid of the parietal layer of the peritoneum. In this case the adhesions which form and hold the intestine in place are much firmer than those resulting from Eiselsberg's method, in which the intestine is fastened to the parietal layer of the peritoneum. The results are hence much more permanent than those which have been obtained by the latter method. The only variation in technique consists in dividing the parietal peritoneum in the proper location and suturing the gut to the abdominal wall through the incision thus made. The cut edges of the peritoneum are then united to the intestinal wall. Two cases are cited in illustration of the great advantages of this method. — *Deutsche medicinische Wochenschrift.*

# Progress of Medical Science.

*Boston Medical and Surgical Journal, August* 27, 1903.

**Treatment of Degenerative Diseases of the Nervous System by Massive Doses of Strychnine.**—Graeme M. Hammond says he was led to make a trial of this remedy in the class of cases mentioned by observing the good effects sometimes obtained by the same drug in large doses in the treatment of tic douloureux. The paper is based on the results obtained in the treatment of four cases of tabes, three of optic nerve atrophy, three of progressive muscular atrophy, and one case of pseudomuscular hypertrophy. These cases are reported in more or less detail. The writer's practice was to begin treatment with a very moderate dose, usually the $\frac{1}{60}$ or $\frac{1}{50}$ of a grain three times a day, and to increase the daily dose by about the $\frac{1}{100}$ of a grain. Sometimes in the beginning he increased the dose by the daily addition of $\frac{1}{100}$ of a grain but always diminished this to the $\frac{1}{100}$ of a grain after doses of $\frac{1}{4}$ grain were reached. In some cases he gave the medication hypodermically once a day, but could not perceive that the method possessed any advantages over giving it by the mouth three times a day. The maximum dosage varied according to the severity of the disease, from $\frac{1}{4}$ of a grain to $\frac{1}{2}$ of a grain three times a day. The results varied in the different cases. In none was there a restoration to the normal condition, that is to say a cure, and in none was that result expected, since neurons once destroyed cannot be recreated. In tabes the results were uniformly favorable, the ataxia being markedly reduced and the pain and other distressing symptoms being greatly reduced. In the three cases of optic nerve atrophy the degenerative process appeared to be arrested or retarded, but there was little actual improvement. In two of the cases of progressive muscular atrophy the morbid process ceased to advance, but in one case the course of the disease was not influenced in the slightest degree. In the case of pseudomuscular hypertrophy considerable improvement was noted in the muscular development and the rapid degeneration of the muscular system was arrested.

*Journal of the American Medical Association, Aug.* 29, 1903.

**Dangers of Striving for Interval Operations in Appendicitis.**—Richard H. Gibbons is of the opinion that the signs and symptoms of appendicitis are definite, and that the diagnosis should be prompt and the treatment should be surgical. He says that the primary danger is that the pre-inflammatory stage of the disease will not be detected, but the greatest danger of all in connection with the expectant treatment is that so many and serious complications arise to embarass the surgeon who operates late in the disease. Still another danger is that the patient who has survived the attack is loath to believe himself in danger, and consequently refuses surgical aid. These considerations lead the author to the conclusion that "immediate surgical intervention should be the shibboleth of every physician and surgeon."

**The Passing of Chronic Rheumatism.**—James J. Walsh, under this caption, discusses the necessity of transferring a number of painful affections from the column of chronic rheumatism, where, as he says, "they are all jumbled together to the manifest opprobrium of therapeutics, to separate columns, with regard to some of which we know our therapeutic impotency, but with regard to most of which we are fully aware that massage, rest, local treatment, and improvement of the constitutional condition will do much to get rid of the symptoms." He has collected no less than fourteen conditions, characterized by aches and pains, which are often called chronic rheumatism, but, in his opinion, without good reason. The most common form of pseudorheumatism is that painful condition resulting from flat-foot; another very common form of vague pain occurs in connection with occupation neuroses, and a third source of such pains is neuritis. Gout is now known to be much more frequent in this country than was formerly supposed, being seen especially in those who are subject to the influence of lead and who indulge too freely in malt liquors. A certain number of cases of so-called chronic rheumatism are really gouty in their nature. Again, rheumatoid arthritis, or arthritis deformans, occurs in three forms, some of which bear a very strong resemblance to rheumatism. It is, however, a disease by itself, usually following some infectious fever, such as influenza, parotitis, or tonsillitis. While admitting that there are probably a few cases of true chronic rheumatism, the author says these are so rare that he has never seen one, and he is inclined to believe that even the majority of these cases are the result of mixed infection.

*The Medical News, August* 29, 1903.

**Observations on Eighteen Abdominal Sections.**—Edward N. Liell reviews eighteen cases of abdominal section performed by him during the past year for various conditions existing within the abdominal and pelvic cavity. These were as follows: Five for ovarian cyst; five for cystic disease of ovary; four for appendicitis; one for intestinal obstruction; one for ruptured tubal pregnancy; two myomectomies for uterine fibroid. In one of the operations for cystic disease of the ovary, a cystoma weighing seventy-two pounds was removed successfully. The author says that it has been his good fortune, in his abdominal work for many years past, never to have met with an instance of secondary hemorrhage. He has never used anything but silk as a ligature, the size of the silk used depending upon the size and thickness of the pedicle; and he always sees to it that his ligatures are both well-placed and reinforced. Catgut he looks upon as treacherous, the main difficulty being in tying it firmly, so that it shall not slip, and another disadvantage being its liability to fray. The best means of prevention of abdominal or ventral hernia are small incisions and accurate coaptation of the various layers of tissue, thus securing firm apposition. In layer or tier suturing, desirable in patients with considerable adipose tissue, catgut and kangaroo tendon, in the writer's opinion, is preferable and meets the indications best, being absorbable.

**The Effect of Erysipelas upon Atrophic Rhinitis.**—Lewis S. Somers says that the favorable or even curative action of an intercurrent attack of erysipelas upon various morbid states has often been observed and recorded, but the effect of erysipelas upon atrophic rhinitis has very rarely been referred to, a careful search of the literature revealing but two cases, both reported by a single observer—Francesco. The first was that of a young girl, with ozena of seven years' duration, which had resisted all treatment. Erysipelas incidentally developed, originating at a point near the nostril and involved the face. After the attack had subsided, the odor and crusts entirely disappeared, the mucosa recovered its normal appearance, and as three years later there had been no relapse, the case undoubtedly could be considered as a complete cure. The second case was that of a young woman with ozena of the left nostril, which had resisted treatment. While nursing a brother with erysipelas of the leg, she developed the disease on the lobule of the left ear, and with the experience gained by the previous case, the author scarified the cheek near the ala nasi in order that the nasal chambers should become involved. The erysipelatous process then affected the entire cheek and nasal chambers, and when the patient recovered there remained no trace of the ozena. The writer's own case was in a man thirty-eight years old. His chief complaint was of an intensely fetid odor from the nose and the formation of thick, greenish crusts in the nasal cavities. Objectively the case presented the usual picture of atrophic rhinitis, without involvement of the sinuses. The nasopharynx was covered with partially dry and offensive mucous, and the pharynx was red, dry, and sclerotic. Various remedies tried by the writer and others had failed to give relief. One day the patient received a slight blow over the right eye, barely breaking the skin, and within twenty-four hours erysipelas appeared at the seat of injury and spread rapidly over the entire face and neck, and involving also the mucous membrane of the nasal chambers. The attack ran the usual course, and the patient was well again in about two weeks. An examination of the upper respiratory tract was made a few days later, and it was found that the ozena had entirely disappeared, the nasal mucosa was in part covered with but few crusts and easily removed, while the necessity for the frequent removal of the inspissated secretions had entirely disappeared. The nasopharynx and pharynx were still in part crusted and dry, but in no degree comparable to their former condition. No treatment was advised except occasional cleansing with an alkaline solution, as it was desired, in view of the favorable results produced by the erysipelas, to observe if the changes were permanent in character. At the present time, more than a year after the attack of erysipelas, the nasal mucosa remains somewhat shrunken and atrophic in patches over the turbinals, but is elsewhere apparently normal and the healthy areas are increasing in size; the secretions are practically normal and the occasional crusting produces no obstruction and no offensive odor. The upper pharynx is no longer dry, fissured, and covered with adherent secretions; the submucous tissue remains atrophied, but the epithelium has been fairly well restored.

*New York Medical Journal, August* 29, 1903.

**General Remarks on Diseases of the Stomach.**—Harry Warren Lincoln makes some apt and very practical observations under this head. He calls attention to the abuses, not to say the dangers, that may arise from allowing any patient to perform gastric lavage upon him-

self, and expresses the opinion that there has been altogether too much indiscriminate lavage of the stomach in recent years, and that the majority of patients will do well without local treatment. He disclaims any intention of underestimating the value of modern scientific examination of the stomach contents, but desires to make the enthusiast in this field pause long enough to see the wisdom of giving due consideration to the patient's general physical and mental condition. In this connection the potency of the neurotic element is emphasized, and the physician is advised to put the patient on a full diet, given in small quantities at short intervals, except in cases of ulcer or cancer, or when gastric motility is impaired.

**An Improvement in Radiography; a Print Obtained in a Few Minutes without a Dark Room.**—Sinclair Tousey makes use of a sensitized paper, which is sold in packages of a dozen sheets, and says it can be transferred to a light-proof envelope in any comparatively dark place. The prints can be produced in manifold by placing several sheets of the paper, one on top of the other, in the same envelope. After exposure of, say, two or three minutes, the sheets are removed from the envelope in a comparatively dark place, and are quickly dropped into the developing solution, where they are developed in about half a minute. After washing in plain water they may be used as proofs for immediate guidance in treatment, or the prints may be made permanent by immersion in the usual fixing solution, and then washing in running water for half an hour. In these prints the background is dark, the bones white and the flesh slightly shaded. The novelty of the method consists in the directness and rapidity of the process by which this result is secured

**Treatment of Toy Pistol Wounds.**—W. Scott Schley reviews the work done in this field at St. Luke's Hospital, and lays great stress on the extraordinary burrowing that takes place along connective tissue planes when the muzzle of the pistol is very close to the skin. The obvious corollary is that the wound should be thoroughly explored, and it is this truth which it is the special object of the paper to inculcate. A very free longitudinal incision is made into the skin, even when the wound appears to be insignificant, and by careful sponging and retraction the blackened tissue and powder grains are explored to their farthest limits. When this work is thoroughly done, the sloughy areas and extraneous matters curetted gently away, the parts freely irrigated with an antiseptic solution, the wound lightly packed with iodoform gauze and a wet dressing applied, healing is most rapid and satisfactory. Experience shows that, as a rule, there are two wads. For fresh wounds the exploration can often be made under cocaine, but in other cases a general anæsthetic should be employed. None of the cases treated in the past four years has developed tetanus, despite the fact that tetanus antitoxin has been used only four times; nevertheless the use of the antitoxin is thought to be a wise adjuvant.

*American Medicine, August* 29, 1903.

**Destruction of Bacteria in Vaccine Pulp with Potassium Cyanide.**—Harvey R. Gaylord and David E. Wheeler write that the work of Loeb on the fertilization of sea-urchins' eggs, in which he employed solutions of potassium cyanide, to prevent disintegration, and the work of Gorham, which appears to indicate that the diminution of the bacteria in the sea-water, as the result of exposure to the action of the potassium cyanide, was the essential factor in these experiments, suggested the possibility of employing this agent as a differential germicide in vaccinia. The fact that the delicate protoplasm of the sea-urchin's eggs could withstand the action of a solution as shown by Loeb, and still develop into swimming larvæ, suggested the possibility that the essential factor of vaccine, which they held to be a protozoon, might likewise be unaffected when thus treated. They obtained fresh vaccine, and after allowing it to become contaminated with organisms, in many cases to a state of putrefaction, treated it with varying strengths of potassium cyanide, beginning with $\frac{n}{1000}$ and extending to $\frac{n}{100}$. Portions of the fresh vaccine were introduced in into test tubes containing solutions of potassium cyanide of determined strength. In each case a control with salt solution was made, and at the end of three days to forty-five days the control and the cyanide solution containing the vaccine were plated out in the usual way. Children were vaccinated with the pulp so treated, with a result of thirteen takes out of eighteen vaccinations. The bacterioscopical examination showed that the solution of $\frac{n}{100}$ potassium cyanide exerted a complete bactericidal action upon the vaccine without in the least impairing its efficacy. The cyanide evaporates in a short time, and all traces of it can be removed immediately by placing the solution in a vacuum pan at 36° C.

**Enteroptosis.**—Thomas R. Brown concludes in this number an extended review of the various opinions held in regard to enteroptosis—its etiology, symptomatology, prophylaxis, and treatment. As a result of his studies, he has come to the belief that in the great majority of cases there is an underlying cause to be found in a characteristic body form—that is, there is a congenital weakness or fragility of tissues which predisposes to this condition, and also that in many cases, probably the majority, various accessory factors tend to bring about a marked displacement of the abdominal organs in those so predisposed. Of these factors most act either by increasing the pressure from above upon the abdominal viscera, as by the use of corsets, belts, etc., or by decreasing the pressure from below upward, as after severe illnesses, pregnancy, marked loss of weight and strength, etc., while in only a comparatively small proportion of the cases does injury or violent trauma form a part. As to the symptomatology, the tendency, he says, has been to ascribe far too many symptoms to the displacement of certain organs, notably the kidneys and the liver, and far too few symptoms to other viscera, especially the stomach and intestines. As to the treatment, far too much reliance has been placed by some on surgical interference. We should recognize that we are treating in the great majority of cases a displacement of several of the abdominal viscera, and surgical interference is justifiable only when the symptoms are referable to an especial displaced organ, or when dietetic, medicinal, and mechanical treatment have been tried without success. Thus the general practitioner and pediatrist should recognize the frequency of this condition, and should attempt by all means at their command to minimize its evil manifestations in those congenitally predisposed to this condition. The surgeon should realize that the condition is in the majority of cases a medical, not a surgical, disorder, and that the stitching up of the kidney is a most irrational means of treating general displacement of the abdominal viscera, and that he is frequently operating upon the kidney because of symptoms which are entirely referable to the displacement of the stomach and intestines. The gynecologist should realize that in many cases a retroflexed uterus is but part of a general enteroptosis, and it is as irrational to expect a relief of symptoms by the suspension of this organ as by the suspension of the kidney.

*The Lancet, August* 22, 1903.

**Sciatica.**—William Bruce discusses the nature and treatment of sciatica after a study of 418 cases, of which he had kept records, and an experience with as many more unrecorded cases. He finds the disease more common in males, and between fifty and seventy years of age. In examining these cases the patient should lie down on his back while the examiner tests all of the motions of the hip-joint and notes whether any of these cause pain. In almost every case of sciatica there is a wasting or flattening of the hip muscles, or an obliteration of the gluteal folds on the affected side. Frequently pressure with the end of the thumb reveals some point of tenderness over the capsule of the hip-joint. In the great majority of cases there is some lameness. After studying the nerve distribution of the region and Hilton's well-known views on the origin of pain, the author expresses the conviction that sciatica is not a neuritis of the sciatic nerve, but an affection of the hip-joint connected with the gouty or rheumatic diathesis, and that it merges into rheumatoid arthritis of the hip. In 52 per cent. of his own cases there was evidence of gout or rheumatism in other joints, and in 22 per cent. of lumbago. The vast majority of cases recover in time. The treatment of the acute stage may be summed up in the word "rest," but after the inflammatory period has passed massage and electricity are of the greatest service.

**The So-called Stokes-Adams Disease.**—William Osler says that this clinical condition, which is, in reality, not a disease but a syndrome or symptom complex, is characterized (1) by a profound disturbance in the automatic mechanism of the heart, producing a slowing of the pulse; (2) nervous symptoms, such as vertigo, syncope, pseudo-apoplexy and epileptiform attacks, and (3) secondary symptoms, such as Cheyne-Stokes respiration, cardiac asthma, and angina pectoris. He reports twelve cases, all males, and divides them into three categories, viz., (1) a group of severe cases; (2) a senile group, and (3) a group of milder cases occurring in younger men. The severer cases occur, as a rule, in the presenile stage, and present well-marked cardiovascular lesions. The senile cases are probably more common than is generally supposed, particularly in the form associated with vertigo. In the only necropsy of the series the arteries were found to be sclerotic, the root of the aorta and the coronary arteries were calcified, and the left ventricle was hypertrophied. In the majority of cases the valves are normal and the heart is not enlarged. The syncopal attacks

may be explained by transient interference with the blood supply to the nerve centers. In all cases the prognosis is bad, though in a few instances young persons have recovered, and quite commonly the condition lasts for many years. Sudden death is the most common termination. Very little can be done in the way of treatment. Iodide of potassium may influence the sclerosis, and the nitrites are indicated if there is high tension. A quiet, well-regulated life seems to be of the most importance; the treatment of the attacks consists in meeting the indications as they arise.

**The Significance of Pain and Tenderness in Inflammation of the Appendix.**—C. W. Mansell Moullin recalls the the well-known fact that the abdominal viscera are, for the most part, insensitive to pain, and points out that slight irritation of the parietal peritoneum causes acute pain. The least tension upon the root of the mesentery produces a pain referred to the umbilicus. The wall of of the bowel, whether inflamed or not, is quite insensitive. The author draws the following conclusions with regard to acute inflammation of the appendix: (1) Absence of pain is no indication that most serious mischief is not going on. (2) The initial pain of acute appendicitis, which is commonly referred to the umbilicus, is due to the peristalic action of the cæcum or of the appendix dragging upon the attachment of the peritoneum to the abdominal wall. (3) The cessation of this umbilical pain without improvement in the other symptoms is due to cessation of the peristalsis caused by the inflammation having spread to the muscular coat of the bowel. (4) The development of local pain means that the inflammation has spread from the appendix to the parietal peritoneum or to the post-peritoneal cellular tissue. (5) The presence of deep tenderness indicates that the inflammation has spread to the parietal peritoneum or to the cellular tissue beneath it. (6) Exceptionally the most tender spot lies at the back immediately over the crest of the ilium, and it is then strongly suggestive of an appendix lying behind the colon, or at least of inflammation spreading directly upward in that direction. (7) Absence of deep tenderness, when other well-marked symptoms of appendicitis are present, is of very grave import, because it usually signifies an overwhelming of the nervous system. (8) There is usually cutaneous hyperæsthesia, and when it is associated with other signs of inflammation of the appendix, the indication is clear that the wall of the appendix is involved. (9) Sudden cessation of this hyperæsthesia without corresponding improvement in the general symptoms suggests very strongly gangrene of the appendix.

*The British Medical Journal, August* 22, 1903.

**Hemorrhage into the Bursa Patellæ.**—J. B. Christopherson reports the case of an Egyptian soldier in Khartoum who fell from a horizontal bar striking his knee on a stone. Ten weeks after he was sent up to Cairo, and then his left knee was swollen and semiflexed, and presented the signs of a chronic synovitis of the joint without much effusion. There was no fluctuation anywhere, but there were two irregular thick transverse ridges across the patella suggesting callus thrown out after a fracture, but they extended beyond the lateral limits of the patella; the patella also seemed much broader than its fellow. The author thought it must be a case of tuberculous disease of the knee-joint, from its chronicity, appearance, and from its dating from an injury. As no improvement followed immobilization, strapping, etc., an incision was made vertically over the patella, and disclosed the bursa over the periosteum thickened to the extent of one-quarter inch and extending laterally beyond the patella. On incision this was found filled with an old extravasation of blood adherent and more or less organized in the angle between the anterior and posterior walls of the bursa. Toward the center the organization was less advanced, and in the middle a small cavity containing old blood. The patella was healthy, and the same size as that of the opposite leg. The bursa was dissected out and the wound was closed. A small quantity of fluid withdrawn from the joint was clear, and there was no evidence of tuberculous disease anywhere about the joint. The wound healed by primary union.

*Münchener medicinische Wochenschrift, August* 11, 1903.

**Diagnosis of Abscess of the Liver Following Dysentery.**—Schlayer says that the total leucocyte is of great value here. Abscess of the liver regularly shows a total hyperleucocytosis varying from 18,000 to 30,000, while other conditions liable to be confounded therewith give either a normal total count or a leucopenia. In the diagnosis between a hepatitis and liver abscess the situation is a trifle more complicated, as a few cases of hepatitis give total counts between 15,000 and 20,000. The point of differentiation is that here the high counts are not maintained, being more or less periodical, while in abscess the high figures remain constant. Many cases are here recorded as examples of the above principles.

**Banti's Disease.**—Fichtner reviews the literature and reports a case which he regards as typical in its main features although the etiology was peculiar. The patient was a man, thirty-two years of age, and had always been in good health until the beginning of his present illness, which dated from an abdominal injury received seven years ago. Following this accident the spleen began gradually to enlarge. In the fourth year of the illness there occurred an attack of biliary colic and the evacuation of a large number of gallstones. In the fifth year a purulent otitis media appeared which has never healed and soon thereafter an abundant ascites developed. The amount of fluid has varied from time to time, occasionally having entirely disappeared. The blood condition, so far as known, has been one of leucopenia combined with a variable grade of anæmia.

**Widal Reaction in Jaundice.**—F. Köhler reports a number of cases of jaundice in which a positive Widal was obtained in from $\frac{1}{5}$ to $\frac{1}{5}$ dilution. Similar cases have been reported by various observers. The cause of the agglutination in these cases is probably varied. In certain instances it is to be regarded as due to the presence of taurocholic acid and hence included in category of "agglutination due to chemical substance," but laboratory experimentation shows this cannot be always the case, since in many instances typhoid bacilli fail to agglutinate with taurocholic acid in solution. In those cases of jaundice due to infection with the colon bacillus it is probable that the reaction is to be regarded as a "class" agglutination due to the colon infection. When we consider the Widal reaction, we now know that it may be positive in five classes of cases, as follows: (1) typhoid fever; (2) liver diseases with jaundice; (3) due to chemical substances; (4) infection with the colon bacillus; (5) in other bacterial infections, such as those produced by the pneumococcus or meningococcus. All these facts deserve serious consideration in estimating the value of this reaction in the diagnosis of typhoid fever.

*Berliner klinische Wochenschrift, August* 10, 1903.

**Thyroid Preparation in Endemic Cretinism.**—Adolf Magnus-Levy after treating seven cases very satisfactorily with thyroid gland preparations comes to the conclusion that this is the proper treatment and that in no important respect does the endemic differ from the sporadic form of the disease. Although this is in contradiction to the prevailing belief, it is nevertheless supported by the therapeutic results in these cases when taken in conjunction with the clinical history of these two varieties of cretinism, since no cardinal differences are to be found in either the osseous, cutaneous, or mental conditions.

**Neutrophilic Granulations of the Leucocytes.**—Max Mosse says that myelocytes are the only leucocytes which possess genuine neutrophilic granules. This is so because when a blood smear which contains all the various leucocytes is stained with eosin-methylene blue solution of all the granulations of the leucocytes, only those of the myelocytes take the neutral tint—that is, a violet color. Those of the so-called polymorphonuclear neutrophilic leucocytes take a tint which is between that of eosin and methylene blue. They can only therefore be neutrophilic provided the eosin-methylene blue solution used in staining them is composed of two molecules of eosin and one molecule of methylene blue. Analysis of eosin-methylene blue solution, however, shows that this is not the case, and that such a solution is composed of one molecule each of eosin and methylene blue. Hence these leucocytes possessing a greater affinity for eosin than for methylene blue should be designated as "neutroacidophilic."

*Deutsche medicinische Wochenschrift, August* 6, 1903.

**Susceptibility of Domestic Animals to Tsetse Fly Disease (Nagana).**—Erich Martini inoculated a zebra with 1 c.c. of the blood of a horse suffering from tsetse fly disease, with the result that five months thereafter the zebra died under the fully developed clinical picture of this disease. The parasites were repeatedly obtained from the blood, being first isolated therefrom on the fourteenth day following the inoculation. So far as is known this is the first positive result which has been obtained in the zebra and it has generally been supposed that this animal was immune to the disease. Practical experience has very largely brought about this idea, since it is well known that under natural conditions zebras fail to contract the disease when they have apparently been exposed to infection. In most cases, however, the exposure of the animals has been of short duration—merely during transport—and in face of the above positive experiment it will be necessary to subject these animals to continued exposure before the question of their immunity or susceptibility can be definitely decided.

# Book Reviews.

DIE GALLENSTEINKRANKHEIT, ihre Häufigkeit, ihre Enstehung, Verhütung und Heilung durch innere Behandlung. Von Dr. WALTHER NIC. CLEMM. Darmstadt. Berlin: Georg Klemm, 1903.

THIS brochure of ninety pages, which is written in popular vein, is a diatribe against the operative treatment of gallstone disease. A plan of home treatment intended to replace a course at Karlsbad is given in detail, but loses in value through the recommendation of several proprietary preparations.

SURGICAL ASEPSIS. Especially Adapted to Operation in the Home of the Patient. By HENRY B. PALMER, M.D., Consulting Surgeon to the Central Maine General Hospital. With ninety Illustrations. Philadelphia: F. A. Davis Company, 1903.

THIS is intended to popularize, as it were, the practice of aseptic technique among those hitherto unhabituated to its use. The little volume is well written, and contains, in brief form, the essentials of the subject, together with practical directions for the carrying out of the principles involved. Lists and illustrations of the instruments required in the commoner operations are given, and in many ways the book will be a convenience to the infrequent operator.

A POCKET BOOK OF INFANT AND CHILDHOOD DIETETICS, with Directions for the Home Modification of Milk. By A. B. SPÄCH, A.M., M.D., Instructor in Medicine, Medical Department of the University of Illinois. Chicago: E. H. Colegrove, 1903.

THIS is a collection of formulæ intended to simplify the work of percentage feeding, together with two sets of blanks to be filled out and given to the child's mother. One blank is to be used for infants and the other for older children. The idea is a good one and well carried out.

DIE REKTO-ROMANSKOPIE AUF ANATOMISH-PHYSIOLOGISCHER GRUNDLAGE. Methodologischen Studien nebst Klinischen Ergebnissen und Hinweisen. Von Prof. Dr. JULIUS SCHREIBER. Direktor der. Königl. Med. Universitäts-Poliklinik zu Königsberg. Mit 3 Tafeln und Abbildungen im Text. Berlin: August Hirschwald, 1903.

THE author describes his instruments for proctoscopy, which are based upon those of Kelly, as is also his technique of examination. Detailed directions are given for the study of the rectum and lower portion of the sigmoid, together with observations on clinical material, and three colored plates illustrating diseases of the regions in question.

A TEXTBOOK OF MINOR SURGERY, Including Bandaging. By NEWMAN T. B. NOBLES, M.D., Professor of Surgery at the Cleveland Homeopathic Medical College, etc. Philadelphia: Boericke & Tafel, 1903.

INASMUCH as the author states in his preface that a book of this nature has not been printed in the homœopathic school for twenty-one years, we are quite willing to agree with him that the time is ripe for the appearance of such a manual. Its pages offer little that differs from the universally accepted principles of surgical practice, and we find advocated the same one-twentieth grain hypodermics of strychnine and one-fourth grain hypodermics of morphine that the older school is accustomed to give. The surgical teaching throughout is sound and made of value for every-day work by the addition of many practical suggestions, the result of the author's personal experience.

DIE DIAGNOSE AUS DEN AUGEN. Sowie Rationelle Gesundheitspflege und Krankenbehandlung. Von NILS LILJEQUIST, Zweite Auflage. Leipzig: Krüger und Co. 1903.

IF Oliver Wendell Holmes were writing an essay on medical delusions to-day, he would no doubt assign a paragraph or two to the medical curiosity afforded by the present volume, which assuredly is no less noteworthy to the student of human follies than were Perkins's tractors or Digby's powder. Together with a Hungarian named Peczely, the author claims to have discovered the fact that every disease and every trauma leaves its mark in the iris, and he has perfected a system by which the diagnosis of all morbid conditions may be made through a careful inspection of the eye, which he finds is not only the mirror of the soul, but also that of the body.

LA NATURE SYPHILITIQUE ET LA CURABILITÉ DU TABES ET DE LA PARALYSIE GÉNÉRALE. Par L. E. LEREDDE. Paris: C. Naud, 1903.

THIS brochure consists of seven chapters, in which are discussed the question of the syphilitic origin of tabes and general paralysis, based upon a critical analysis of the literature and the reports of illustrative cases. It is to a great extent an independent review and criticism of the original and pioneer work of Fournier. The author concludes that tabes and general paralysis in the syphilitic are syphilitic affections, and are curable by mercurial treatment if carried out systematically and in sufficient dosage during the early stage of the process. The last chapter is devoted to a detailed description of the method to be employed.

ESSAI SUR LA PSYCHO-PHYSIOLOGIE DES MONSTRES HUMAINS. Par N. VASCHIDE et CL. VURPAS (Asile de Villejuif). Paris: F. R. De Rudeval, 1903.

THIS little book contains a record of the history and microscopical investigation of the nervous system of an anencephalous male child. The life history of the well-known Siamese twin is also discussed in conjunction with a series of psychological experiments made by the authors. There are many interesting illustrations throughout the book, which concludes with an appendix by Doyen describing his recent operation for the separation of the Hindoo twins "Radica" and "Doodica."

FIRST PRINCIPLES OF OTOLOGY. A Textbook for Medical Students. By ALBERT H. BUCK, M.D., Clinical Professor of Diseases of the Ear, College of Physicians and Surgeons, New York City. Second Edition. New York: William Wood & Co., 1903.

IN this second edition the author has made the few minor changes necessary to bring matters up to date, and has placed the chapters on the anatomy and physiology of the middle ear and labyrinth in an appendix at the end of the book. The manual is a condensation of the author's well-known treatise on otology which has been so favorably received by the profession, several editions having been called for. It is well illustrated and well printed. We know of no better book to place in the hands of beginners in otology. It has the additional advantages of an excellent table of contents and a complete index.

ORGANIC NERVOUS DISEASES. By M. ALLEN STARR, M.D., New York, Professor of Diseases of the Mind and Nervous System, College of Physicians and Surgeons, Medical Department of Columbia University in the City of New York; Consulting Neurologist to the Presbyterian and St. Vincent's Hospitals, to St. Mary's Free Hospital for Children, and to The New York Eye and Ear Infirmary. New York and Philadelphia: Lea Brothers & Co., 1903.

THE statements in this book are based upon records of clinical and pathological material accumulated under the personal observation of the author. In a lucid and comprehensive style it imparts a general outline of the etiology, symptomatology, and treatment of organic diseases of the nervous system, and is fully up to date. Although the title implies a dissertation on organic nervous diseases exclusively, the subjects of neuralgia and spasmodic torticollis are nevertheless incorporated in the work. Upon the basis of the pathological findings in old cases of trigeminal neuralgia and neuralgia with herpes, the writer assumes that neuralgia has in every chronic case some organic lesion, while at the same time admitting (p. 79) that this is absent in acute and transient cases. As to spasmodic torticollis, he unreservedly admits (p. 689) that there are no pathological observations to determine its exact cause. The article on Multiple Neuritis comprises five chapters, taking up sixty-three pages, and is a valuable monograph in itself. In speaking of the etiology of tabes, the author says (p. 293) "while we admit that syphilis is a predisposing cause of the disease, we cannot consider tabes a syphilitic affection." We are pleased to note that this view is in accord with that of an increasing number of careful clinicians. The chapter on the Diagnosis and Location of Brain Diseases covers seventy-one pages, and the subject is presented in a very readable and masterly manner. There is also a special chapter devoted to the consideration of dementia paralytica (meningo-encephalitis).

In addition to many valuable references to the literature, the book is profusely and elaborately illustrated with photographs, original drawings, colored plates, and diagrams. Altogether it is a creditable exposition of American neurology, and will undoubtedly prove of great practical value not only to the undergraduate medical student and general practitioner but also to the neurologist.

A TREATISE ON THE CARE OF THE EXPECTANT MOTHER DURING PREGNANCY AND CARE OF THE CHILD FROM BIRTH UNTIL PUBERTY. By W. LEWIS HOWE, M.D. Philadelphia: F. A. Davis Company, 1903.

THIS little handbook is full of practical suggestions and will prove of great benefit in the care of the expectant mother. The author states that he lays no claim to originality. Such subjects as diet, clothing, exercise, and sleep, for the pregnant woman, are considered. In the latter part of the book the care of the infant is discussed.

# Society Reports.

## CANADIAN MEDICAL ASSOCIATION.

*Thirty-sixth Annual Meeting, Held in London, Ont., August 25, 26, 27, and 28, 1903.*

**Special Report to the Medical Record.**

*Tuesday, August 25—First Day.*

THIS proved one of the most successful meetings in the history of the association, both in point of attendance and interest. Besides guests, 275 members registered. London, the less, is a most attractive inland city of 45,000 inhabitants, fittingly named the "Forest City" from the profusion of its foliage. Wide streets and spacious lawns give the place an air of restfulness and comfort.

The arrangements for the meeting were most complete. The new Normal School in which the meeting was held is the finest building of its kind in the Dominion, and afforded ample accommodation and every facility for the convenience of the association.

The attendance numbered 325, including representatives all the way from British Columbia in the West to Nova Scotia in the East, as well as delegates and visitors from the neighboring republic.

The proceedings were conducted under the presidency of Mr. Moorhouse of London.

**The Surgical Treatment of Hallux Valgus and Bunion.**—Dr. JAMES NEWELL of Watford read this paper. He operated by a long internal incision, opening up the joint, with complete division of the ligaments. The tissues were separated from the joint, and the head of the metatarsal bone sawn through back of the cartilage. The exostosis was removed by bone forceps. Sutures were inserted, and the foot dressed. A sheet iron splint turned up at the big toe, padded, was applied and retained by a bandage. In ten days the sutures were removed and passive motion begun. The toe was kept in a straight splint for four weeks.

**Uterus and Adnexa in a Hernial Sac.**—Dr. FERGUSON of London presented a specimen of an incompletely developed uterus and appendages removed from the sac of an inguinal hernia. The external genitals and mammary glands were normally developed, but the vagina was a cul-de-sac without trace of cervix uteri or os. The patient was thirty-two years of age, married, had never menstruated, but at recurring periods of from four to six weeks was attacked with violent headaches to the point of distraction. She left the hospital twenty-three days after the operation, perfectly well, and during the four and a half months which had elapsed since her operation she had been absolutely free from the attacks of headache. The speaker considered that these attacks were due to ovulation taking place or being attempted under abnormal conditions. The frequency of congenital ovarian hernia he attributed to sexual confusion during fetal development, being analogous to undescended testicle in the male. He had been unable to find the special congenital defects present in this case reported elsewhere.

Dr. ECCLES of London commented upon the interesting and unique character of the case, and looked upon it as an interesting contribution to the literature of hernia.

**Typhoid Fever.**—Dr. W. P. CAVEN of Toronto opened the discussion on this subject. The conditions calling for active treatment, he said, were tympanites and hemorrhage. In the former he recommended turpentine and asafœtida, in hemorrhage, morphine. Sponging should be a routine in every case, with tepid water when the temperature was below 102°, with cold water when it was above that degree.

Dr. HERALD of Kingston would not employ internal medication in ordinary cases. In hemorrhage he considered the ice-bag as useful as morphine.

Dr. H. MCCALLUM of London lauded strychnine throughout the attack as the most important agent in the treatment of this disease.

**The Size of the Pupils as an Aid to Diagnosis.**—Dr. J. T. DUNCAN of Toronto read this paper. Bilateral contraction or dilatation or unilateral contraction or dilatation might render the pupils of unequal size. The diseased conditions associated with these abnormalities were described. Again the pupils might be contracted and fixed, contracted and movable, or dilated and movable or fixed. Further, they might be unequal and movable or fixed. The clinical significance of these conditions was pointed out. The size of the pupil as an aid to differential diagnosis was commented on, special reference being made to the diagnosis of locomotor ataxia.

**The Physiological Generative Cycle in Woman.**—Dr. JENNIE DRENNAN of St. Thomas read this paper. She held that evolution was incident to all forms of life. Adaptation to environment and heredity were factors in every phase of life. Structure was determined by function, and function was the product of environment. The functions of the female mammal were ovulation, pregnancy, and gestation. This cycle had become interrupted by ovulation and menstruation, as a result of adaptation to a pernicious environment. Accordingly improved environment would in time be the remedy to effect the restoration of the natural cycle.

**Gunshot Injury of the Humerus.**—Dr. HADLEY WILLIAMS of London reported and exhibited a case of gunshot injury of the shaft of the humerus and destruction of two inches of the musculospiral nerve. The case was seen by him four months after the accident. Non-union and complete paralysis were present. He dissected out the nerve, resected two inches of bone, and brought the nerve ends together by through and through silk sutures. Neither union of bones nor relief of the paralysis resulted. Four months after the first operation, he performed a second operation, in which he maintained the bones in apposition by means of a silver plate secured to the shaft as a splint by means of four silver screws. The nerve was separated from the bones by muscle tissue to protect it from compression by the callus. In six weeks the bones had united, and in nine months after the suture of the nerve ends the paralysis had disappeared and recovery was complete. The patient was presented for examination. The treatment of the case was original, and its essential points, the author thought, were the firm apposition of fragments by means of the plate and screws, the avoidance of tension on the nerve ends, the protection of the nerve from bony callus, and the apposition of the nerve-ends by through and through sutures.

**Two Cases of Hour-glass Contraction of the Stomach.**—Dr. HOWITT of Guelph reported these cases. One of the cases was complicated by an ulcer on the posterior wall of stomach, the other by cancer. In the former there was a history of gastric distress of thirteen years' duration. After operation the patient made a complete recovery, and gained fifty pounds in weight. The other patient, seventy-three years of age, recovered and lived for nearly a year in comparative comfort, being able to take solid food until a short time before his death.

**Operative Treatment of Hip Disease.**—Dr. ROBINSON of Ottawa reported two cases of operation for morbus coxæ, resulting in cure without shortening, although both cases had reached the abscess stage. The joint was opened up over the abscess in the usual way, and the success of the operation hinged upon attention to the following details: (1) Thoroughly clearing away of all diseased bone and débris; (2) careful preservation of all existing portions of periosteum; (3) stretching of the periosteum along the track of the old bone and its attaching to the periosteum of the lower margin of the acetabulum; (4) stretching of the muscles and fibrous tissue over the periosteum; (5) stretching of the leg full length, and application of

fifteen to twenty pounds for extension; (6) allowing the wound to heal by granulation; (7) letting the patient sit up in bed within two weeks after operation; (8) keeping the weight on for four months; or the use of a Thomas' splint, the patient being allowed to get up after six weeks; (9) prohibition of any attempt to walk for six months.

**Operation for Perforated Typhoid-ulcer.**—Dr. HUTCHISON of Montreal presented a report of five cases operated on for typhoid perforation. The fifth case only was successful. In it the operator used the left oblique incision. He believed with increased experience many of these patients could be saved. The rate of recoveries with operation was now 20 per cent.

**Address of the President.**—Dr. MOORHOUSE of London delivered the usual presidential address at the evening session. He dwelt upon the dignity of the profession, the *esprit de corps* which should characterize its members, the rewards and the trials of the work, the progressive character of medical science, the advances made in medical education in Canada with its high examination standards, the need of legislative enactments to insure Dominion instead of provincial registration, and the necessity of resisting the encroachments of charlatanism in all its hydra-headed forms.

**The Rôle of Eyestrain in Civilization and Medicine.**—Dr. GEO. M. GOULD of Philadelphia read this paper. Eleven alleged instances of this affection were gleaned from the history of the last century, including the names of Carlyle, De Quincy, Herbert Spencer, Parkman, and others —men of brilliancy and genius whose contribution to literature and science, vast as it was, was curtailed, in the speaker's belief, to a mere tithe of what it might have been were it not for the eyestrain from which he thought they suffered. The incalculable loss to the world which the author assumed to be attributable to this infirmity, and the unfortunate prevalence of eyestrain, demanded greater attention to the remedy of this ailment.

**A Lantern Lecture on the Open-air Treatment of Consumptives** was given by Dr. ELLIOTT, Superintendent of the Muskoka Sanatorium.

At the close of the lecture it was moved and seconded by Drs. Barrick and Powell, and supported by Rev. Dr. Moore of Ottawa, that the Government be urged to enact legislation providing for municipal sanatoria for consumptives. This motion was carried unanimously.

(To be continued.)

## AMERICAN CLIMATOLOGICAL ASSOCIATION.

*Twentieth Annual Meeting, Held at Washington, D. C., May 12, 13, and 14, 1903.*

*Tuesday, May 12—First Day.*

NORMAN BRIDGE, M.D., OF LOS ANGELES, PRESIDENT, IN THE CHAIR.

**President's Address.**—Dr. NORMAN BRIDGE, in his opening address, spoke on some dangers and duties of the American Climatological Association. He dwelt upon the importance of the study of air and water; he said that facts and not fancies were wanted, and that these facts must be found and recorded regardless of any use that might subsequently be made of them; but the facts should be used scientifically or not at all. The highest success of the association would never be reached till there was developed an avidity for scientific facts. This society in its travels from place to place had a variety of climates offered to it for practical study. To become scientific climatologists it was necessary to gather many facts, but, in the search for these, too often the air and its chemistry were forgotten, also the influence on the sick of its temperature, currents, moisture, and the daylight and sunlight passing through it. Too often generalizations were made as to the effect of climate, by its apparent influence on some sick newcomer, rather than on the permanent residents; we were apt to forget that these newcomers are under conditions and influences very different from those that they left at home, and where their sickness began. Some of the changes in these patients were doubtless due to climate, while others were possibly due to change of place, scene, occupation, cares, amusements, or experience. But we should not let our enthusiasm run away with our judgment and so ascribe impossibilities to some one good influence. Much harm was done by allowing hopeless consumptives and others to leave their homes and such assistance as was within their grasp, to travel perhaps long distances in a search for the impossible. Such cases as these were well known; and it was the duty both of the society and also of the general profession to protest against it. And those who could not be benefited by change of climate should be taught the value of proper hygiene, care and out-door treatment. It was only in the early stages that consumptives were benefited by change.

**The Climate of Nassau.**—Dr. S. A. FISK of Denver read a paper on this subject. He said that Nassau was a winter resort only, the season lasting from January to March. Among the advantages there was the negative one of getting away from the North; other places, such as Southern California, the Sandwich Islands, the Bermudas, the South Atlantic coast, and Jamaica offered this attraction; but they all had some disadvantages not shared by Nassau. Nassau was South, at the sea level, an island, and one hundred and sixty miles to sea. In many respects it resembled Colorado, only at the sea level and not a mile up in the air: as a result its barometric pressure was the one to which so many were accustomed. It had a dry soil of coral formation, good vegetation, pure air without dust, smoke, or atmospheric impurity, particularly when the wind blew from the north or east, which was the rule in winter, the air reaching Nassau only after passing over hundreds and hundreds of miles of the ocean. There was abundant sunshine with consequent out-door existence; slight wind velocity, and an equable temperature; the rainfall was large, about three or four times that of Colorado; heavy dews were encountered as in South California, but in Nassau there were no fogs. Colorado and Nassau offered a contrast, as follows: in Colorado there was a dry air, variable temperature, climate stimulating and bracing, and physical attractions of a rugged and mountainous character; while Nassau was at the sea level with dense moist air, equable temperature, climate soothing and enervating, and its attractions chiefly of the sea, such as fishing, sailing, and boating. The objections could be summed up in one word—tropical; but by proper regulation of diet, clothing, and exercise much discomfort could be obviated. Dr. Fisk summed up its advantages as a summer climate at midwinter; an ocean climate on dry land; brilliant sunshine, pure air inducements to live out of doors, and all at a sea level. He cautioned against sending patients with acute phthisis to Nassau, but recommended that climate for certain forms of heart trouble, Bright's disease, diabetes, neurasthenia, insomnia; also for those who either wanted a rest or were anxious to avoid a Northern winter.

Dr. E. J. A. ROGERS of Denver considered the paper invaluable; particularly because the writer knew what he was writing about, and possessed much practical experience in judging of climates.

Dr. H. SEWALL of Denver said that he had wintered in Nassau about twelve years ago, and the paper had vividly recalled his visit. He thought that the benefit of a change of climate was due to either the direct physiological effect, or to an indirect psychological effect; and that very often a short stay in a place was beneficial, while a long sojourn might be harmful.

Dr. S. E. SOLLY of Colorado Springs considered that the climate of Nassau was not good for patients suffering from acute pulmonary tuberculosis, but that chronic cases might be much benefited by a short stay, the sedative effect of the climate being good for the nervous system.

Dr. R. H. Babcock of Chicago, while interested in and instructed by the paper, was disappointed at hearing so little of the advantages and disadvantages of the hotels and boarding-houses. He considered this an important point, and that the association could do a great work in causing improvement in the accommodation afforded in certain places; he thought that the room, and table and toilet facilities should always be stated. All the physical advantages would not atone for bad accommodations.

Dr. Fisk thought that while it might be a good thing to emphasize these details, there was danger that if this were done the objectionable features might be dwelt on so long that every place would be neglected. He had grouped all the objections as tropical, and this included details of food, clothing, and toilet arrangements. The hotel accommodation was good but expensive; a simple boarding house was much cheaper, but might be a little dirty and without comfort.

**Some Further Remarks and Queries Concerning the Influence of Altitude on Heart Disease.**—Dr. Robert H. Babcock of Chicago was the author of this paper. He made brief mention of three cases of mitral stenosis which were able to endure an altitude of 6,000 feet without discomfort. He also reported the case of a female without previously recognized disease of the heart, who yet experienced an acute disturbance, which disappeared soon after reaching a lower level. He next mentioned the case of a miner who developed præcordial pain and tachycardia after considerable exertion, but whose symptoms were relieved at the level of Chicago. Allusion was also made to some cases of chronic nephritis which developed uræmic symptoms at the altitude of Denver. He would like to know if all these cases were capable of explanation on the same hypothesis. He, himself, did not know, but was inclined to believe that different factors were at work. In chronic nephritis, were the symptoms referable to a lowering of the blood-pressure or to increased metabolic activity? In the case of the miner, were the symptoms due to cardiac overstrain and not to the altitude *per se*? Could the effects in the other cases, good or bad, be attributed to lowered blood-pressure incident to low atmospheric pressure? Could any case of cardiac disease endure a moderately high altitude if the patient refrained from exercise until he became acclimatized? Since commencing this paper the writer had seen another case of mitral narrowing with patent foramen ovale of congenital origin; this patient had experienced no discomfort on taking exercise in the mountains of California; but on going to San Francisco she had promptly suffered from a severe attack of what was probably acute pulmonary œdema; this was apt to recur on exertion. Her blood-pressure though not very high was higher than normal. What was the explanation of this case? At first he had inclined to the belief that an abnormally high arterial pressure had something to do with it, but now he believed that the attacks of dyspnœa were of a mixed type, and that it required a condition of cardiac overstrain to develop the asthmatic tendency or pulmonary œdema, and when this was once established other influences were capable of initiating an attack. He would like to have an explanation of the points raised, and he would particularly welcome some statements concerning the mean blood-pressure in healthy individuals residing at an altitude of a mile or so.

Dr. DeLancey Rochester of Buffalo said that he had observed that mitral stenosis, particularly in female patients, was apt to be accompanied by neurotic tendencies. He believed that the myocardium was often at fault, and that if blood-pressure were studied much could be learnt of the condition of the heart. Attacks of dyspnœa were often the result of weakness of the myocardium due to changes in the arteries of the myocardium.

Dr. Beverley Robinson of New York had found that many patients were liable to suffer from nervous excitement and were easily influenced in this direction by adverse medical opinion. Many such patients had found that higher altitudes could be endured, and also be beneficial; therefore we should hesitate before nervously influencing such patients. Often, too, patients that we thought would be benefited in a high climate did badly, and their friends felt that we had given bad advice; possibly we were to blame.

Dr. S. E. Solly of Colorado Springs thought that the study of the blood-pressure was most important; he had known a case of aneurysm relieved at an altitude, if no undue exertion were indulged in, therefore he thought that blood-pressure must have some influence in these cases. The effect of change of climate was much greater on a patient's first arrival than ever after; but on arrival patients must not exert themselves, and at once place themselves under the care of a physician that they may be watched from the start. Overstrain was common in these cases.

Dr. E. J. A. Rogers of Denver said that those who practised in high altitudes had formerly been accustomed to send their cases of heart lesions to a lower level; now it was different, and he believed that it was the sudden change and not the high altitude that was beneficial. He reported a case of aortic aneurysm, of more than fifteen years' duration; at his advice this patient went, ten years ago, down to Missouri, but he could not live there, and soon returned to the mountains, saying that the altitude was paradise. A patient with contracted kidney was advised to go to South California; he went, got worse immediately, then rapidly sunk. He himself was personally conscious of change in arterial pressure, and often felt heart strain on injudicious exercise.

Dr. J. M. Anders of Philadelphia advised such cases to go slowly and to get accustomed gradually to changes. One case of his, of pulmonary tuberculosis, got well, while another one—cardiac—died. In high altitudes this might often occur on account of the physiological reserve being at a minimum. He believed that arterial tension was diminished at high altitudes, and that in chronic interstitial nephritis metabolism was stimulated by high altitudes.

Dr. Egbert Le Fevre of New York had observed two cases of mitral stenosis, in both of which the patients had been advised to go to high altitudes, and to avoid exertion; they did not do as advised. He found that drugs lowered the arterial pressure, but that when tension was lowered they suffered from cardiac pain.

Dr. Babcock was much pleased with the discussion and thought that cardiac lesions *per se* were not a contraindication to a high climate. A distinction ought to be made between mountain sickness and cardiac strain. He referred to the case of the late Dr. Byford of Chicago, who suffered from angina pectoris and could not walk in Chicago, but could do so at a high altitude. He agreed with Dr. Robinson that the nervous condition of the patient had much to do with what the patient experienced. He suggested the keeping of a register of blood-pressure, particularly in patients changing altitudes; in this way a large array of statistics might be obtained. He would allow any patient to go away to the mountains, on a promise to obey instructions.

**Studies of Bradycardia.**—Dr. Roland G. Curtin of Philadelphia read a paper with this title. He defined bradycardia as a condition, more or less transient, of pulse beat, more or less slow. As a rule heredity was not a factor in its production, but he had seen two such cases, both in drunkards. The textbooks were as a rule weak on this subject, but two notable exceptions were the treatises of Drs. Sansom and Babcock. Bradycardia was to be regarded as a symptom and not a disease. The condition was often seen in the febrile and post-febrile stages of influenza. He had pointed out that bradycardia was produced by the influenza poison. Cases were referred to illustrating this condition in influenza, lead poisoning,

Stokes-Adams' disease; it had also been observed after many of the acute infectious disorders, and in dyspepsia, chlorosis, anæmia, cerebral tumor, appendicitis, hysteria, nostalgia, malaria and seasickness. Hence bradycardia might be caused by a toxin in the blood, a narcotic poison, or anything interfering with the nutrition of the heart muscle. It seldom occufred in uncomplicated heart lesions.

Dr. EGBERT LE FEVRE of New York believed bradycardia was due to toxic influence; he referred to cases that had been benefited by drugs of the belladonna group. To try if artificial slowing of the heart would give bradycardia he had tried the galvanic current, with the result that the heart got so low that the patient became pale, but gradualy recovered under artificial respiration. He believed that bradycardia coupled with cardiac weakness might be due to excesses.

Dr. J. M. ANDERS of Philadelphia considered the paper both timely and important. In the case of the acute infectious diseases, he thought that a distinction should be made between the bradycardia due to the toxins and that occurring during convalescence, when it might be caused by mere exhaustion. This last was similar to that noticed after prolonged parturition. He had observed two cases of bradycardia in heart disease, but the trouble was probably referable to the myocardium; in cardiac cases bradycardia was more apt to be found in advanced lesions in which fibroid degeneration was present.

**Neuralgia in Relation to Altitude.**—Dr. F. S. PEARCE of Philadelphia was to have read a paper on this topic; but having come without his paper he reported two cases bearing on the subject. The first case was that of a young lady suffering with neuralgia, and who on moving to a lower altitude found that the attacks became less frequent and less severe. The other case was a physician of sixty years of age, whose neuralgia got worse when he went to Denver, but was improved on his returning again to a lower level. In neither of these cases was there any organic lesion found; but they were both neurotic.

**The Rôle of Local Sanatoria in Preventing the Spread of Tuberculosis.**—Dr. DELANCEY ROCHESTER of Buffalo read a paper on this subject. He said it was the general opinion of the medical profession that in the treatment of pulmonary tuberculosis the best results were obtained in sanatoria. He urged the establishment in every community of two sanatoria, one for advanced cases and the other for incipient cases of tuberculosis; and further, that all patients who could not occupy an airy room alone should be compelled to go to one of these sanatoria. Two sanatoria were necessary, because (1) the treatment of these two classes of cases was different, and (2) because the constant presence of advanced cases had a decidedly depressing influence upon incipient cases. He would further have all cases reported, and have the Board of Health send an inspector who was to decide whether the case was suitable for home or sanatorium treatment; every case was to be allowed the privilege of sanatorium treatment if so wished. He would give the boards of health, in cases of tuberculosis, the same powers that they now possessed in cases of smallpox, Forestalling the criticism that many consumptives might be able to attend to business and thus support their families, he urged that it would be found less expensive for them to quit work for six or even eighteen weeks and get well, than to continue to do rather poor work for even a year and then leave to quit for all time. Another objection which had been urged was that it was an unnecessary hardship to compel a patient to die in an institution and away from his family; to this he replied that such need not be the case, for the end was seldom sudden, and, as a rule, the friends could be notified. The bodies of all persons dying of tuberculosis should be cremated. He believed that some such plan of compulsory reporting of all cases, and compulsory removal of suitable cases to proper sanatoria, would be more efficacious than all other procedures in ridding the community of tuberculosis.

Dr. H. P. LOOMIS of New York thought well of the two classes of sanatoria, but did not agree with the element of compulsion. In New York it could not be enforced; and if the physicians would not do it, we could hardly expect the laity to. But there was another objection, namely that people did not want a sanatorium built in the vicinity of their property; they approved of sanatoria and were humanitarian, but did not want their property to be depreciated. The parallel between smallpox and tuberculosis he did not think good.

Dr. E. O. OTIS of Boston thought the idea of two sanatoria a fine one, but one that was not likely to be carried out. He was afraid that there would never be space enough or money enough to build them. He would like to ask Dr. Rochester how he would set about his work if reporting such cases were made compulsory, and how he would remove the patients, and how he would support the family of the patient during the illness and also after the patient's death.

Dr. E. L. SHURLY of Detroit said that hospitals refused cases of tuberculosis and sanatoria would take only incipient cases, hence the proper care of consumptives was a pressing question even from the standpoint of political economy. But he thought it was not the business of the State to provide sanatoria, for there would be enormous expense and taxation in connection therewith; then these sanatoria would be inseparably connected with politics. He thought that each community should take care of its own sick. He would ask: Can the State force physicians to give information? and, Are physicians custodians of the public health?

Dr. EGBERT LE FEVRE of New York wished to enforce the remarks made by Dr. Loomis with reference to reporting cases in New York. Soon after the New York Board of Health made it compulsory on physicians to report their cases of tuberculosis, a reaction set in, and many consumptives hid themselves because they were afraid of losing their places; they next suspected the practitioners, and asked if a report was going to be made, and the physician who said yes was not likely to see that case again! It was no use to compare the consumptive to the sufferer from an acute infectious disease. Why make our consumptives like the leper of old and yet give them no desert to go to? When boards of health would give definite advice and would agree not to visit the consumptive without the consent of the attending physician, then, and not till then, would physicians report all their cases of tuberculosis. He was against compulsory notification.

Dr. ROCHESTER advocated compulsory notification of disease; but thought that the visits of the Board of Health should depend on the wishes of the physician. The sanatoria that he advocated were local and not State. He would accommodate just those cases that could not be properly cared for at home; while those that had hygienic surroundings would not be compelled to leave their homes. In any event only suitable cases would be admitted.

Dr. OTIS asked what the accommodations for consumptives were at Buffalo.

Dr. ROCHESTER said they were very bad.

*Wednesday, May 13—Second Day.*

**Subsequent Histories of Arrested Cases of Tuberculosis Treated at the Sharon Sanatorium from 1891 to 1902.**—By Dr. VINCENT Y. BOWDITCH of Boston, This paper contained the subsequent histories of several consumptives for a number of years, with very full statistics, which it was impossible to epitomize.

Dr. E. O. OTIS of Boston wished to emphasize the value of such statistics and such papers; and he thought the thanks of the society were due to Dr. Bowditch for the immense amount of labor which the collection of those histories must have entailed.

Dr. NORMAN BRIDGE was sure that they were all under great obligations to Dr. Bowditch for the paper he pre-

sented. His work had added to their knowledge facts which they had long been seeking.

**Dispensaries for Tuberculosis, with a Description of the Tuberculosis Department of the Boston Dispensary.**—This paper was read by Dr. E. O. Otis of Boston. He said that in other countries dispensaries for ambulatory cases of tuberculosis were fairly common; while in this country they were few, and such patients generally attended a general medical clinic, where they received a variable amount of attention. In Boston a special department for these patients was started in 1899, as an experiment; at first it was only necessary for the physicians to attend two or three times a week, but now there was a daily attendance. With each patient there was a thorough investigation and examination; the history was gone into, the sputum examined, if necessary the tuberculin test and *x*-rays were invoked. When the diagnosis had been made, district nurses went to investigate the home conditions of the patient; this included sanitary, personal, social, and financial conditions. A brief circular of information concerning the sputum and general hygiene was given; and the patient was furnished with the necessary medicine either free or at a cost of ten cents. If the case was an incipient one an endeavor was made to get the patient into the hospital at Rutland; while the more advanced ones were recommended to one of the small extra-mural sanatoria outside the great sanatorium at Rutland. At the clinic patients were also examined who had left the Rutland sanatoria, and who had taken the outdoor treatment elsewhere; thus the dispensary both preceded and completed the sanatoria. After describing the equipment desirable for such a dispensary, the writer went on to indicate what, in his experience, were the objects of such a dispensary: (1) As complete an investigation of the patient as possible, including history, physical and bacteriological examination. (2) Investigation of the patient and his surroundings at his home, including the hygienic conditions of his house. (3) Instruction, both of the patient and his household, in hygiene and the safe disposal of the sputum. (4) The free supply to poor patients of pocket- and house-spittoons. (5) Securing entrance into sanatoria for curable cases, and into consumptive hospitals for incurable ones who could not be properly cared for at home, and when both of these were impossible in providing home treatment. (6) Aiding poor patients to obtain suitable food and other articles necessary for their proper care. (7) Affording an opportunity to physicians to send their poor patients for diagnosis when desired, as well as for advice and assistance in treatment. (8) Opportunity for scientific study and investigation of tuberculosis. (9) Clinical instruction to students and physicians in the examination of tuberculous patients.

Dr. DeLancey Rochester of Buffalo had not been able to establish such an institution at Buffalo. He understood Dr. Otis to say that he used the tuberculin test on these ambulatory cases; he would like to ask how the temperature was taken, as he (the speaker) was in the habit of taking it every two hours. He was still in favor of two local sanatoria.

Dr. J. Daland of Philadelphia was much struck with the uses to which such a dispensary could be put. He considered that tuberculous cases required and deserved much time.

Dr. L. Weber of New York emphasized the value of home treatment, and believed in the establishment of hospitals for consumptives.

Dr. A. C. Klebs of Chicago thought that a great point in the work of such a dispensary was the help afforded the family. In Chicago they had just inaugurated an association that was to gather information about the consumptives, both clinical and statistical; and also to put itself in communication with other places; food and employment would also be furnished to the sufferers when necessary. He thought oral instruction in hygiene superior to printed circulars on the subject.

Dr. F. I. Knight of Boston thought that the visits of the nurses to the houses of the poor were of great value. In Boston they had an association (of which Dr. Otis was president) which provided for this very thing.

Dr. J. E. Stubbert of New York thought that these dispensaries did good work. In New York 93 per cent. of the consumptives could not leave the city, and so sanatoria alone would not solve the problem. Dispensaries reached the incipient cases that could be benefited. The greatest results were from hygiene and food, not from medicine. He would suggest a combination of the dispensary and hospital, where the patient could attend to his work and still be treated for his disease.

Dr. C. E. Quimby of New York thought that now the treatment of tuberculosis was being placed on a proper and rational basis; and he wished to congratulate Dr. Otis, and all of those who had started with the district nurse.

Dr. Otis said with reference to the tuberculin test, that he was the first to adopt it in ambulatory cases; of course that was not the ideal plan, but still it gave good results.

**Tent Life for Consumptives.**—Dr. J. Edward Stubbert of New York read this paper. (See page 13.)

Dr. C. L. Minor of Asheville, N. C., regretted the tendency to suppose that the ordinary tent would fulfil the conditions for open-air treatment of tuberculosis. His experience was that the ordinary tent allowed less air than was desirable. He thought that the German system of barracks or cabins around the sanatoria allowed better ventilation and ample cubic contents of air. It seemed to him that the fresh-air treatment might be pushed so far as to terrify the general public.

Dr. F. I. Knight of Boston agreed with Dr. Minor with regard to the insufficient cubic capacity for air in tents generally. He preferred barracks or cabins. It seemed to him that the air in the few tents in which he had been was the worst possible for consumptives.

Dr. E. L. Trudeau of Saranac Lake, N. Y., suggested that one of the main difficulties to be overcome in the tent treatment was the providing of the maximum amount of sunlight.

Dr. S. A. Fisk of Denver emphasized the great necessity for fresh air. He knew from his own experience that persons could live in tents in midwinter, and that when one had become accustomed to living and sleeping in a tent he did not care to live in anything else.

Dr. Stubbert, in replying, said that he agreed that the ventilation in tents was often poor, but still it was usually superior to that of the rooms used by the patients. He thought that a tent, when used, should be opened sufficiently to provide proper ventilation. He agreed with Dr. Fisk, that a person who had once lived in a tent would live in nothing else.

**The Syphilitic Diseases of the Heart and Aorta.**—Dr. Leonard Weber of New York read this paper. He referred to the frequent occurrence of syphilis in diseases of the heart and lungs. As to the etiology, he said that old syphilitics not properly treated, or quitting treatment, are somewhat apt to develop visceral lesions, and that the vigorous had as little guarantee against coronary sclerosis as the feebly constituted. In tabes dorsalis aortic insufficiency had occasionally developed, but it was produced by the syphilitic virus and not by the posterior sclerosis. He believed in a causal connection between syphilitic lesions and certain cases of chronic diffuse and interstitial nephritis dependent upon arteriocapillary sclerosis of the kidney. At the autopsy of a syphilitic heart or aorta there was nothing to distinguish the arteriosclerosis of syphilis from that produced by other causes, except the gumma. The diagnosis was difficult except for the syphilitic stigmata; the history was unreliable, but the therapeutic test was good. The anatomic material was not yet sufficient to build data on. The

treatment was beneficial even if a cure were not effected; iodide of potassium alone was not sufficient; mercurial inunctions or the bichloride given hypodermically proved serviceable, and the general nutrition required attention.

**A Cabin for Open-air Treatment.**—Dr. R. A. CLEEMANN of Philadelphia read a paper with this title. He said that tuberculosis flourished among dwellers in houses, while with an out-door life many recovered, most houses being insufficiently ventilated. Tents had been tried, but they soon became offensive if the end flaps were not opened and the walls systematically raised. The tent's shortcomings were shown by the many attempts to improve its ventilation; but these same devices had been unsuccessful in keeping tuberculosis out of houses. Ventilated tents were an improvement on ordinary houses, but a specially devised cabin was, he thought, an improvement on the tent. Such a cabin was described, and plans and illustrations shown. The chief feature was a movable wall; when three sides were lowered and the folding doors opened, the space before enclosed was at once flushed with fresh air and flooded with sunlight, while the walls themselves were placed in a position to receive on their interior face the rays of the sun. Spaces above the walls allowed ventilation, and these spaces could be closed in the coldest weather and during rain storms. The chief objection in a Northern climate was the cold, but this could be obviated by a stove. The cost of a cabin for one or two persons was about two hundred dollars.

Dr. S. E. SOLLY of Colorado Springs asked if the walls were solid or hollow. Dr. Cleemann said they were solid. Dr. Solly said that he was in favor of a hut with hollow walls, as a more equable temperature could be maintained. He also suggested that it would be an advantage if the walls were raised like the wings of a tent; and further that it would be very useful to have these huts made so as to revolve, thus permitting any portion to be turned to or from the weather. The advantage of the hut over the tent was that in the former the heat and cold were kept out much better.

Dr. C. MINOR of Asheville inquired if the cottage described was at present on the market, and if so at what price. An ordinary carpenter could not be induced to make such a cottage properly and economically.

Dr. CLEEMANN said that the sides were not planned to be raised up, because such a procedure would interfere more or less with the ventilation, and also that the sun would not have the same free entrance. In answer to Dr. Minor, he stated that the price placed on such a cabin was only his personal estimate, as these cabins had not yet been tried. He thought that an ordinary carpenter could make one for one hundred and fifty dollars; he had been asked as much as two hundred and seventy-five dollars, but that was excessive.

**Tuberculosis in the Negro.**—Dr. THOMAS D. COLEMAN of Augusta, Ga., read this paper. He said that in the South, tuberculosis was on the increase among the negroes. Before the war it was rare to find a case among that race, and some writers considered the negro almost, if not quite, immune. He presented statistics showing percentages of deaths of whites and of blacks from tuberculosis during a period of five years. These figures showed in Charleston the proportion dying of tuberculosis was, whites, one in eleven; colored, one in six: in Augusta, whites, one in eleven; colored, one in six; and this record demonstrated that though the colored population was 10 to 16 per cent. less than the white, in five years tuberculosis carried off 147 white persons, and 448 colored. In round numbers, and allowing for discrepancies, there die annually from tuberculosis about twice as many colored people as whites. The reasons of this, he believed, were as follows: That in slavery the negro had an open-air existence, was free from care, while now he was independent and his habits and mode of living had undergone a radical change. Tuberculosis in the negro was due largely to his mode of life, more so than to any racial peculiarity; hygiene was unknown to the negro, his morals were lax, his hours irregular, and hence his constitution was depleted, and he was more apt to fall a victim to the disease. At the autopsies on all negroes dying in the Georgia Insane Asylum in 1901, over 50 per cent. showed evidence of tuberculosis. Venereal disease also weakened the negro, and though some observers had stated that syphilis protected the individual against tuberculosis, he could neither commend it as a prophylactic nor verify it as a fact. As a remedy he suggested: cooperation of both races; hygiene; and that local boards of health should exercise their educational influence, superintend the disease, and disinfect every house in which tuberculosis occurred.

Dr. E. O. OTIS of Boston inquired if Dr. Coleman had collected any statistics with reference to the number of tuberculous whites in insane asylums, as compared with similar hospitals for negroes.

Dr. T. DARLINGTON, Jr., of Kingsbridge, New York, said that his experience bore out the facts presented the paper read. He said that he had found the negroes under his care very suspicious in regard to medicines, and that 100 per cent. of them had syphilis.

Dr. T. J. MAYS of Philadelphia remarked that about four or five years ago he had looked into the relation between consumption and insanity in the negro. He had found that, before the war, insanity was rare and consumption practically unknown. Since the war the negro had required insane asylums, and afterward developed consumption. He believed that insanity came first among the negroes, then probably syphilis, or possibly syphilis preceded insanity, and then came tuberculosis.

Dr. C. L. MINOR of Asheville took issue with one point in the paper, he did not think there was any racial susceptibility. The disease was prevalent among the colored race on account of their surroundings, occupations, mode of life, etc. Before the war the negroes had abundance of good food, regular hours, and quarters carefully looked after; now their quarters were abominable, their food worse, and their hours irregular.

Dr. S. BROWN of Chicago thought that pure air and ventilation were the main things to be considered. He referred to the British army and navy as an illustration of the almost total disappearance of tuberculosis in the presence of proper ventilation. The boards of health, in their publications, were prone to wander from the essential things, such as ventilation, and talk about germs and spitting on the floors, etc.; he thought this was wrong and should be corrected.

Dr. E. R. BALDWIN of Saranac Lake, N. Y., took issue with Dr. Minor on racial susceptibility; he believed it existed.

Dr. COLEMAN was sorry that he could not answer Dr. Otis' question. With reference to Dr. Darlington's statement about the timidity of the negro in taking medicine, he thought that fear was only developed in the North, for in the South nothing pleased the negro more than an abundance of medicine. With reference to Dr. May's figures, he would place syphilis first (about 75 per cent.), tuberculosis second, and insanity third. He thought that Dr. Minor's question about racial susceptibility had been answered by Dr. Baldwin, and also by the statistics that he (the writer of the paper) had given.

**Some Experiments in the Treatment of Pulmonary and Laryngeal Tuberculosis by Means of the Electric Light.**—Dr. W. C. GLASGOW of St. Louis read a paper with this title. He described a few experiments which he had been making with the electric arc light in cases of pulmonary and laryngeal tuberculosis, and showed the effect which exposure to the electric arc produced in the pathological processes, and the changes made in the physical signs due to this exposure. These changes were: diminution of secretion in the cavities, relief of pain, and general improvement of nutrition. He believed that such radical

and rapid changes toward improvement had not been observed under other forms of treatment. The results produced were similar to prolonged residence in the West, but only required months instead of years. He reported a number of cases in which benefit had been produced in pulmonary conditions in a short period; and he believed that, under proper conditions, no danger was likely to occur.

Dr. De Lancey Rochester of Buffalo was much interested in the paper because for the last two years he had been experimenting with electricity on the consumptives in the Erie County Hospital. He had used the actinic rays, and obtained absolutely no beneficial results. In his experiments the chest only was exposed to the rays, and the sittings were not nearly so long as those spoken of in the paper. He asked for details as to the manner of application, and whether applied to the whole body, or to the chest alone.

*Thursday, May 14—Third Day.*

**A Discussion on "The Community and Tuberculosis."**—This discussion was opened by Dr. Beverly Robinson of New York, who read a paper on the subject. He said that health boards and physicians were now coöperating to help consumptives. He believed that two sanatoria should be employed, one for the well-to-do, the other for the poorer, so that they might end their days in comparative comfort. Sanatoria should be under proper control; that for the poor meant cure for many and consolation for many more; for when those who had been inmates returned to their homes, whether improved or not, they were apt to educate others in matters of hygiene. Home treatment was the only one that was at present available in New York; about one thousand could at present be accommodated in hospitals and sanatoria, and accommodation was required for ten or twenty times that number. Specific drugs were not in much demand now, but what was very much needed was an anti-tuberculous serum that was absolutely reliable. For the poor, better food, hygiene and improved tenements were wanted; these, with proper information given to the patient, would mean increased resistance to the disease. In attempting to help the community there was no need to label and punish the patient, and make him a social outcast, he was already suffering enough. Much help could be rendered at home, and much useful advice given. Tuberculosis was not contagious in the ordinary sense of the term, but it was infectious and communicable. The mortality was steadily decreasing. The treatment suggested by the ignorant was often inhuman, for example the attempts to keep out consumptive immigrants; but fortunately this method had been opposed by the more humane of the medical profession. The needs at the present day were proper hygiene, prophylaxis, disinfection, and disposal of sputum. As a rule tuberculosis would not be taken except on a susceptible soil. The writer stated his own personal experience, of over thirteen years, in the New York Hospital, and during that time neither he nor any one of his assistants contracted the disease, and in those days the disinfection was not the same as obtained to-day; yet he had never heard that the New York Hospital was a center for the spread of tuberculosis. He believed that tent life was the proper and perfect life for consumptives, particularly for incipient cases.

Dr. F. I. Knight of Boston said that there was no doubt that tuberculous patients would recover under all conditions and whether treated or not; of course more recovered under proper modern treatment in sanatoria. The chief thing was for the patient to be away from home, and this was particularly the case when the patient's home was in a cold climate. The tent treatment he had no sympathy with; he had never seen a tent that was comfortable; in summer it was too hot, and in winter the air was foul.

Dr. E. O. Otis of Boston said that Dr. Robinson had seemed to disparage private sanatoria; but there were two points that should be remembered in this connection: one was that the patient could be controlled far better in such an institution than was possible at home even under the most favorable conditions, and the other was the educative influence of these sanatoria. With regard to the cruel treatment accorded in many cases, he thought that the profession was largely to blame in the matter; undue fear was created by the placards in the street cars and elsewhere, prohibiting spitting, while no attention was paid to pure air or ventilation.

Dr. S. E. Solly of Colorado Springs agreed that to take the patient away from his home, even if only a few miles, was a valuable proceeding. He thought that barracks would prove better than tents, particularly as in the latter it was so difficult to maintain an equable temperature. The rule should be to send consumptives away from home, to keep them out of doors, not in a tent but on an open porch attached to a hut for the poor, and a better house for the rich. Another advantage of sanatorium treatment over home treatment was in suggestion; patients would do what they saw others doing.

Dr. DeLancey Rochester of Buffalo said that unfortunately many cases were among the poor who could not go away from home, and here the suggestions made in the paper were valuable. In Buffalo, even with an unsuitable climate, many of his patients had adopted an out-of-door mode of life, and many of them had improved and some had recovered. He thought that the chief difficulty was with the dwellers in tenements, often with dark rooms and no windows to the sleeping rooms; such cases he urged should be compelled to go to the proper place of treatment, namely the sanatorium; and that they should stay there until it was safe for them to return home.

Dr. T. Darlington, Jr., of Kingsbridge, said that in handling these cases the physician had four duties: (1) his duty to the family of the patient, (2) to the patient himself, (3) to the community, and (4) to the neighborhood to which he proposed to move the patient. In New York it was an absolute impossibility to get fresh air into the tenement houses; and the only thing to be done with the consumptives was to move them away. But how was this to be done? The consumptives could not go to any part of the State without the consent of the supervisors of that county; and the erecting of a colony of tents for these people was hardly feasible, for there was no room in the city and they could not get out of the city. It would injure the well and healthy to allow the consumptives to settle where they pleased.

Dr. R. C. Newton of Montclair, N. J., thought that it was very little use to pick out here and there a very good tenement-house man who wanted to be healthy and to take him off somewhere, or to put in his house a "marble bath tub." We were unable to do much good unless we reformed the general condition, and that was the problem that confronted us.

Dr. R. A. Cleemann of Philadelphia thought that the difficulties were much exaggerated. The solution of the question was simple, namely to get the people out of their homes and under the care of some institution controlled by the State. He thought that eventually the cities would reserve in their neighborhood a lot of ground not covered with houses, on which could be erected not a tent city but a barrack city.

Dr. R. G. Curtin of Philadelphia did not think that tuberculosis was as contagious as many physicians appeared to make it, and he mentioned cases in support of his view. He thought that at the present time consumptives were more studiously avoided than if they were lepers.

Dr. C. L. Minor of Asheville thought that the profession had been too enthusiastic; it had educated the public foolishly and now ought to try to educate it in the right way. After the tubercle bacillus had been discovered some men could see nothing but bacilli.

Dr. T. W. Harvey of Orange said that twenty years

ago, among the hatters, two diseases were very prevalent:—chronic mercurial poisoning and tuberculosis. At the present day, in better ventilated houses, it was a rare thing to see chronic mercurial poisoning, and tuberculosis was no more common among the hatters than it was among other classes of workers.

Dr. R. H. Babcock of Chicago understood the paper as an argument against sanatoria for poor consumptives; he would like to point to the attitude of the Germans as an argument in favor of such sanatoria. If the people were properly educated there should be no greater difficulty in getting sanatoria and hospitals for the treatment and segregation of consumptives than in getting hospitals for surgical cases. The next best plan was the dispensary treatment, as described by Dr. Otis.

Dr. Beverley Robinson said that there was a great deal that had been said in the discussion that he agreed with, and much with which he disagreed most absolutely. The public had been put wrong and the medical profession should put the public right again. Sanatoria were doubtless all right for the few, but we could not take care of the majority in that way. Our cities should be made habitable and then a great amount of disease would disappear.

**The Death Rate of Acute Pneumonia.**—Dr. Thomas J. Mays of Philadelphia read this paper. He said that the way to gather statistics that would be of service was to gather them from as wide an area as possible. The figures quoted in the present paper were from various health boards. He presented charts showing the death rates from phthisis, pneumonia, and heart disease in Philadelphia, New York, Chicago, Boston, St. Louis, Buffalo, District of Columbia, Rhode Island, New Jersey, Richmond, Va., Baltimore, Reading, Pa., and also a composite chart. His conclusions were that there was no good reason for believing that pneumonia need cause present or future alarm; that its highest death rate occurred before 1896, and that since that time it had declined 21 per cent.; compared with heart disease, pneumonia ranked rather low. Further, that there was a reduction in the death rate of phthisis in all of the localities referred to; and that the average decrease in phthisis was from 2 to 3 per cent. a year. On the whole he concluded that deaths from pneumonia were decreasing; deaths from heart disease were increasing; and that deaths from phthisis had been decreasing until five years ago, but that since that time they had markedly increased.

**The Complications of Pneumonia.**—Dr. Thomas G. Coleman of Augusta, Ga., read this paper. He considered that at the present day the diagnostic methods were probably better and more accurate than formerly; and also that cases were more often reported before societies; hence figures with regard to these cases probably had some value. Pneumonia, if uncomplicated, was amenable to treatment. Complications were serious. The commonest complication was pleurisy, generally of the dry plastic variety, but there might be effusion, either little or much. In the earlier stages there was more pain than in the uncomplicated disease. Other serous membranes were also liable to infection, and so there might be endocarditis and, less frequently, pericarditis. Myocarditis was sometimes present. He reported a case of pneumonia which had been complicated by gangrene of the lung. Other complications were meningitis, venous thrombosis, thrombosis generally, embolism, and very rarely acute nephritis. The lesson of these complications was that eternal vigilance was the price for the life of the patient.

**Seasonal Prevalence of Pneumonia.**—Dr. W. F. R. Phillips of Washington read this paper. He presented statistics of sixteen cities. In most cities the mortality rose with the fall of the temperature, and reached the maximum in the coldest part of the year, December and January; then it fell, and then rose again to a second maximum in March or April. Sometimes the first maximum was the greater, and sometimes the second was. He simply stated this as an interesting fact, and would like an explanation of that rise, followed by a fall, and then succeeded by another rise.

**The Treatment of Pneumonia.**—Dr. G. R. Butler of Brooklyn read a paper on this subject. He said that in pneumonia improvement would sometimes occur under any treatment or no treatment; that death would sometimes intervene in spite of any treatment; and that in a third class of cases the result depended largely on the doctor. The mortality in pneumonia was about the same as formerly, the apparent increase being in the disease. Unfortunately there was no specific for pneumonia; but several factors had to be considered in treating this condition, the chief of these being: age, the previous condition of the heart and kidneys, the virulence of the infection, and the resisting power of the patient. Probably an antitoxin would be discovered capable of effecting a cure. One thing that often hindered proper treatment of the disease was insufficient consideration of its possible duration. There was need to remember that mild and uncomplicated cases might later on become severe. The patient required good ventilation, not too much bed-clothing, rest, and to be kept in the recumbent position; too much physical diagnostic zeal on the part of the physician was to be deprecated. The diet was to be of milk and broth; and the kidneys and intestines were to be kept flushed out. For medicines, he recommended calomel at the onset; quinine, in seven or eight-grain doses, and preferably hypodermatically. Carbonate of creosote was good, in that there resulted a better fever curve and less toxæmic symptoms; pain was to be relieved. In the graver cases, delirium, restlessness, and insomnia were complications. He thought that the temperature should be let alone unless it rose to 105°; tubbing he considered unjustifiable except in children, but a cold rubbing down he believed beneficial; tympanites was to be watched for, but was less likely to be present when carbonate of creosote was administered. He would suggest as little active treatment as the case would allow; but he did not advocate sitting by with folded hands.

Dr. Rochester of Buffalo said that in diseases like pneumonia, in which we had no specific, we should note nature's way of bringing about a recovery, and also note the way in which the patients died so that this latter could be prevented. Nature's methods for recovery were a profuse sweat at the time of the crisis, and sometimes a critical diarrhœa; when a patient died it was almost always through failure of the heart or some heart complication. He gave a saline laxative daily, to keep the bowels open, in addition to the initial dose of calomel; he also gave a hot mustard foot-bath; this was followed by an alcohol rub to keep the sweating from continuing too long; the heart he supported by strychnine.

Dr. J. Daland of Philadelphia was of opinion that the high mortalities quoted for pneumonia were from hospitals and not from private practice. He thought that as death was likely to occur through the heart, the poultices and cotton jackets should be excluded, so that there might be more frequent examination of the heart with the least disturbance of the patient. In this disease the coagulability of the blood was very great, so that with a weak heart cardiac thrombosis was probably one of the common causes of sudden death. Venesection, he thought, was indicated in this condition, and the existence of a weak pulse at the wrist was no contraindication to the removal of from sixteen to twenty-four ounces of blood. Alkalies, preferably in the form of alkaline waters, would diminish the coagulability of the blood; the same effect was produced by milk. He agreed with the salines and calomel throughout the disease; and also recommended the careful study of the heart.

Dr. W. J. Barlow of Los Angeles said that in Southern

California they seldom saw the serious cases of pneumonia common in the colder climates, and perhaps this would explain the lower death rate of pneumonia in California.

Dr. E. Le Fevre of New York had found that the cases of cardiac failure were of two kinds—one in which the heart muscle was weakened, and the other in which there was a vasomotor paralysis and dilatation of the blood vessels resulting in collapse and probably due to the direct action of the toxins on the vascular center. In the first class of cases he gave diffusible stimulants, such as the salts of ammonium, and also some drug of the digitalis group, preferably strophanthus. At present, in New York, there was a craze for inordinate doses of the nitrites and nitroglycerin for combating heart failure in pneumonia, and in some cases in which death was due to vasomotor collapse he believed that these drugs had hastened the end.

Dr. J. W. Brannan of New York said that reference had been made to statistics published by enthusiastic observers showing a very low mortality under special lines of treatment. He narrated his experience in following a special treatment that had been recommended in a paper some six or eight years ago. This method consisted in taking several bricks, immersing them in hot water, wrapping them in hot blankets, and then placing them around the patient; but the speaker could not claim any great success with this plan.

Dr. T. Darlington, Jr., of Kingsbridge called attention to the fact that both nitroglycerin and ammonia had been used as stimulants, and that sometimes they had been combined; but they were absolutely incompatible, and so it was evident that if any effect was produced, one of them must have been in excess of the other, and to this excess the effect was limited.

Dr. H. L. Elsner of Syracuse said that it was known to pathologists that the pneumococcus toxin paralyzed the spinal center, and that the chances were that we had an interference with the central blood circulation in pneumonia, practically giving us a vasomotor paralysis. He believed that much harm had been done by the indiscriminate use of the nitrites in these cases. One of the best remedies, and it had not been mentioned, was sparteine, in doses of one or two grains every two or three hours; also adrenalin or suprarenal extract; each of these would stimulate the right heart, and that was indicated in pneumonia. He believed that the diffusible stimulants were indicated in all cases of cardiac failure in pneumonia, but they must be given at short intervals. Pneumonia was a disease requiring polypharmacy and persistent effort on the part of the doctor and nurse.

Dr. S. E. Solly of Colorado Springs briefly referred to a case of pneumonia that he had successfully treated on the cold-air plan.

Dr. R. G. Butler of Brooklyn regretted that his paper had been so long that it had been impossible for him to deal with the most important complication of all, namely the weak heart. If the paper seemed to insist a little too strongly on the importance of treatment in pneumonia, it was because it was written while he was still under the impression of three cases seen in consultation. The physicians in attendance were all therapeutic nihilists, and he believed the patients were being allowed to drift to death; but under proper therapeutic treatment they recovered.

Dr. T. J. Mays of Philadelphia believed that we overrated the treatment of the heart in pneumonia. As between the lungs and the heart, the heart was the older organ of the two, and therefore was the more resistant; he thought death usually came from the lungs.

**A Case of Tuberculous Bronchiectasis.**—Dr. S. E. Solly of Colorado Springs read a paper on this subject. It contained a very full report of a case of this rare condition, with skiagraph illustrations. He believed that a clearly marked bronchiectasis in a case of tuberculosis was nearly always an old chronic case of fibroid phthisis, in which the fibrosis was so extensive as to cause dyspnœa upon even moderate exertion. The case reported had quite unusual features.

Owing to the late hour no discussion was invited.

**Studies in Deep Breathing.**—Dr. Richard C. Newton of Montclair, N. J., was the author of this paper. He discussed the advisability of allowing deep breathing to phthisical patients and inquired what rules should be formulated to make pulmonary exercises beneficial to consumptives. The value of deep breathing for the non-phthisical being allowed, he inquired: (1) How early should we commence with it in children? (2) Was it not better to encourage small children to aërate their lungs by running, or climbing? (3) Could we expect to get help from it in the aged? (4) Would it not be well if every one practised it regularly? He thought that deep breathing might help in a number of pathological states, as asthma, gout, lithæmia, cholelithiasis, obesity, anæmia, and heart disease. It might also be of value as a prophylactic against pulmonary tuberculosis.

**The Cyrtometer; a Neglected Instrument of Pulmonary Diagnosis and Prognosis.**—This paper was read by Dr. Charles L. Minor of Asheville, N. C. He said that new instruments were replacing old ones, but that the cyrtometer was an old instrument that was of much use both for diagnosis and also to show the progress that was being made either by the patient or the disease. He described in detail the application of the instrument, illustrating his method with examples and charts.

Dr. Guy Hinsdale of Philadelphia demonstrated a double stethoscope devised by Dr. Wetherell of the Naval Service. The object of this new stethoscope was to mark differences in pitch on the two sides of the chest, and also for auscultatory percussion.

In the afternoon the concluding session was held in the lecture hall of the Columbian University. Dr. Judson Daland of Philadelphia spoke on "Leprosy in the Hawaiian Islands." The lecture was illustrated with lantern slides.

Mr. Gilbert McClurg of Colorado Springs read a paper on 'The Topography and Climate of the Pike's Peak Region." This paper was illustrated with lantern slides.

## Books Received.

*While the* Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Clean Milk. By S. D. Belcher, M.D 16mo, 146 pages. Illustrated. The Hardy Publishing Co., New York.

Handatlas der Anatomie des Menschen. By Wilhelm His. Third Volume, Second Part, 4to, 839 pages. Illustrated. S. Hirzel. Price, M. 13.

L'Ematologia nella Febbre tifoide. By Dott. V. Guidicandrea. 8vo, 308 pages. Libreria Internazionale del Policlinico, Rome.

The Medical Epitome Series, Microscopy and Bacteriology. By P. E. Archinard, M.D. 16mo, 210 pages. Illustrated. Lea Brothers & Co.

Magenerweiterung, First Volume. By Dr. Friedrich Cramer. 8vo, 152 pages. J. F. Lehmann. Price, M3.

The Medical Epitome Series, Medical Jurisprudence. By Edwin Welles Dwight, M.D. 16mo, 240 pages. Lea Brothers & Co., Philadelphia, Pa.

International Clinics, A Quarterly. By A. O. J. Kelly. Volume II, Thirteenth Series, 8vo, 311 pages. Illustrated. J. B. Lippincott Co., Philadelphia, Pa.

The Medical Directory of the City of New York. Published by The Medical Society of the County of New York. 16mo, 630 pages. Price, $1.50.

Transactions of the Twelfth Annual Meeting of The Western Surgical and Gynecological Association, 1902. 8vo, 250 pages. Illustrated.

RADIUM AND OTHER RADIO-ACTIVE SUBSTANCES. By WM. J. HAMMER. 8vo, 75 pages. Illustrated. D. Van Nostrand Company, New York. Price, $1.00.

TRANSACTIONS OF THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION, VOL. XV, FIFTEENTH SESSION. Edited by W. D. HAGGARD, M.D. 8vo, 444 pages. Illustrated.

THE PRAXIS OF URINARY ANALYSIS. By Dr. LASSAR-COHN. Translation by H. W. F. LORENZ. 12mo, 58 pages. New York: John Wiley & Sons.

ORGANIC NERVOUS DISEASES. By M. ALLEN STARR, M.D. 8vo, 751 pages. Illustrated. New York: Lea Brothers & Co.

GYNECOLOGY. By WILLIAM R. PRYOR, M.D. 380 pages, 8vo. Illustrated. New York: D. Appleton & Co.

SYPHILIS IN DENTISTRY. By L. BLAKE BALDWIN, M.D., and EZRA R. LARNED, M.D. 8vo, 120 pages. Illustrated. E. H. Colegrove, Chicago, Ill. Price, $1.50.

THE GEOGRAPHY OF DISEASE. By FRANK G. CLEMOW, M.D. 8vo, 624 pages. Illustrated. At the University Press, Cambridge, 1903. Price, $4.00.

GOLDEN RULES OF REFRACTION. By ERNEST E. MADDOX, M.D. 48mo, 86 pages. John Wright & Co., Bristol.

LA GASTRO-ENTEROSTOMIA METODI OPERATIVI INDICAZIONI-RISULTATI. By DOTT. ARISTIDE MATTOLI. 4to, 330 pages. Illustrated. Societa Editrice Dante Alighieri, Rome, Italy.

TWENTY-SECOND ANNUAL REPORT OF THE STATE DEPARTMENT OF HEALTH OF NEW YORK FOR 1901 WITH MAPS. 8vo, 2 volumes.

MODERN MATERIA MEDICA AND THERAPEUTICS. By A. A. STEVENS, M.D. 8vo, 663 pages. Third edition. W. B. Saunders & Co., New York. Price, cloth, $3.50 net.

PRACTICAL APPLICATIONS OF THE RÖNTGEN RAYS IN THERAPEUTICS AND DIAGNOSIS. By WM. A. PUSEY, M.D., and EUGENE W. CALDWELL, B. S. 8vo, 591 pages. Illustrated. W. B. Saunders & Co., New York. Price, cloth, $5.50 net.

A TEXTBOOK OF CHEMISTRY. By EDWARD CURTIS HILL, M.D. 8vo, 523 pages. Illustrated. F. A. Davis Company, Philadelphia. Price, extra cloth, $3.00 net.

SURGICAL ASEPSIS. By HENRY B. PALMER, M.D. 12mo, 231 pages. Illustrated. F. A. Davis Company, Philadelphia. Price, $1.24 net.

A TREATISE ON THE CARE OF THE EXPECTANT MOTHER DURING PREGNANCY AND CHILDBIRTH AND CARE OF THE CHILD FROM BIRTH UNTIL PUBERTY. By W. LEWIS HOWE, M.D. 16mo, 63 pages. F. A. Davis Company, Philadelphia, Pa. Price, 50c. net.

STUDIES IN THE PSYCHOLOGY OF SEX. By HAVELOCK ELLIS. 8vo, 266 pages. F. A. Davis, Philadelphia, Pa. Price, $2.00 net, cloth.

SECOND ANNUAL REPORT OF THE METROPOLITAN WATER AND SEWERAGE BOARD, JANUARY 1, 1903. 8vo, 334 pages. Illustrated. Wright & Potter Printing Co., Boston.

POST-MORTEM PATHOLOGY. By HENRY W. CATTELL, M.D. 8vo, 372 pages. Illustrated. J. B. Lippincott Co., Philadelphia.

L'ADMINISTRATION INTESTINALE DES MEDICAMENTS. By Dr. SAMUEL BERNHEIM. 8vo, 96 pages. Maloine, Paris. Price, Fr. 2.

LE DISPENSAIRE ANTITUBERCULEUX. By SAMUEL BERNHEIM. 8vo, 102 pages. Illustrated. Rousset, Paris.

REPORT OF THE TRUSTEES OF BELLEVUE AND ALLIED HOSPITALS for quarter ending September, 1902.

THIRTY-NINTH ANNUAL REPORT OF THE TRUSTEES OF THE BOSTON CITY HOSPITAL. 8vo, 190 pages.

FIRST PRINCIPLES OF OTOLOGY. By ALBERT H. BUCK, M.D. 12mo, 216 pages. Illustrated. Second Edition. William Wood & Co., New York. Price, $1.50 net.

A TEXTBOOK OF SURGERY. By GEORGE EMERSON BREWER, M.D. 8vo, 706 pages. Illustrated. Lea Brothers & Co., New York. Price, cloth, $4.00; leather, $5.00 net.

A TEXTBOOK OF VOLUMETRIC ANALYSIS, etc. By HENRY W. SCHIMPF, M.D. 12mo. Fourth Edition, 553 pages. John Wiley & Sons, New York.

SURGICAL DISEASES OF THE ABDOMEN. By RICHARD DOUGLAS, M.D. 8vo, 383 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

A MANUAL OF SURGICAL TREATMENT. By DRS. W. W. CHEYNE and F. F. BURCHARD. Vol. VII, 559 pages, 8vo. Illustrated. Lea Brothers & Co., New York.

DIE PATHOLOGIE UND THERAPIE DER UNFRUCHTBARKEIT DES WEIBES. By Dr. FERDINAND SCHENK. 8vo, 128 pages. S. Karger, Berlin. Price, M3.20.

HAY FEVER; ITS PREVENTION AND CURE. By PERRY DICKIE, M.D. 16mo, 173 pages. Boericke & Tafel, Philadelphia. Price, cloth, $1.00.

DIE GALLENSTEINKRANKHEIT. By Dr. WALTHER NIC CLEMM. 8vo, 90 pages. Georg Klemm, Berlin.

DIE DIAGNOSE AUS DEN AUGEN. By NILS LILJEQUIST. 4to. 188 pages. Illustrated. Kruger & Co., Leipzig

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending August 29, 1903:

| | Cases. | Deaths. |
|---|---|---|
| Measles | 105 | 3 |
| Diphtheria and croup | 214 | 27 |
| Scarlet fever | 90 | 6 |
| Smallpox | ... | ... |
| Varicella | 13 | ... |
| Tuberculosis | 256 | 135 |
| Typhoid fever | 136 | 16 |
| Cerebrospinal meningitis | ... | 5 |

**Health Report.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended August 22, 1903:

SMALLPOX—UNITED STATES.

| | | Cases. | Deaths. |
|---|---|---|---|
| California, Sacramento | Aug. 1–8 | 1 | .. |
| San Francisco | Aug. 2–9 | 2 | .. |
| Colorado, Denver | July 11–18 | 9 | .. |
| Denver | July 18–25 | 1 | .. |
| Illinois, Chicago | Aug. 1–8 | 8 | .. |
| Chicago | Aug. 8–15 | 11 | .. |
| Massachusetts, Fall River | Aug. 8–15 | 4 | .. |
| Taunton | Aug. 1–8 | 4 | .. |
| Michigan Detroit | Aug. 8–15 | .. | 1 |
| Port Huron | Aug. 8–15 | 1 | .. |
| Minnesota, Minneapolis | July 27–Aug. 3 | 1 | .. |
| In 7 counties at 11 localities | | 29 | 1 |
| Nebraska, Omaha | Aug. 8–15 | 2 | .. |
| Ohio, Cleveland | Aug. 8–15 | 1 | .. |
| Dayton | Aug. 8–15 | 1 | .. |
| Toledo | Aug. 8–15 | 1 | .. |
| Pennsylvania, Pittsburg | July 25–Aug. 1 | 32 | 2 |
| Pittsburg | Aug. 1–8 | 39 | 9 |
| West Virginia, Wheeling | June 1–30 | 9 | 3 |
| Wisconsin, Milwaukee | Aug. 1–8 | 3 | .. |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Austria, Prague | July 18–Aug. 1 | 7 | .. |
| Belgium, Antwerp | July 26–Aug. 1 | 3 | 1 |
| Brussels | July 26–Aug. 1 | .. | 2 |
| Brazil, Rio de Janeiro | July 12–19 | .. | 7 |
| Rio de Janeiro | July 19–26 | .. | 6 |
| Chile, Antofgasta | June 1–30 | 5 | 3 |
| China, Shanghai | July 7–14 | 1 | 1 |
| Colombia, Bocas del Toro | July 28–Aug. 4 | .. | 1 |
| Germany, Bremen | July 26–Aug. 1 | 1 | 1 |
| | | | Emigrant |
| Great Britain, Birmingham | July 26–Aug. 8 | 3 | 1 |
| Dublin | July 26–Aug. 1 | 1 | .. |
| Dundee | July 18–25 | 2 | .. |
| Leeds | July 26–Aug. 8 | 11 | 3 |
| Liverpool | Aug. 1–8 | 5 | 1 |
| London | July 26–Aug. 1 | .. | .. |
| Manchester | July 26–Aug. 1 | 3 | .. |
| New Castle-on-Tyne | July 19–Aug. 1 | 9 | 1 |
| Sheffield | July 26–Aug. 1 | 2 | .. |
| India, Bombay | July 14–21 | .. | 10 |
| Calcutta | July 11–18 | .. | 2 |
| Mexico, City of Mexico | July 18–26 | 16 | 5 |
| | July 26–Aug. 2 | 7 | 4 |
| | Aug. 2–9 | 5 | 2 |
| Russia, Moscow | July 18–25 | 1 | 1 |
| Odessa | July 26–Aug. 1 | 1 | .. |
| St. Petersburg | July 18–25 | 9 | 1 |
| Warsaw | June 20–27 | .. | 3 |
| | July 4–18 | .. | 5 |

SMALLPOX—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Manila | June 13–July 11 | 9 | .. |

YELLOW FEVER.

| | | | |
|---|---|---|---|
| Brazil, Rio de Janeiro | July 12–19 | .. | 3 |
| | July 19–26 | .. | 1 |
| Columbia, Panama | Aug. 3–10 | 3 | 1 |
| Costa Rica, Limon | July 30–Aug. 6 | 3 | 2 |

CHOLERA—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Manila | June 20–27 | 5 | 4 |
| | June 27–July 4 | 9 | 7 |
| Provinces | June 20–27 | 620 | 350 |

CHOLERA—FOREIGN.

| | | | |
|---|---|---|---|
| India, Bombay | July 14–21 | .. | 1 |
| Calcutta | July 11–18 | .. | 24 |
| Straits Settlements, Singapore | June 20–27 | .. | 1 |

PLAGUE—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Manila | June 13–July 11 | .. | 19 |

PLAGUE.

| | | | |
|---|---|---|---|
| Africa, Cape Colony | June 20–27 | 5 | .. |
| Brazil, Rio de Janeiro | July 13–19 | .. | 1 |
| | July 19–26 | .. | 1 |
| Egypt, general | July 11–18 | 27 | 9 |
| China, Hongkong | July 20–27 | 54 | 35 |
| India, Bombay | July 14–21 | .. | 63 |
| Calcutta | July 11–18 | .. | 8 |
| Mexico, Bagio | Aug. 17 | 3 | .. |
| Socoreos | Aug. 19 | 3 | .. |

# Medical Record

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## Original Articles.

### POST-TYPHOID SEPSIS.*

By FRANCIS DELAFIELD, M.D.,
NEW YORK.

TYPHOID fever, as a disease, regularly lasts for four weeks, with periods of improvement at the end of the second and third weeks. These periods of improvement may be permanent, so that we have two-week, three-week, and four-week typhoids. If after the expiration of these periods the patient has fever, it is usually not typhoid fever, unless there is a true relapse. A true relapse is a fresh attack of typhoid fever.

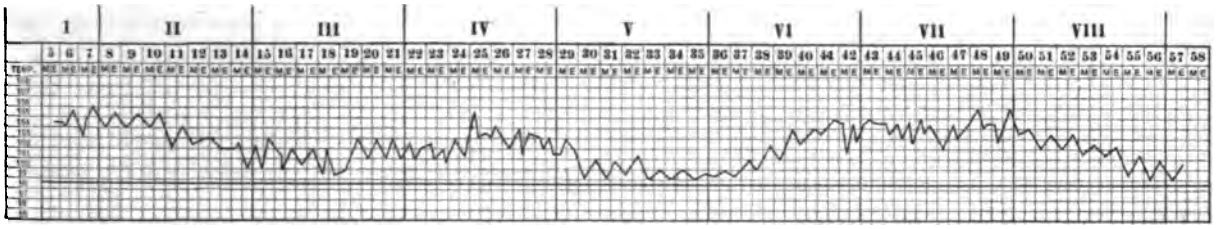
When a person suffers from a bacterial infection this does not by itself make a disease. The disease is one complex product of the bacterial infection and the various morbid changes that go with it. To make up a true typhoid fever there go together the bacterial infection and the intestinal lesions. When these have run their course other things may happen, but they are not typhoid fever. There may be inflammation of the gall-bladder, of the urinary bladder, of connective tissue—all due to infection with typhoid bacilli, but they are not typhoid fever.

In the same way, after typhoid fever there are fevers which may be due to typhoid bacilli, or to other infections, but they are not typhoid fever.

It is to these post-typhoid fevers that I wish to call attention.

We must first distinguish the true relapses, which are really fresh attacks of typhoid fever with the regular features of the original attack. The interval between the end of the original attack and the beginning of the relapse is from three to twenty-five days. The relapse lasts from seven to thirty-nine days. A single relapse is of ordinary recurrence; a second relapse is comparatively rare.

Chart No. 1 shows a typhoid of four weeks' duration, an interval of seven days' duration, and a relapse of seventeen days' duration.




No. 1

Chart No. 2 shows a typhoid of eighteen days' duration, a first interval of twenty-three days, a first relapse of seven days, a second interval of eleven days, and a second relapse of seven days' duration.

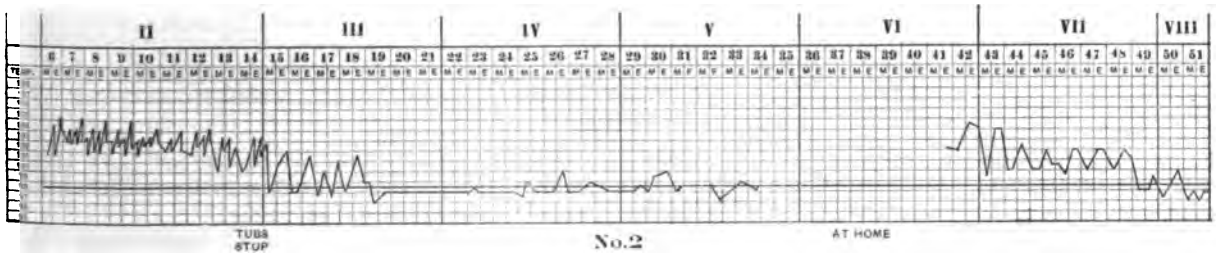
Now, if we turn to the post-typhoid fevers which are not typhoid fever we distinguish:

1. The ordinary moderate rises of temperature, only lasting for a few hours, occurring within three weeks after the end of a typhoid fever. These short fevers would not be recognized at all unless the temperature was systematically taken, for they are not attended with any symptoms and do no harm. The only important thing about them is to understand that they are not of importance.

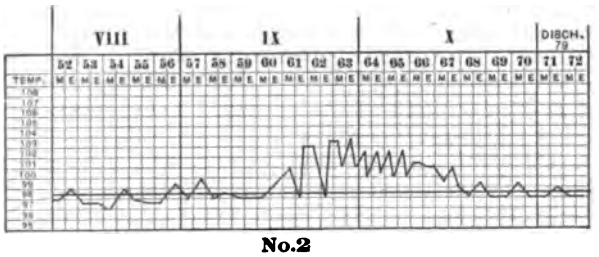
2. The post-typhoid fevers which are of real importance, and last for one or more weeks, but yet do not make the patient very ill and are not fatal.

In 1898 Dr. Da Costa published a clinical lecture on "Post-typhoid Fever," in which he gave a good description of these fevers and recognized clearly that in order to bring them to an end it is necessary not only to give the patients solid food, but to get them out of bed.

If one looks for this form of fever it is found to occur quite frequently. I have seen it after typhoid fevers of two, three, or four weeks' duration. The rise of temperature is continuous with the typhoid temperature, or there may be an interval of several days of normal temperature and then the post-typhoid fever begins.




No. 2

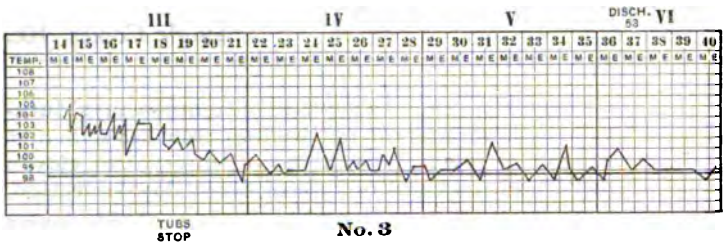



No. 2

The morning temperatures run pretty near the normal. The afternoon temperatures run from 100° to 103°, with occasional jumps to 105° or 107°. With the very high temperatures there may be chills.

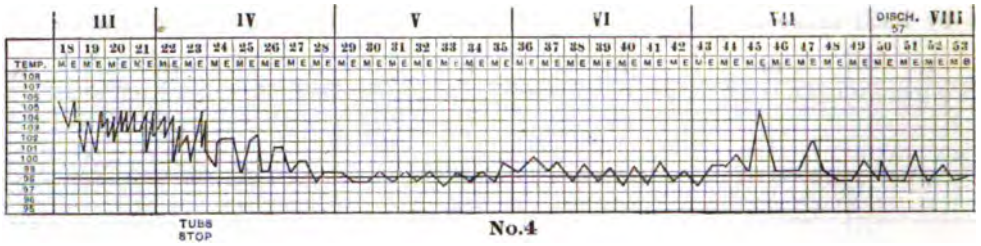
*A paper read at the meeting of the Association of American Physicians, May 12, 1903.

With this fever there is no delirium or sleeplessness, the tongue is moist and clean, there is no eruption, no tympanitis, no diarrhœa. The patients are hungry. If they are not fed they may have rather alarming attacks of heart failure. As long as the patients are kept in bed and on a fluid diet there is no particular limit to the duration of the fever, but yet in the end they get well.



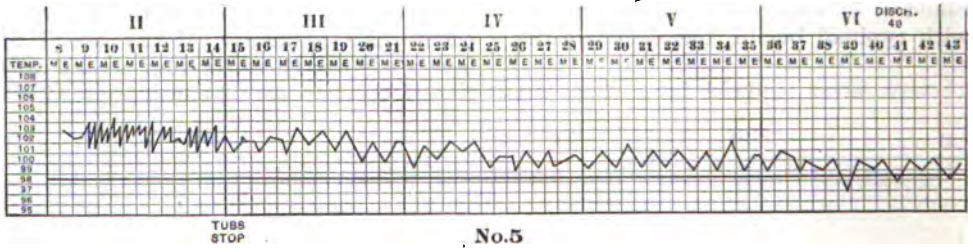
No. 3

Chart No. 3 is of the three weeks typhoid. After the typhoid there was an intermission of two days. After that the afternoon temperature ran from 100° to 103° until the thirty-eighth day. The patient was fed on the twenty-third day, taken out of bed on the thirty-third day, and discharged on the fifty-third day. After the twenty-third day he gained steadily in strength and had no bad symptoms except the fever.



No.4

Chart No. 4 is of a four weeks typhoid, followed by an intermission of seven days, then the afternoon temperatures ran at 100°, with a rise to 105° on the forty-fifth day, of 102° on the forty-seventh day, and of 101° on the fifty-first day. The temperature fell to the normal on the fifty-third day, and the patient was discharged on the fifty-seventh day. He was fed on the twenty-eighth day, and taken out of bed on the thirty-fourth day. He gained flesh and strength steadily after the thirty-fourth day; on the fifty-second day the hæmoglobin was 94 per cent., the red cells 5,280,000.



No.5

Chart No. 5 is of a three weeks typhoid. There was no intermission, but a steady afternoon temperature of 101° until the forty-third day. The patient was fed on the twenty-second day, taken out of bed on the thirtieth day, and discharged on the forty-ninth day. On the thirty-fourth day he was feeling perfectly well and rapidly gaining flesh and strength. On the forty-first day the hæmoglobin was 70 per cent., the red cells 4,722,000.

Chart No. 6 is of a two weeks typhoid with a positive Widal reaction. There was an intermission of six days. Then, on the twenty-first day, the temperature ran up to 105°, on the twenty-second and twenty-third days to 107°. With these rises of temperature there were chills and sweating, with some prostration. There was no thrombosis of the veins. On the twenty-fourth day he was doing well, on the twenty-eighth day he was out of bed, and on the forty-sixth day he was discharged.

It is very interesting in these patients, if they are fed and taken out of bed, to see how they steadily gain flesh and strength in spite of the fever.

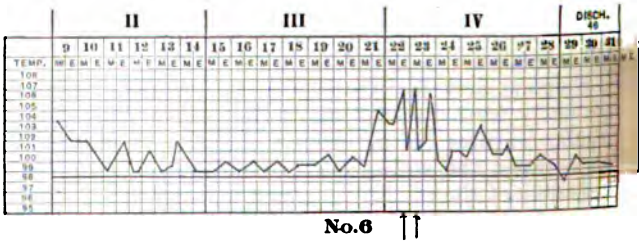
3. Much more important than these mild fevers are the severe and long continued post-typhoid fevers, which may terminate fatally. They occur regularly after well-marked and severe typhoid fevers which run their full four weeks' course. The septic fever is continuous with the typhoid fever. Sometimes it even overlaps it, so that both fevers seem to be going on together in the fourth or fifth week.

The morning temperatures run about 100°, and the afternoon temperatures about 103°. In many cases there are sudden jumps of temperature up to 105°, 106°, or 107°. These jumps occur in the course of the regular fever, or there are intervals of one or more days with nearly normal temperatures and then the sudden rise. With these sudden rises of temperature there are often chills.

It is noticeable that the septic temperature is not controlled by baths, as is the typhoid temperature, but runs up and down quite without reference to them.

The patients look septic and not in the typhoid state. The mind is often dull and apathetic, but they are not actively delirious. The tongue is dry, there may be nausea and vomiting, and yet there is some desire for food. There is a rapid loss of flesh and strength, as in ordinary sepsis, so that the condition may become alarming. In some of the cases there is thrombosis of one or both femoral veins. If the patients are insufficiently fed and kept in bed, they are very apt to die.

In the autopsies of the fatal cases which I have made, the intestinal lesions were healed and there seemed to be no cause of death but sepsis and starvation.



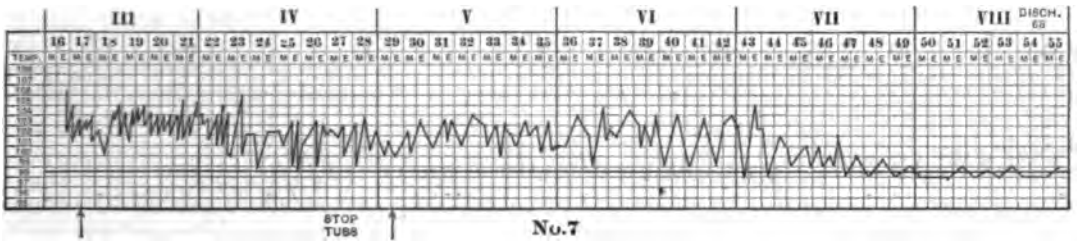
No.6

Some of the patients improve on food alone, but in most of them there is no real convalescence until they are taken out of bed. Then they gain flesh and strength, even while the fever continues.

It must be confessed that it requires a good deal of courage to take out of bed a patient who is ap-

parently dying. But I am fully convinced that the only way of saving the life of the bad cases is to feed them and take them out of bed.

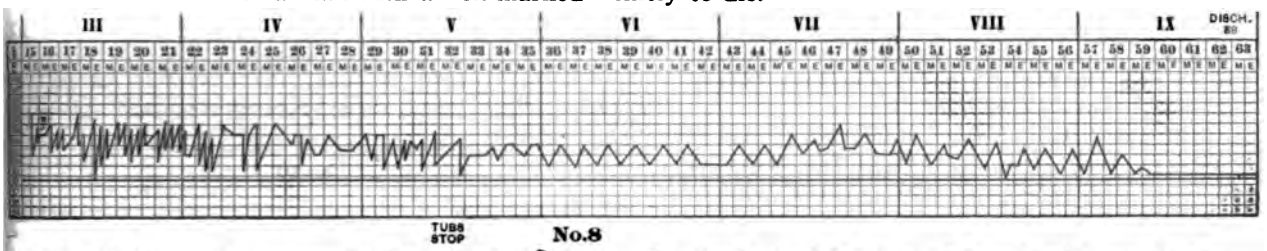
Chart No. 7 is that of a woman who had a pretty severe typhoid, favorably affected by tubbing,




No.7

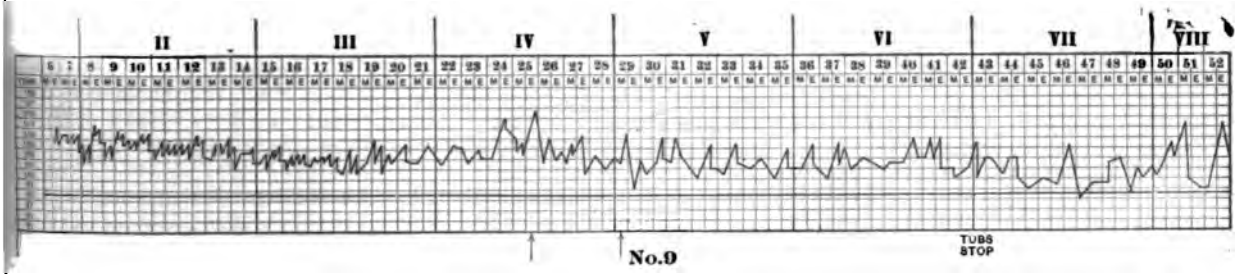
which ran its course in four weeks. On the twenty-ninth day she had a chill and then went on with the temperatures between 99° and 104° up to the forty-ninth day. She kept on in the septic condition, steadily getting worse and weaker until the forty-sixth day, then she was given solid food and after that the improvement was rapid.

Chart No. 8 is that of a man with a well-marked




No.8

typhoid which ran its course in four weeks. He was hungry on the twenty-sixth day. After this he ran along with temperature between 100° and 103° until the fifty-ninth day, but yet he was not so very sick. He was fed on the fortieth day, and taken out of bed on the forty-sixth day. Between the fiftieth and the seventy-eighth days he gained twenty pounds in weight.




No.9

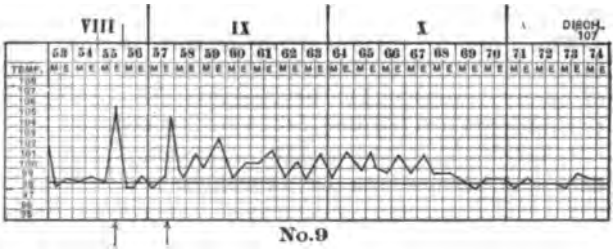
Chart No. 9 is that of a man who had a severe typhoid until the eighteenth day, when he was evidently less poisoned. On the twenty-fifth day he had a chill, the temperature ran up to 107°, and he looked septic. There was no thrombosis of the veins, the white blood cells were 6,900. Apparently the septic poison was overlapping the typhoid. He also had nausea and vomiting. He went on after this with irregular afternoon temperatures, often up to 104°, not at all controlled by tubbing, until the forty-third day, when the tubs were stopped. They had been of absolutely no use after the twenty-first day.

On the forty-fifth day he was fed. On the forty-seventh day, although he was so ill and weak it seemed doubtful if he would recover, he was taken out of bed. After this the temperatures were very irregular, running up to 106° and down to normal. There was no real improvement until the fifty-first day. After that he improved steadily, although there was thrombosis of the left femoral vein on the fifty-ninth day and of the right femoral vein on the sixtieth day. There was no more fever after the sixty-eighth day. He gained thirty pounds in weight between the sixty-ninth and the one hundred and fifth day.

Chart No. 10. This is perhaps the most interesting case of the series. The man had a pretty severe typhoid, but began to improve on the twenty-fifth day and was fed on the twenty-sixth day. He continued to improve, although the temperatures were up to 104° in the afternoon, until the thirty-third day. Then he had a chill, the temperature ran up to 106°, there was thrombosis of the left femoral vein, and he looked distinctly septic. After this he failed steadily, lost flesh and strength and seemed likely to die.

On the forty-third day, although with much misgiving, for it seemed like handling a dying man, I got him out of bed. The chart shows that during the following week the temperature did not go over 101°, and his general improvement was most satisfactory. After this he got steadily better, although he had irregular rises of temperature and a complicating orchitis on the seventy-sixth day. He was discharged on the eighty-third day.

Chart No. 11. This man went on with an ordinary typhoid until the third week, when the temperature began to rise. In the fourth week he had high septic temperatures with chills, and on the twenty-fifth day thrombosis of the left femoral vein. On the thirty-eighth day he had thrombosis of the right

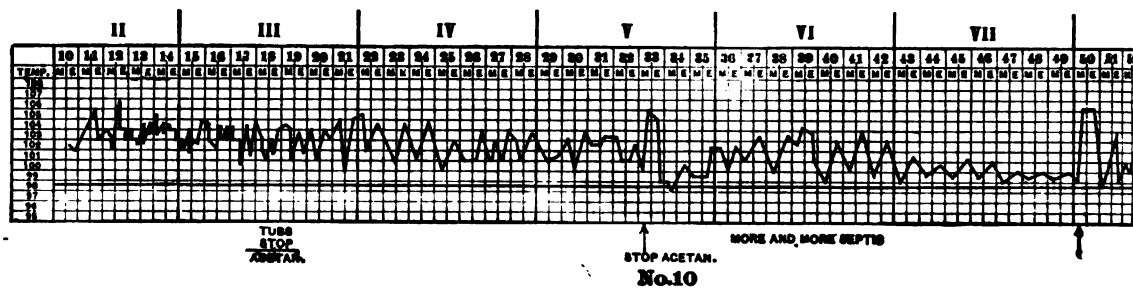



No.9

femoral vein. He went on with irregular septic temperatures until the fifty-ninth day, but yet his general condition improved after the thirty-ninth day. He was fed on the thirty-ninth day, taken out of bed on the forty-third day, and discharged on the seventy-eighth day.

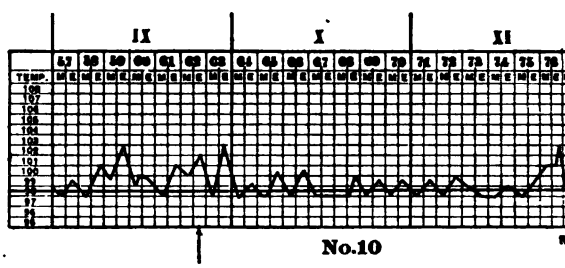
Chart No. 12. This man had a typhoid fever last-

ing for four weeks. Then there was an intermission of three days; after that came a true relapse which lasted for ten days. During the relapse he began to become septic and developed thrombosis of the



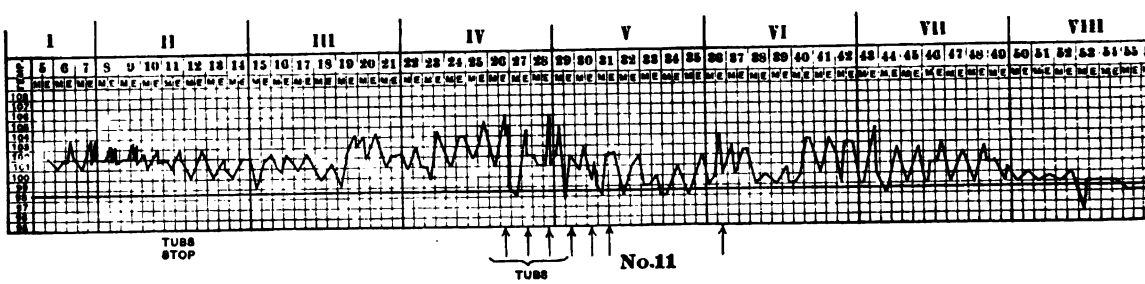

No.10

right femoral vein on the thirty-eighth day. In the seventh, eighth, and ninth weeks the rises of temperature were curious, with intervals of one, two, three, and four days. There were no malarial organisms in the blood. He was fed on the thirty-seventh day, taken out of bed on the fifty-second day and discharged on the seventy-fourth day.

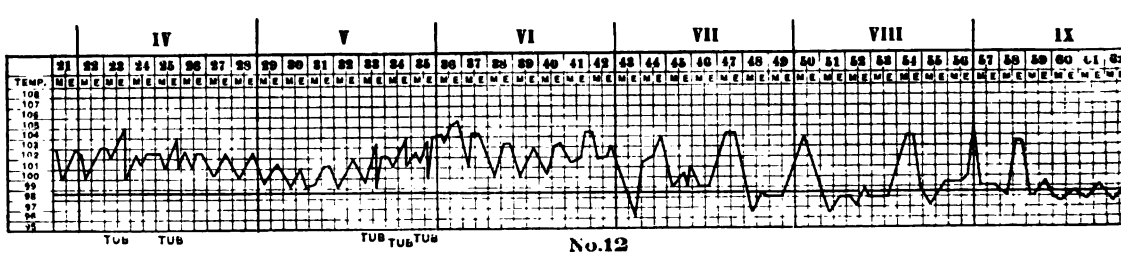



No.10

The impression I have received from the tudy of such cases is that at the end of a syphoid fever there may come in a new infec-




No.11




No.12

tion which resembles a streptococcus infection. This infection may be mild or severe. With care I think it can usually be distinguished from the typhoid infection.

The point of practical importance is that this infection calls for a different management from that of typhoid fever. The best results are obtained if the patients are fed and taken out of bed.

It is to be noticed that this post-typhoid infection occurs in private practice as well as in hospitals.

In the charts the arrows at the bottom indicate chills.

The charts as seen here are reduced from large charts prepared for me by Dr. Rolfe Floyd.

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**Toilet of the Peritoneum in Gunshot Wounds of the Stomach and Intestines** —George Tully Vaughan considers that in cases of wounds without peritonitis and with no escape of visceral contents, neither irrigation nor drainage of the peritoneal cavity is necessary. When there is extravasation of visceral contents, thorough cl the peritoneal cavity is absolutely necessary best accomplished by sponging, followed by with large quantities of salt solution, removing tines from the cavity if necessary and the cond patient will permit it. Unless satisfied that th is perfect, drainage should be used through the the female this is done by opening from the the pouch of Douglas, and in the male by t retrovesical peritoneal pouch by an opening in ineum between the rectum and the urethra. hemorrhage with the formation of blood clots, been imperfect hæmostasis, irrigation is indicat general drainage. In cases of local peritoniti involved should be drained. Irrigation must b caution if at all, lest other parts be infected by ing up of slight adhesions and the escape of th fluid, perhaps conveying the germs to distant p abdominal cavity. In circumscribed abscess toneal cavity, if the discharge continues un long the abscess may be washed out with bichl tion 1 to 5,000. In general peritonitis t should be given a chance for life by thorough and efficient drainage.—*Annals of Gynæ Pediatry.*

# THE JOINT COMPLICATIONS OF ACUTE PYOGENIC OSTEOMYELITIS, WITH ESPECIAL REFERENCE TO THE TREATMENT OF THE PURULENT FORMS OF ARTHRITIS.*

By A. A. BERG, M.D.,
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ADJUNCT SURGEON TO MT. SINAI HOSPITAL.

The old adage, "an ounce of prevention is worth more than a pound of cure" holds particularly good, for the serious forms of arthritis that complicate acute pyogenic osteomyelitis; for a joint that has become the seat of a severe inflammation will probably suffer a permanent impairment in its function. Prevention lies entirely in the attendant's ability to make an early diagnosis of the primary bone infection, and in his rapidly carrying out the treatment such acute bone disease demands.

It is well to remember, for diagnostic purposes, that, like other serous membranes, the synovial is never inflamed idiopathically. Though apparent instances do from time to time occur, these will become less frequent as our knowledge of pathology and bacteriology increases. It may be stated as an axiom, though, as just said, not at present without apparent exception, "that an acute arthritis is always a secondary manifestation;" it behooves the attendant therefore to ascertain the primary exciting factor. It is unfortunate that our knowledge of the etiology and pathogenesis of a very large class of joint lesions, viz., the rheumatic and gouty, is so imperfect as to permit of classification with them of many joint inflammations that bear them some clinical resemblance, but whose etiology and pathogenesis are of an entirely different nature. Just because of the present haziness of the exciting causes of rheumatic and gouty joint lesions, a given case should never be put in their class until every other etiological factor in its pathogenesis has been carefully excluded. Early, accurate diagnosis of acute bone infection with rapid opening and drainage of the medullary cavity will save many a joint from severe inflammation and permanently impaired function.

*Pathology:*—In the consideration of the acute arthritides accompanying acute pyogenic osteomyelitis it is first of all very important to distinguish between two distinct types: the one, sympathetic or pseudoarthritis; the other, true inflammatory arthritis. The former accompany the very early stages of the bone infection. In their pathogenesis they are similar to the sympathetic reactions of the tissue surrounding an infected focus, in the cellular planes, or to the local serous effusion in the peritoneal cavity, around an intensely inflamed appendix. They are due to the congestion and exudation from the lympathics and capillaries in the neighborhood of an inflammatory focus, and as a rule the degree of the congestion and exudation is in proportion to the severity of the primary lesion. Such sympathetic joint manifestations are often the first and only physical signs of a very virulent acute pyogenic osteomyelitis; this accounts for the fact that such cases are frequently looked upon as acute articular rheumatism.

The true joint inflammations are due to a bacterial invasion of the affected part, either directly from the neighboring bone, or indirectly through the medium of the blood; the latter, representing metastatic deposits, are frequently multiple, whereas the former are single. The sympathetic or pseudo-arthritides add in no way to the severity of the septic symptoms arising from the primary bone infection, and tend to subside spontaneously when the primary infection has been leaving no permanent functional impairment evacuated and drained. The true bacterial arthritis, however, adds materially to the patient's toxæmia, itself requires proper surgical interference, and is very apt to leave the joint seriously impaired in integrity and function. Such bacterial infection of joints may occur very early in the course of the primary bone disease, or several weeks after its onset.

*Types of Joint Lesions.*—It is to be noted that the joint is rarely involved alone; there is usually a coincident inflammation of the periarticular structures. This is present in the mildest and severest grades of arthritis and in the sympathetic manifestations, and is not in proportion to the severity or type of the joint lesion, but is often much more intense. It is of much importance from a differential diagnostic standpoint; thus the acute rheumatic and gouty inflammations, and the various types of arthritis secondary to pyæmia or septicæmia are at first confined to the serous membrane of the joint cavity, with little or no periarthritis.

The early stages of acute bone infection are usually associated with the sympathetic or pseudo-arthritis. This manifests itself by serous, or serofibrinous, effusion into the periarticular tissues, and synovial cavity. Such effusion does not contain the virulent bacteria that are present in the bone; it is to be again noted that such sympathetic or pseudo-arthritides are not true inflammatory lesions, but merely represent a passive exudation into the joint cavity and periarticular structures.

Serous, serofibrinous, and purulent exudates the result of true inflammation of the joint and periarticular tissues, accompany the more advanced stages of bone infection. Such exudates usually contain the same virulent bacteria as are found in the primary focus. At times the exudate is of ropy consistency, and cloudy, from the presence of a few pus cells and fibrin flocculi, the catarrhal exudate of von Volkman. In such exudates also the bacteria are to be found. It is but recently that such catarrhal synovitis has been proved to result from acute osteomyelitis. It is very probable that the bacteria in these cases causing the primary bone lesion are of diminished virulency, and hence give rise to a much less intense infection of the bone and joint.

*Symptomatology.*—With referenee to the symptomatology to which such joint lesions give rise, I desire to dwell especially upon this most important point, viz., that acute pyogenic diseases of bones in the neighborhood of joints frequently give their first manifestations by an exudate in the respective joint. This fact is often overlooked, the joint inflammation being attributed to rheumatic infection. The writer wishes to emphasize that no acute joint lesion should be looked upon as rheumatic or gouty until an acute inflammation of the bones entering into the formation of the joint has been positively excluded. Especially in children is this most important, for in them rheumatism is relatively infrequent while acute osteomyelitis is quite often met with.

The true forms of arthritis intensify the symptoms of sepsis produced by the primary focus of infection, and in addition give the characteristic physical signs of exudate into the joint and periarticular tissues. It is also important to note that a continuance of the constitutional symptoms after satisfactory evacuation and drainage of the infected

*Read before the Orthopedic Section of the New York Academy of Medicine.

medullary canal is frequently due to the co-existing joint inflammation.

*Treatment.*—The treatment of these acute joint inflammations demands, on the surgeon's part, his keenest judgment as to whether it should be expectant with local applications, and immobilization, or whether operative interference should be undertaken. If the latter, when is the best time to operate, what should be the extent of the attack and what type of operation should be performed? In forming the decision, it should be constantly borne in mind that these cases are likely to be extremely septic ones, and that delay in the proper and timely treatment may result most seriously to the limb and life of the patient.

As regards the time in which it is best to operate the cases may be roughly divided into two classes: those that develop coincidently and hand in hand with an adjacent bone infection, and those that develop later in the course of the osteomyelitis either from extension of the infection into the joint or as metastatic pyæmic manifestations. The writer is led to make this classification for the following reason: In the first class of cases we are called upon to treat what is apparently a combined infection of the bone and joint, and the question must arise, should the operative attack be limited to the infected medulla, or should it also be directed at the same sitting against the complicating joint lesion. This problem will scarcely arise in the second class of cases as the joint inflammation is a later manifestation of the disease, and would naturally demand such treatment as is usually carried out in joint lesions of a similar character due to other causes.

The practice of the writer, both as regards the time for interference and the character of such operation, is as follows:

In every case of acute pyogenic osteomyelitis a blood culture is taken at the time of the primary operation. This is of importance not only prognostically but also as an aid to a complete and clear understanding of the complications, that may develop in the further progress of the disease. When there is only a periarticular effusion, no interference is practised at the time of the primary operation. After evacuation and drainage of the infected medullary cavity of the bone, the joint is immobilized in a fenestrated starch and veneer dressing, and an ice-bag applied to the affected joint. When the joint cavity is distended, by an exudate, an exploratory puncture is made preliminary to attacking the bone itself. Such exploratory aspiration should be made preliminary to the opening of the infected marrow canal, otherwise the joint may be infected through the medium of our septic instruments or by a puncture in an infected operative field. Should the exudate be serous, or serofibrinous, or even turbid, seropurulent fluid, no interference with the joint is made at that time, simple immobilization with ice applications being carried out. For it must be remembered that in many of the cases such an exudate is a manifestation of sympathetic or pseudo-arthritis, and that in these instances it will subside spontaneously with the trephining and drainage of the infected medulla of the bone. The writer has within the past year treated three cases in which there was, complicating to an acute epiphysitis of the lower femoral end, a marked periarticular and articular effusion into the knee, of serum in two cases, and seropurulent fluid in another. Spontaneous resorption of the exudate followed in all three cases, after trephining and drainage of the epiphyseal end of the bone. The fluid yielded by aspiration is always examined bacteriologically both on cover slips and by culture. The presence of bacteria in the exudate does not necessarily demand immediate interference with the joint, for the writer has several times seen spontaneous absorption of such exudates after drainage of the primary focus.

Should the arthritis not show evidences of subsidence after proper drainage of the bone, and the temperature and pulse rate continue elevated, with no other cause, *e.g.* a septicæmia or pyæmia, for the persistence of these symptoms, a second exploratory aspiration is made. If its character has remained unchanged, a wide trocar and cannula is introduced on either side of the joint, the exudate evacuated, and the joint cavity thoroughly washed out with 5 per cent. carbolic acid, followed by normal saline solution. A compressive immobilizing dressing is applied. Such a procedure is usually followed by recovery of the joint, but should there be a reaccumulation of the exudate the irrigation may be repeated. In one of the writer's cases this had to be done twice before the inflammation subsided. Occasionally, in spite of such aseptic evacuation and irrigation, the inflammation does not subside, but goes on to true suppuration of the joint.

Should the complicating arthritis be of a suppurative type, the indication is to secure free and perfect drainage. The method by which this is accomplished varies in the mild and severe forms of suppuration. In the former there is, beside the purulent exudate into the joint and periarticular tissues, very little tendency to destruction of the synovial membrane, cartilages, or ligaments, and the septic symptoms arising from such a pyarthrosis are not of a severe grade. In the severe forms of suppuration the purulent exudate is attended with more or less extensive destruction of the component joint parts, and the septic symptoms are very intense. So radically different in their character are these two varieties of suppurative arthritis that their treatment must naturally be very different. In the first class the evacuation of the pus with the proper provision to prevent its reaccumulation will suffice to put an end to the suppurative process; whereas in the second group of cases the inflammation is so virulent, and the destructive process is so rapid, that the mere evacuation of the purulent exudate does not meet all requirements. To limit the further extension of the inflammation and destruction we must make such provision that every part of the joint will be laid freely open, and drained, otherwise the advancing destruction and the continued resorption of the septic products, arising from imperfect drainage, tax the patient's strength and vitality, and compel the surgeon to amputate the affected part in order to save the life of the patient.

The writer does not hesitate to say that not sufficient stress has heretofore been laid on the different types of suppurative arthritis; they have all been classed under one heading, and their treatment has been considered in common, whereas in reality there are two distinct varieties; in the one a purulent exudate is the chief lesion, there being comparatively little change in the components of the joint; in the other the purulent exudate is secondary in importance to the destructive imflammation of the synovial membrane, cartilages and ligaments.* In the first type the function and integrity of the joint may

*In this respect the joints follow the same rule as do other parts lined by serous membrane, *e.g.* pleura and peritoneum. We have called attention in a previous communication on "The Peritoneum and the Exudative Types of Peritonitis" that it is not the character of the exudate that decides the virulency of the inflammation, but the extent of the morbid changes of the peritoneum itself.

be completely restored after the subsidence of the inflammation. In the latter it is evident from the very outset that both function and integrity cannot be preserved, and that if we would save the limb and life of the patient something far more radical than the evacuation of the exudate and drainage by tube or gauze must be done.

For the milder grades of suppurative arthritis the time-honored methods of single or multiple incision of the joint, evacuation of the exudate and drainage by tube or gauze yields very good results, and, as stated elsewhere, such joints may be completely restored to function by these simple methods. Whether constant irrigation of saline solution should be employed in conjunction with drainage depends entirely on the consistency of the exudate. If it is thin and watery and easily escapes through the tubes such irrigation is unnecessary; if it is thick and ropy and is retained, continued irrigation will materially aid its free escape. The affected part is immobilized.

For the severe types of suppurative arthritis affecting the knee-joint, Drs. Mayo of Rochester, Minn.. advised a transverse anterior incision, through the patella into the joint, with partial dislocation of the femur and tibia by extreme flexion and dry packing of the synovial cavity of the joint. This permits of easy access to every crevice, enables the surgeon to remove all the destroyed tissues, to incise freely the œdematous and congested soft parts, and absolutely does away with retention within the joint. It is, of course, evident that such a procedure forbids the restoration of the function and integrity of the affected joint, but, as I have stated above, these cannot be preserved by any form of treatment. Of four cases of knee-joint suppuration of very intense type treated by the writer after this fashion, three healed with fibrous ankylosis, and in one the destruction could not be limited by even this incisive procedure,* final resort being had to amputation in order to save life. So impressed has the writer been by the good results of this suggestion of the Drs. Mayo that he proposes to extend this procedure to the other large joints, but especially the elbow, ankle, and wrist. The hip and shoulder-joints are so thickly covered by soft parts that the procedure is more difficult.

In the case of the elbow a semi-lunar posterior incision from side to side, convexity downward, the level of the convexity at the base of the olecranon, should be made, avoiding the ulnar nerve at the inner side. The olecranon is then divided by chisel or saw at its base, either removed or reflected upward with the triceps muscle, the capsule transversely incised and the joint strongly flexed, thus dislocating the bones backward. Dry gauze tamponade and dressing in flexion.

In the ankle a longitudinal lateral incision over either aspect should be made, the corresponding malleolus transversely divided at its base, removed, and the joint forcibly flexed to the fibular or tibial side, thus dislocating the joint inward or outward; dry aseptic gauze packing and dressing, and immobilization in such laterally flexed position.

In the wrist, a longitudinal dorsal incision, over the lower end of the radius with strong retraction of the tendons to either side, will permit of backward dislocation of the lower end of the radius and dry aseptic gauze packing of the joint, dressing and immobilization in this position.

The after-treatment is very simple.

The first dressing, which is made very copious, is left *in situ* for six or seven days, unless a continuance of the temperature necessitates an earlier change. The outer dressings may be renewed whenever they become saturated with the discharges. At the end of a week, granulations appear; the cartilage covered surfaces at times have a cloudy aspect. After thorough cleansing and irrigation of the entire joint, it is again packed with dry aseptic gauze and dressed in the same partially dislocated position. It is advisable to make the earlier change of the deep packings under full anæsthesia. When sufficient granulations have appeared to warrant the assumption that the suppurative process is at an end (a condition that usually takes from ten to fourteen days) the bones are reduced into their normal position, and the soft parts united by secondary suture; proper provision being made for drainage. The joint is kept immobilized until union of the soft parts has occurred. Fibrous ankylosis of the joint is the rule, though its degree varies. In two of the writer's cases, a range of 5° of motion was possible. Passive motion should not be resorted to before complete union of the soft parts has taken place.

The writer feels assured that results equally satisfactory to those obtained in suppurative gonitis will follow the application of the Mayo operation in similar suppurative conditions of the other joints.

The after-treatment of the other forms of arthritis consists in immobilization of the affected joint until the acute inflammation subsides; passive motion is then cautiously commenced. Forcible passive motion is to be deprecated; for the rupture in this way of recent vascular adhesions causes hemorrhage into the joint, which in turn is followed by other firmer adventitious bands. For the periarthritis a Priesnitz cold pack, combined with douches and massage, are employed with satisfactory results.

Late results of these arthritides:—The pseudo-arthritis and periarthritis leave no ultimate impairment of the joint function, although a thickening of the joint structures may persist for some time. Likewise the serous, serofibrinous, and catarrhal, types of arthritis. Prolonged drainage of the joint for pyarthrosis, is usually followed by fibrous ankylosis. The degree and permanency of this varies, and depends mainly upon the extent of destruction of the soft and bony joint structures. The writer has had cases in which the joint function was completely restored, whereas in others dense fibrous ankylosis supervened.

Temporary partial dislocation of the joint with dry aseptic gauze packing, is always followed by ankylosis. Much, however, can be expected from plastic operations, *e.g.* the insertion of magnesium plates or flaps of fascia between the articular surfaces, to restore the function of the joint.

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*Annals of Surgery, 1895, Vol. 21, page 37.

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**Pyelitis as a Cause of Intermittent Pyrexia in Children.**—W. Cecil Bosanquet describes the cases of this affection. The frequency with which it occurs, he says, is difficult to estimate, as it is a condition which can easily be overlooked. Morse considers that it is not at all uncommon. It does not appear to be dangerous to life, in spite of the severity of the symptoms to which it gives rise. It must not be supposed that every rise of the thermometer is to be attributed to this cause, as an attack of indigestion after any indiscretion in diet may often be accompanied by fever. Still there remains a number of cases in which the condition is more serious, the feverish attacks being accompanied by pronounced symptoms of illness. It is important to make a careful examination of the urine in obscure cases of pyrexia, especially when it is of a recurrent type.—*The Edinburgh Medical Journal.*

## ANCIENT JIBES AT THE DOCTORS.*

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The title of this paper has been chosen advisedly. The jibes against the doctors *are* ancient. A philosopher has said there are really fundamentally only a half dozen or so really good jokes of any kind, and these have come down to us from prehistoric times. Long before I thought of studying medicine or of anything else so serious—in my "salad days"—Molière was my delight. A half hour with "Les Femmes Savantes" was worth much more than a longer time with the other kind. To "Le Bourgeois Gentilhomme" and "L'Avare" I owed, in those days, many a midnight chuckle and many a brightening of a gloomy morning. After I had reluctantly begun the serious business of life, after many a prolonged seance with Niemayer's Practice and many a weary sojourn with the Wochenschrifts, "Le Medecin Malgre Lui" was the solace of a bruised heart and an aching head. After many a perplexing hunt through the tortuous mazes of a female patient's nasal passages for the origin of a reflex neurosis, I turned with huge delight and a secret joy to "Le Malade Imaginaire." Molière for me was the most enjoyable and original of jokers. In fact, there is hardly any class of human society to-day whose foibles and faults were not laughed at two centuries ago by his audiences. There were, however, two kinds of people he did not make fun of; one was the nobility, and one was we specialists. The first because he did not dare, and the other only because we were not alive then. What fun he would have gotten out of us!

After one has drifted in one's reading into Rabelais, Molière's reputation for originality somewhat wanes. Petrarch's Latin works must convince one that Molière's genius lay rather in the adaptation of the former's more profound and bitter diatribes, but the inimitable drollery of his characters who cracked Petrarch's jokes anew are irresistible. Petrarch drew his inspiration not only for the learning which inaugurated the Renaissance, but for that which adorned his invectives against the doctors, from an earlier civilization, and when one turns to Pliny, the elder, and old Cato, the same time-worn satires start from their pages. Roman literature derives all of its virtues and much of its substance from the Greek, and hence it is but a step to Aristophanes and Plato, and now again the somewhat threadbare jibes are found. Some recent work has led me into still more recondite and musty nooks of medical lore, and I have read the Hindu Susruta and the Egyptian Papyrus Ebers and looked through the Zend Avesta. I am sure if there were jokers in those dim twilight days of history, and there surely were, they might have found plenty of material in the profundity of Charaka, the sage, and the hieroglyphs on the tombs in the Delta of the Nile.

Wit is only enjoyable, however, when it flashes occasionally from the printed page or ripples spontaneously from smiling lips. When it is bound together in one disgusting mess, as in Witkowski's book "Le Mal qu'on dit des Medecins," or drones wearisomely through Petrarch's labored Latin periods in his interminable Invectives against the medieval doctors of Avignon, it palls on the taste, and like highly spiced food with every course weakens instead of strengthens digestion. But to see ourselves occasionally as others see us, to join in the joke at our own foibles as we toil along in the earnest work of life is a salutary occupation for us all. Let us laugh then, and keep resentment from our hearts. Renan, in one of his sublime passages, says in his life of Christ: "Jesus possessed in the highest degree that quality which we regard as the essential characteristic of a distinguished personage. I mean the power of smiling over his work, of being superior to it, of not allowing himself to be mastered by it." We have every reason to keep ourselves in this philosophic state of mind, for almost every wit that has put pen to paper has had a shy at us. We have been scored by Cato the censor and Petrarch the humorist, by Montaigne the critic and Molière the buffoon.

As I look along the goodly array of glassware on this table, I am reminded that doctors have always been fond of dinners. I suppose they are a sort of escape valve, a relief to the tension engendered by the miseries of life of which we know so much. At any rate notices of the convivialities of our brotherhood may be found on many an ancient page. I quote from a letter of a medical contemporary of Molière.

"Yesterday I gave my dinner. . . . Thirty-six of my colleagues had a fine feast. I never saw so much laughing nor so much drinking among serious and elderly people." We may believe that the old Salernitans derived from experience the verse:

*"Ut sis nocte levis,*
*Sit tibi cenis brevis."*

Let us remember that a few years of our experience as doctors accustom us to many, if not to all of the real tragedies of life. This hardening process is a necessity. No sentient human being could long endure the agitation with which the medical novice views his first operation or undertakes his first responsibility, or looks first into the depths of human mystery and degradation. Happily the emotions are soon blunted, and this is an involuntary, almost an insensible, psychical change.

No such automatic relief, however, comes to the toiling mental machinery of the conscientious worker in medical science. In a few years he becomes engulfed in the problems of his profession. His mind becomes warped and twisted by the unrelenting strain. Phantasms crowd in upon him. He sees things not as they are, but as they loom up before him through the mist of his environment. He is in danger of becoming pedantic and unsympathetic. Let him occasionally turn his back on medicine and pull his mind out of its ruts. His interest in art or music, or mechanics, or literature will make him better and stronger, and he will move in surer tread when he steps into the ranks again. Nothing will do the medical man so much good as to read the jokes and jibes of his critics.

The best jokes, as I have said, are the old ones. From day to day, from year to year, from century to century, even from one civilization to another, they are scattered through literature and the daily intercourse of man. Even old Aesop, the poor old slave, brings physicians in for their share of satire in his fables. Even the fabled god Æsculapius and the more real Hippocrates, our revered parent, did not escape the taunts and the execrations of Aristophanes and the mocking wits of Athens. Why should we? Aristophanes, Boccacio, Molière and Cervantes, Dickens and Mark Twain, and our weekly comic papers make us laugh anew over the same old story, told in different accents and in different syntax.

You remember how Rip Van Winkle, in the play, looks at Sir Hendricks' mutes on the mountain and wonders vaguely if there are any girls in the family, and with thoughts of Katrine, says: "What wives

*This paper is largely made up of notes read several years ago at a dinner of the Brooklyn Medical Club, and more recently of these and others read at a dinner of the Hospital Graduates Club of New York.

they would make!" We recall immediately the jokes that ran through Athens two thousand years ago about Xanthippe and Socrates. Rabelais puts the story in the mouth of Panurge, who tells of a good man who had married a mute wife. He wanted her to speak, and he concluded she must be tongue-tied (like our little patients in the dispensaries); so he induces a surgeon to operate on her. The success of the treatment transcended by far any with which we are familiar to-day, and so overshot the mark aimed at by the solicitous husband that he soon returned to the doctor and prayed him for relief from his wife's volubility. The physician very sagely remarked that it was one thing to start a woman to talk and quite another to stop her. In short the only relief he could suggest was to make the husband deaf. To this the latter acceded, and the medical man was again successful, and thereupon demanded his pay. It was before the days of bills by post, and the patient was entirely too deaf to understand such a demand as that. This part of the story we are also in a position to appreciate. This physician of the middle ages concluded that this kind of doctoring would not do at all, so he proceeded to fill his patient up with all sorts of drugs to restore his hearing. Whether he took out his ossicles or not the tale does not say, but at any rate he succeeded in driving him crazy, whereupon the much-suffering lunatic and his enraged and voluble helpmate fell upon the doctor with clubs and beat him into insensibility.

It is certain that Molière must have had this little anecdote of Rabelais in mind when he wrote one of the scenes in that wonderful comedy "Le Medecin Malgre Lui"—a comedy which has been the source of inextinguishable laughter for more than two hundred years. It is the scene wherein the pretended doctor is called upon to restore speech to the young woman who is about to be married, and to the anxious entreaty of the distressed father who says the bridegroom awaits the cure of her infirmity, he exclaims, "What a fool he is! I wish to heaven my wife were afflicted with the malady. I would take good care not to have her cured."

In hinting at the wide extent of a doctor's practice, the following has a strangely familiar sound to-day. It is a conversation between two doctors at a consultation—M. Desfondres and M. Tomes. Says the former: "Paris is a wonderfully big place, and a man has to make long trips when his practice is a little extensive." "I have an excellent mule for that," says M. Tomes; "it is astonishing what a drive I give him every day." M. Desfondres interrupts: "I have a wonderful horse; he is a tireless animal." M. Tomes continues: "Do you know how far my mule has been to-day? First I went clear over opposite the arsenal—from the arsenal to the end of the Fauburg St. Germain, from the Fauburg St. Germain to the end of the Marais, from the end of the Marais to the Port St. Honore, from the Port St. Honore to the Fauburg St. Jacques, from the Fauburg St. Jacques to the Port de Richelieu, from the Port de Richelieu here, and from here I ought to go to the Place Royale." M. Desfondres is not discouraged, but says, "My horse has done all that to-day, and in addition I have been to Reuil to see a patient." Paris no longer has a monopoly of such tireless animals.

After some little experience in medical practice into which he had suddenly been thrust against his will the pretended doctor in "Medecin Malgre Lui" expresses his admiration for his calling: "I find it the best of all trades, for whether it is well done or badly done, it is always paid alike. Bad work is never thrown back on our hands, and we cut away at the stuff upon which we work just as we please. Now, a shoemaker in making shoes can't spoil a piece of leather without paying for it, but at this business we can spoil a man and it doesn't cost us a sou. The blunders are not our fault, but we blame the patient, who dies. Now the beauty of this profession is that among dead people there is the greatest amount of charity possible, and of discretion, for the corpse who complains of his physician has never yet been seen." Unfortunately, since the days of Dr. Sganarelle, autopsies have become uncomfortably frequent, and the corpse does sometimes complain of his physician. This is one of the oldest and most time-worn of jibes against the doctors. It runs straight back through Petrarch to Pliny, crosses over into Greece, and there we find Plato even putting it in the mouth of Socrates, who compliments an unsuccessful painter who had abandoned his art for medicine. He congratulates him because formerly he had exposed his shortcomings to the public gaze while now five or six feet of earth hide them.

Petrarch elaborates the jibe in phrases which Molière seems to have copied almost word for word. Petrarch declares that "the medical trade has the rarest of prerogatives, inasmuch as it is never punished for its mistakes; the earth hides the doctor's sins, as Socrates long ago said, and medicine is the safest of all callings, for in every other, the slightest slip of which the doer is guilty brings him to shame; indeed for a death for which every one else is punished with loss of life, he is rewarded. This unholy privilege to act as the lord of life and death is not possessed by king or kaiser. What wonder is it, then, that the doctors out of death carve their domain and their revenue." With this view of a doctor's responsibilities, it is not strange that we find old Henri di Mondeville, Petrarch's contemporary, counselling what now, with a more enlightened public, and perhaps with a profession less given to quackery, seems pernicious and cowardly shirking of duty, "Since surgical experiments and defective work is so perilous in the human body," said Hermondeville, "therefore I advise, mindful of the words of Albucasis—that we should not touch very dangerous diseases, of which we judge there will not be a praiseworthy end and a return to health—operating with foresight and wisdom, not beginning perilous operations at all until he is well provided with the means of escaping perils. Let him have nothing to do with desperate cases." Fortunately a saner view prevails among the laity of to-day, in spite of their appendicitis jokes, and we are no longer regarded as the "Lords of Life and Death."

Pliny, himself the most credulous of mortals, arraigned mankind for their credulity, but struck a theme of criticism which we may still appreciate in these days of sesquipedalian phraseology when he explained why it was that the Romans of his day preferred Greek physicians. He avers that among those unacquainted with a learned tongue there is no greater authority than that which dwells in those speaking Greek, and they pay little attention to what concerns their health if they are able to understand the language in which the precepts are couched. "Thus, by Hercules, it is the only one of the arts in which it happens that any one is believed who forthwith declares himself a doctor, although there lurks no greater peril than this in any lie. But let this pass, for exceedingly sweet is the power to indulge in hope for one's own well being. There is no law will remedy this mortal weakness."*

*I translate very liberally from Pliny, Lib. XXIX, Cap. 1, Sec. 7 (17–18). Ed. Sillig, 1853.

So far did this infatuation go that Pliny declared it was necessary for the senate to prevent by legislation the results of the fatuity of some sickly souls who thought nothing more conducive to their health than therapeutical agents sold at a high price. Later, in the Arabian Renaissance and in the Middle Ages, this formed the basis for the sale of precious stones as articles of the pharmacopœia. Petrarch, in rather more cutting language, elaborates the strictures of Pliny. "Under these circumstances," Petrarch continues, "it would appear incomprehensible that mankind is not repulsed by the tyranny which the doctors exert so mercilessly, but on the contrary are always running after them. For indeed with them it is as with God, concerning whom it is said in the Psalms, 'Although he slew them, yet trusted they Him.' It would be incomprehensible were it not a fact as to fools that their number is legion, and that it is quite impossible to find a rational explanation of their actions. The underlying cause of this, however, is as Pliny long ago showed, the boundless credulity, the misery, the thirsting love of life by man who frantically clings to every glimmer of hope, and soothing the anguish of his soul with treacherous supports, he forgets the most familiar of his own experiences. Supported by the trusting confidence of the weak and the sick, these physicians strut around in ostentatious pride, and by the very richness of their dress and their dazzling appearance impose on the vulgar. And when one looks on these men prancing along with their golden chains on their purple-bedecked steeds, there is nothing lacking in their outward appearance to distinguish them from the old Roman Triumphators; they resemble them also in their deeds; and although each one of them may not have killed his 50,000, which was once necessary for a triumph, yet a good part of it, and whatever deficiency there may be in the quantity they make up in the quality, since they kill not enemies but citizens, and like every conqueror in his armor, they carry their booty in their cloaks. There is indeed only this difference that it was forbidden to the old Triumphators to kill their fellow citizens, and the doctors do this not only freely and unpunished, but expect to be paid for it."

"Medical practice is only a trade founded on gain, and that is striven after with lying expedients. It is a trade which is concerned with all sorts of disgusting and unmentionable details."*

Thereupon Petrarch explains why it is classed among the low and degraded callings by men of his times, and is not to be compared with that of an honest peasant who labors for the support of life which the doctor jeopardizes.

This seems to us to-day all very fine writing—if it only had enough truth in it to save it from being ridiculous, and perhaps Petrarch realized even in his day that he had somewhat overshot the mark. Occasionally he modifies these caustic opinions, suggesting that perhaps in olden times medicine may have been useful, but that of his time was totally degenerate and depraved. It must have been very vile indeed to have excited the spleen of a courtier of the papal court of Avignon. Petrarch, though the herald of a culture which was to overthrow the dominant ecclesiasticism of his day, was as devout as his freedom from many of the grosser superstitions of his times allowed. The scourge of medicine, he was the champion of religion. We doctors boast, and we have a right to boast, in every oration of self-congratulation that by limiting and all but banishing from civilized nations the ravages of smallpox, cholera, and perhaps the most frightful of all, the plague, before which Petrarch and his priestly friends fled in abject fear, we have in the last hundred years vindicated medicine as the greatest of all blessings vouchsafed to mankind. It is, perhaps, stretching our self-laudation beyond the bounds historical truth allows, but we may almost claim to have thus saved as many lives and prevented as much human misery as in any similar span of time has been caused by the endeavors of the orthodox to spread a true religion.

Petrarch continues in a deprecatory way: "I am not blaming the art, but its devotees, and not all of these, but the shameless and the impudent. You have never heard me say anything against physic, but rather against the physicians." It is almost in these same words that Molière advanced his own excuses. "Certainly," says Petrarch, "Medicine itself should yield unto me its sincere thanks, had it only a voice, if by thus doing I lay bare the present infamy which extinguishes its ancient glory with new follies."

After a view of the stagnant pool of universal ignorance, lies and deceit which are depicted in what I have just quoted from the vain, sensitive, wrathful, intellectual potentate of the pre-renaissance, it is refreshing to get a whiff of honesty and frankness from the same source, all the better if the picture never lived in the flesh, but was a concept which Petrarch himself engrafted on the feeble tree of ethics in his day. He reports the response of a practitioner to a reproach he made him (I suppose, for I quote second hand from Sprengel, not being able to find the passage in the medieval editions of Petrarch's Latin works, which alone contain his diatribes against the doctors and priests of the court of Avignon). The latter made an answer which, thank God, we still hear occasionally from members of our profession to-day who disdain falsehood in an age so self-satisfied with its own achievements and its own wisdom. Says Petrarch's honest doctor: "I fear, since God beholds the affairs of men, to commit the wickedness of criminally deceiving the credulous generality of men, to whom, were it known as it is to me, how limited is the aid a physician gives to the patient, or that he is powerless to do so at all, the pompous array of doctors would grow less and less. Truly they practise because their own wickedness and the credulity of their patients is so great; they take advantage of the simplicity of their fellowmen; they promise life and they destroy life, and out of this they carve their profit. I have never been tempted either to deceive or kill. I do not desire to grow richer by the misfortunes of any one. This is the reason which has turned me to other pursuits which I could practise more innocently." I have heard the same sentiments fall from the lips of many a man with a similar conception of honor and a similar temperament of skepticism 500 years later. Fortunately medicine now enfolds in its catholic embrace many a department in which a skeptical man's activities are not necessarily hampered by his conscience.

Doubtless in all this there is much that is morbid, and Petrarch's doctor, or perhaps it was Petrarch himself, with poetic license, not satisfied with nursing his own conscience, was too censorious about the consciences of his colleagues. Such things were very common in those days, and have not entirely disappeared in our own. Faust in his most somber mood was not guilty of this lack of charity, though to the skeptic the temptation is great, for none but the fool or the rascal arrogates to himself, though

*Unfortunately, as there is no modern edition of these invectives of Petrarch against the doctors, I have had to rely on the copious translated abstracts of Henschel, "Petrarca's Urtheil über die Medizin and die Aerzte seiner Zeit." Janus, Ersten Band, Ersten Heft. 1846.

the multitude frequently ascribes to him, the work of the Almighty.

In Goethe's immortal work we learn that Dr. Faustus bore a revered name among his fellow citizens not only for his learning, but because in his youth he, with his father, had worked heroically among those smitten with the plague, and, as the peasants thought, had saved many lives. They greeted him affectionately and respectfully when, in the first part, as an old man with his pupil, he walks among them on Easter Day. They remind him of their gratitude, but he has grown in years and wisdom and, as so often happens to us all, in skepticism. He exclaims, as every honest man must:

"To Him above bow down, my friends,
Who teaches help and succor sends."

He describes to the student Wagner the "magic medicine" he and his father used, and in the efficacy of which he had then believed:

"This was the medicine—the patients' woes soon ended,
And none demanded—who got well.
Thus we, our hellish boluses compounding,
Among these hills and vales surrounding,
Worse than the pestilence have passed.
Thousands were done to death from poison of my giving,
And I must hear by all the living,
The shameless murderers praised at last."

Each generation of doctors finds something at which to shudder in the practice of their predecessors. From contemporaneous accounts attacks upon the lower bowel seem to have been distressingly frequent in the therapeutics of the days of Molière, and the practice afforded him an opportunity for much merry-making, the satire in it being apparently not at all overdrawn.

In the *Revue Historique of Antwerp* there is a document bearing on the intimate life of the Cardinal Richelieu. (I am quoting second hand). Its title is "Items furnished for the personal use of the Monseigneur Cardinal Duc de Richelieu for the year 1635 by Perdreau, Apothecary to the said Monseigneur." This account is for that year only, and is for seventy-five clysters (or enemata) and twenty-seven boluses (suppositories) of Cassia without counting the laxative medicines and the bottles of cough syrup, the total amounting to the sum of 1,401 livres 14 sous, equivalent to about $350, which in those days was, of course, an enormous sum, and does credit to the commercial sagacity of the Parisian apothecary. One cannot help wondering, in these purer and holier times, how much the sly drugman had to give up. The valets of his Eminence must have done quite well.

Molière probably had Richelieu's drug bill or a similar one in mind when he wrote the scene in the Malade Imaginaire in which the patient gets an account of the various purgings and clysters he had received.

Argan, the hypocondriacal patient is seated at a table adding up his apothecaries' bill:

"Two and 3 are 5 and 5 are 10 and 10 are 20. Two and three are 5 . . ." Further he reads: "'Upon the 24th a gentle little enema, preliminary and soothing, in order to soften, moisten, and refresh Monsieur's entrails.' Now that always pleases me in Monsieur Fleurant, the apothecary, his expressions are always so civil. . . . Monsieur's entrails 30 sous—yes, but Monsieur Fleurant, being civil is not the only thing, being reasonable and not fleecing your patients is another—30 sous for an injection. Your customary charge is 20 sous, and 20 sous in apothecaries' weight means 10 sous. Moreover on the same day, a good purging enema made of a double catholicon rhubarb, honey of roses and other things, according to the prescription, for washing, sweeping, and cleaning Monsieur's lower bowel—30 sous—10 if you please. Further, on the same day in the evening, an hepatic julep—soporific and somnolent, made up to put Monsieur to sleep—35 sous—well I don't complain of that for it made me sleep well—10, 15, 16, 17 sous and 6 deniers. Further, on the 25th, a good purgative and strengthening medicine made of fresh cassia and Levantine senna and other things, according to the prescription of Monsieur Purgon, for expelling and evacuating the bile of Monsieur—4 livres. Hold on there, Monsieur Fleurant, Monsieur Purgon did not prescribe that I should be charged 4 livres for it—make it 3 livres, if you please. Further, on the same day, an anodyne and astringent draft for quieting Monsieur—30 sous. Further, on the 26th, a carminative enema for driving the wind out of monsieur—30 sous—10 sous, Monsieur Fleurant. Further, Monsieur's enema repeated in the evening as above—30 sous—Monsieur Fleurant—10 sous. Further, upon the 27th, a good dose made up to hasten the departure and chase away Monsieur's bad humors—3 livres. Further, on the 28th, a dose of milk whey clarified and sweetened to soften, mitigate, temper, and refresh the blood of Monsieur—20 sous." And so he goes on, and sums up the monthly bill thus: "So, for this month I have taken 1, 2, 3, 4, 5, 6, 7, 8 doses of medicine, and 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 injections, and last month I took 12 doses and 20 injections. That's it; I am not surprised I have not been feeling so well this month as last. I will tell Monsieur Purgon, so that he will see that it doesn't occur again."

In the play of "Monsieur de Pourceaugnac" the doctor asks concerning his patient: "How many times has he been bled? Fifteen times, and he did not get well? No? Well, that is a sign the disease is not in his blood. We will purge him that many times to see if it is not in his humors; and if we don't succeed with anything we will send him away to the baths."

"Ah, now look at that," says the apothecary, "that's the end of my medicines."

Sending them away to the baths is still the refuge of the baffled therapeutist. Apropos of the hot baths of France we find a humorous account of their origin in Rabelais, who was a physician, as well as a philosopher and a wit, and whose epitaph as composed by himself was:

*"Cordiger et Medicus, dein pastor et intus obivi;*
*Si nomen quaeris, te mea scripta docent."*

But Rabelais' humor is usually entirely too Rabelaisian for the canons of good taste to permit their intrusion in a modern essay, and the reader is modestly referred to the youthful Garagantua's learned and very numerous experimentations with torcheculs. His father Grangousier was delighted with the results and swore a mighty oath that he should be made a doctor of Belles Lettres. Garagantua's followers are still at it telling of their labors in our Archives and Centralblatts and Proceedings, though they do not all of them bring their labors to such a brilliant and successful conclusion. Apropos of the youthful student in medicine, perhaps one of the best types of Molière's caricatures is to be observed in his description of the pedant. The patient's doctor, a fond father, thus commends his son and pupil:

"Monsieur, it is not because I am his father, but I can assure you that I have reason to be satisfied with him, and everyone who knows him agrees there is no evil in him. He never had a very vivid imagination and nothing of that liveliness of wit which one sometimes sees, but it is exactly on that account I have augured well of his judgment,

a requisite attribute for the practice of our art. When he was little he was never what might be called playful and wideawake, but always calm and peaceful and quiet, never saying anything and never indulging in any childish play. It was with great difficulty he was taught to read, and he was nine years old before he knew his letters. Very good, said I to myself; the late bearing trees are the very ones which have the best fruit. It is very much more difficult to engrave on marble than to scratch on the sand. but things are preserved there longer, and this slowness of comprehension, this lack of imagination is the mark of future good judgment. When he was in college he had some trouble but he struggled against his difficulties, and his teachers were always praising him for his perseverance and his industry. At length, by sticking at it he came out gloriously and got his degree. And now I can say that for the two years he has been in our society there is no member who makes more noise in our discussions. He has made himself feared, and nothing comes up but he is ready to argue to the last breath. He is firm in dispute, and a very Turk in his doctrines. He never gives up his opinions, and carries an argument to the very last resorts of logic, but. and this is especially gratifying to me, and in it he follows my example—he clings blindly to the opinions of the old writers, and he will not understand nor listen to the arguments and pretended discoveries of our age concerning the circulation of the blood and other opinions of that kind."

We all of us know that young man. We have sat at lectures with him. We have heard him describe the anfractuosities of the temporal bone and reel off the classical signs of lobar pneumonia, and we have watched his subsequent successful career in life with mild wonder at the inscrutable decrees of a merciful Providence.

We have seen that Molière's doctor discovered that the malady was not in the patient's blood by bleeding him fifteen times. Dr. Sangrado never arrived at such a hasty conclusion. Dr. Sangrado is perhaps famed above all other doctors of satire. In him Le Sage held up to ridicule the practice of venesection. A few years ago the hot water craze reminded us of him, for his only other prescription than bleeding was advice to drink unlimited amounts of hot water. Says Gil Blas: "He sent me for a surgeon and had drawn from my master six good dishes of blood. Then said he to the surgeon, 'return in three hours and take as much more, and to-morrow we will commence again. You can't bleed a patient too much.' He said we must also give warm water every moment, assuring us that water drunk in large quantity might pass for a true specific against all kinds of diseases." Gil Blas' master soon had occasion under this treatment to send for a notary to make his will. "The notary," says Gil Blas, 'was a gay little old chap who was always joking; he asked me what doctor was attending my master. I told him it was the doctor Sangrado. At this name, suddenly seizing his hat and cloak, he cried; 'Great God! I have no time to lose, for that doctor is so expeditious that he don't give his patients much time to send for a notary. That fellow has cheated me out of a good many wills."

Sangrado's treatment was in vogue for more than a hundred years after Le Sage's great novel was given to the world, but it is probable that the grim jests therein recorded had as much to do in abolishing this horrid abuse of the medical art as any advance in the knowledge of physiological principles and of clinical facts. It is also probable that these grim jests have caused many a pneumonia patient to die of late years for the want of a little judicious bloodletting. These "gay little notaries" are still among us, cracking appendicitis jokes and drawing cartoons which occasionally make us a little tired, as they must have done our forbears at all stages of the world's advance in civilization.

Molière deals with the subject thus in "L'Amour Medecin." The heroine's maid is very much provoked that her master has called in four doctors to treat his daughter who, as the maid very well knows, is only lovesick. "Isn't one enough to kill a body? Can't your daughter die without the help of these gentlemen? Why I used to know a man who could prove, by good reasoning too, that it is not proper to say that a person is dead of a fever or a pneumonia, but that he is dead of four physicians and two apothecaries. My goodness! monsieur, our cat has lately been suffering from a jump she made from the top of the house. For three days she could not eat or lift a leg; but it is very lucky there are no *cat* doctors. They would have fixed her. They would have been bleeding and purging her yet." It seems veterinarians were unknown then, for I think it is Boileau who said: "Among them also, the animals I mean, no physician has ever arisen to poison the woods with his murderous art." The cat would not have gotten off so easily now. Lisette recognizes one of the doctors as having attended one of her fellow servants. The doctor asks: "How's the coachman?" "Quite well, I thank you. He's dead." "Dead?" "Yes." "That can't be." "I tell you he is dead and buried." "That's impossible. Hippocrates says that these kinds of disease only terminate on the fourteenth or the twenty-first day, and it is only the sixth day since he was taken ill." "Hippocrates may say what he pleases, but the coachman is dead."

In one of Molière's doctors consultations how familiar to us is the opening speech of the smooth and sly old consultant: "God forbid, Monsieur," says he to the man who has called him in, "that I should attempt to add anything to what you have just said, since you have so well described the signs, the symptoms, and the causes of the patient's malady. (The patient was supposed to be crazy.) The arguments which you have advanced are so learned and so admirable that it is impossible that he should not be either insane or a hypochondriac; and if it should turn out that he should not be so, it is evident that he must shortly become so—from the clearness of the things you have said and the force of the arguments you have used." The eloquence of the suave and artful consultant and his evident desire to please his medical friend is sometimes observed among the laity even as far back as Cicero, for he says in his letter to Servius, on recommending a physician to him. "Therefore, I especially desire and beg of you that you will take care that he well understands that I have spoken well of him, and that my influence has been of great advantage to him. For this I shall be very much obliged."

The jokes of the laity in regard to the etiquette of doctors' consultations have their archetype in the remark of one of Molière's consultants. "The formalities should always be observed whatever may happen—for a dead man is only a dead man, after all, but a point of etiquette neglected is a great prejudice to the interests of the whole body of the profession."

One of the consultants in "L'Amour Médecin" says to the distressed father of the patient: "After all this is done, however, you should know that your daughter may die, but you will at least have the consolation of knowing that your daughter died

under the proper treatment." It is said that Molière drew the four physicians in this comedy from life, and that when represented on the stage they even wore masks made to resemble their originals. Macroton, he of the doleful prognostics and slow speech, was Guérant, first physician to the Queen.

After the faculty had given their advice ending with the grave prognosis just recorded, how natural it is to find the family calling in a mind curist, who in this instance is the disguised lover and who, after a careful examination, says with admirable sagacity: "I recognize that it is the mind of the patient which is diseased, and that her whole illness comes from a disordered imagination and a depraved desire to be married." Much gynecological learning is here displayed.

It is impossible for us entirely to free ourselves from the prejudices which we insensibly absorb from our environment. In spite of ourselves, in spite of the garnered wisdom of older and higher civilizations, and in spite of the fact that we acknowledge and do homage to that wisdom publicly our ideals are chiefly those of the multitude in which we are submerged. We are still able, thank God, to understand the joy which filled Abou Ben Adam's soul when he found the angel had written his name in that book of gold at the head of those whom the love of God had blessed, because he loved his fellowmen. Nevertheless we must confess to ourselves that we and our fellowmen would have been so interested in the binding of that volume, that we might have missed the names inscribed on its pages. Across the stamp "Success," with which our commonwealth seals the obituary notices of its foremost doctors, we involuntarily look for that serpentine mark which heads the bankers' row of figures. Among Chaucer's pilgrims there was one of our craft, and in the lines describing him, the old rhymster is particularly happy:

"With us there was a doctor of Physik,
In all this world ne was there mon hym lik
To speke of Physik and of Surgerye
For he was grounded in Astronomye.

"He knew the cause of everich maladye
Were it hoot or cold or moist or drye,
And where they engendered and of what humor.
He was a very parfit praktisour."

. . . . . .

"His study was but litel on the Bible.

. . . . . .

"And yet he was but easy of dispence.
He kept that he wan in pestilence.
For gold in Physik is a cordial.
Therefore, he loved gold in special."

Abou Ben Adam's ideal may be the highest, and the idea of Chaucer's doctor may still be the ruling one, but one of Molière's notions of our art should not be entirely ignored.

It may be well before we part with Molière to know what apparently he really thought of our art. It certainly seems to me instructive and suggestive.

The brother of the Malade Imaginaire remonstrates with him against his infatuation for doctoring, and incidentally airs his own and doubtless Molière's opinion of doctors:

"The most of them are accomplished, can talk in fine Latin and give Greek names to all diseases, divide them and define them, but as for curing people—that is something they know nothing of. The whole merit of their art consists of presumptious folly, of a special sort of chatter, which gives you words for explanations and promises for results." Then he goes on to say that "there are some among them who truly believe in the popular estimate of themselves and profit by it, and there are others who profit by it without believing in it at all."

The patient exclaims in wonder, "Well, what should a man do when he is sick?" "Nothing at all, only keep quiet. When a doctor talks to you of aiding, of rescuing, of soothing nature, of taking from her that which is injurious, and of giving her that which she lacks, of re-establishing, of placing her in full possession of her functions; when he talks of purifying the blood, of soothing the intestines, and cooling the brain, of depleting the spleen, of relieving the chest, of rectifying the liver, of strengthening the heart, of preserving the animal heat, of having secrets for prolonging life for many years, he is relating to you the romance of medicine. For when you get down to the truth of it, in practice you don't find anything of the kind. It is like one of those beautiful dreams which only leaves behind it disgust at having believed in it."

Notwithstanding this tirade against the doctors, Molière in this play puts his own defence (and we see he has it again from Petrarch) in the mouth of the candid brother who says in reply to criticisms of Molière's satires:

"It is not the doctors whom he jokes, but the ridiculous side of doctoring." Probably the doctors of that day did not hold that charitable opinion of him.

Molière probably died of a pulmonary hemorrhage. He was seized with the fatal attack as he was playing the part of the Malade Imaginaire. It was the sad irony of fate. Perhaps he was trying to convince himself that his sufferings were only the figments of his imagination when he wrote this, his last great comedy. He there gave a parting blast to us doctors and, like the ghost of Turnus, "went howling to the shades below."

After all, as you see, the criticisms and complaints which arise from struggling humanity to the gods have been very much the same in all ages.

"And see," says Panurge, "how the times are out of joint. We trust our souls to theologians who, for the most part, are heretics; our bodies to the physicians, who all abhor drugs, and our property to the lawyers, who never sue one another."

A singular example of this remark, as it applies to doctors, is noted in the death of Dupuytren, the greatest surgeon of his day. He died of an empyema, refusing operation with the remark that, "he would rather die by God's hand than by that of a surgeon."

But if there is no limit to the glimpses we might take at the jokes made at our expense in literature there *is* a limit to your time and patience. I do not feel that I am permitted to encroach on either any further, but in closing, as an excuse for our existence at all, I may quote the saying of a witty Frenchman:

"As long as men may die, and as long as they love to live, the doctor will be ridiculed—and well paid."

But a nobler retort was that of another witty Frenchman:

"*Railles donc, calomnies à votre aise le médecin, cela ne l'empêchera pas à l'occasion, de remplir avec zèle sa noble mission qui est de guérir quelquefois, de soulager souvent, et de consoler toujours—des ingrats et des indifférents.*"

44 WEST FORTY-NINTH STREET.

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**Poisoning among Workmen in Great Britain.**—Nine hundred and thirty-six cases of poisoning were reported among British workmen last year. One hundred and eighty-nine of these were due to white lead, and 106 to pottery.

# SOME EXPERIENCES WITH ICHTHYOL IN PUERPERAL FEVER.

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FEW things are more exasperating or cause more anxiety to the busy practitioner than cases of puerperal fever, occurring as they do at times after every precaution has been taken to secure perfect asepsis. We know that theoretically puerperal sepsis should never occur, but practically the careful physician does meet it occasionally.

An eminent Dublin obstetrician, connected with a large maternity hospital there, said a while ago that in the worst cases of sepsis he had ever seen no instruments had been used; there had been no unusual interference, the placenta was perfect, there were no lacerations, and the strictest antisepsis had been maintained.

Such a case occurred in my practice two years ago: I. M., multipara, was confined May 23, 1901. Patient was of rather delicate build, anæmic, but, with the exception of several mild attacks of malaria, was in a fairly healthy condition. Her first confinement, four years previous to this, was normal in every way. With the exception of the case being a face presentation, this labor was also normal. No instruments were used, there were no lacerations, only pitcher douches were given, and the placenta was as perfect as any I have ever seen. Everything was apparently normal until the tenth day, when, without any known cause, the patient's pulse and temperature began to rise, and she complained of feeling ill. There was no suppression or other change in the lochia at this time. As soon as I had satisfied myself that the trouble was not due to malarial poisoning, vigorous measures were employed at once to combat septic infection. The uterus was swabbed out with carbolic acid and iodine; uterine douches were given, the patient was put on a highly nutritious diet, and stimulating and supporting measures were administered. Among other remedies employed Credé's ointment was used in large quantities—in fact, it was rubbed in by the ounce, but, notwithstanding the most active treatment, my patient rapidly developed a very severe form of sepsis and was soon in a desperate condition. She had a chill, followed by a temperature ranging from 104° to 105°, and profuse sweating every twenty-four hours, and, as the case progressed, at shorter intervals. She lost flesh rapidly and became so weak that the slightest exertion completely exhausted her. There was now a profuse purulent discharge from the uterus; certainly the outlook seemed very gloomy, and nothing appeared to have any effect upon the progress of the disease. At this point I concluded to give ichthyol a trial, knowing what wonderful work it did in other forms of sepsis. The uterus was irrigated with a gallon of 1–4000 bichloride solution, and then packed with moist sterile gauze saturated with equal parts of ichthyol and glycerin, which was left there for twenty-four hours. It may be here stated that ichthyol and lanolin had been applied externally to the abdomen before this, but without effect.

The next morning I was delighted to find that my patient had missed her chill; she had slept several hours and was feeling much better. The temperature had dropped two degrees and her pulse was much improved.

The packing was removed, a uterine douche was given, and another packing inserted. The next day the temperature was only 99⅖° and the pulse 90. My patient did not have another chill during her illness, and, although very weak, her impr was steady from this time on. Such ma provement following immediately after th ichthyol in this patient, I concluded to try if another case of the same kind presented i

M. H., confined April 26, 1902, a midwi Sepsis came on in this patient twelve hours apparently normal labor. This was the eleventh confinement, and with the exce one instrumental labor, she had never exp any trouble before. There were no lacera the maternal parts, and the midwife repor the placenta was perfect. I found the depressed with a rapid pulse and a tempe 104°, which rose to 105° in the evening. T no tenderness over the uterus or chang lochia at this time. The uterus was irrig bowels were thoroughly moved, and large quinine were given. On the following m found patient's temperature was nearly her general condition worse. A large uterin was now given, and the uterus was pac ichthyol gauze, as in the previous case, following morning I could hardly believe mometer when I found that it registered and her pulse 90. She felt better and he condition was much improved. The dou repeated, but instead of packing the uterus drachm of ichthyol, diluted with equal sterile water, was injected into the uter next day my patient's temperature was 9 she said she began to feel like herself again this time improvement was rapid, and within her condition was apparently normal.

B. M., primipara, my third case, was serious one, complicated with typhoi Patient was delivered of twins August Forceps case, there were no lacerations, the was normal. The following morning tem was 104°, pulse 110 and feeble. The abdo tympanitic, but not painful. The bow loose, the lochia normal. The evening tem was 105° and patient was delirious and As there were a number of cases of typh in the neighborhood a specimen of her b taken for examination and gave a positi reaction.

Septic symptoms did not develop until day in this case and were ushered in by chill, a higher temperature, followed by and the lochia soon became mucopuru this time her condition was so grave that little hope of her recovery. The uterus gated and packed with ichthyol gauze other cases. The following day the tem was lower, the patient did not have a discharge was somewhat less. The icht repeated and was followed by a decided ment in the uterine tenderness and The ichthyol was repeated a number of this case. This patient had a very storm it for five weeks, but finally made a good notwithstanding a sharp intestinal hemor believe ichthyol had more to do with s life than anything else; for when the sep toms appeared she seemed completely ove by the poison, but when they were und she rallied and had vitality enough to typhoid poison. Incidentally it may be that the twins are fine babies. My p pregnant again and expects to be confin a few months.

N. L., primipara, confined December This patient infected herself from a pus tu was so large that it complicated labor a

delivery very difficult. Septic symptoms came on almost immediately and were severe. The temperature ran between 104° and 105° and for several days her pulse was 120. The lochial discharge became purulent at once, and a tumor which was almost as large as an orange could be felt in the left iliac fossa. Patient had rigors and severe sweating and became very feeble. No packing was used in this case. The uterus was irrigated and a drachm of diluted ichthyol injected. Little or no change was noticed in the uterine discharge, but the temperature dropped two degrees and never rose above 102 after the first application. The pulse improved in quality, and patient expressed herself as feeling much stronger. This patient was quite ill for two weeks, but gave no particular anxiety after the first week. The tumor in the iliac fossa gradually grew smaller, and in ten days could be felt with difficulty. The purulent discharge continued for several weeks. The patient had rather a tedious time of it, but finally made a good recovery.

M. M., multipara, confined March 30, 1903. Labor was normal with the exception of an adherent placenta, which was delivered with difficulty. On account of this, unusual care was taken to keep the parts aseptic, nevertheless on the third day the pulse rose to 100 and temperature to 103°. The lochia was suppressed and patient gave all the symptoms of septic intoxication. The uterus was irrigated and diluted ichthyol injected. The following morning her temperature was 100° and her pulse 84. Patient felt much better. Improvement was so rapid that on the tenth day she felt perfectly well and asked to be allowed to sit up. She had plenty of milk for her child. Pulse and temperature were normal, and there was nothing about her appearance to lead one to think there had been anything abnormal about the puerperal period.

The remarkable results which have followed the use of ichthyol in these five cases, three of which were desperate ones, has led me to believe that it is a valuable remedy in this dangerous disease. The objection may be made that the packing had as much to do with patient's improved condition as the ichthyol, but in two of the cases reported no packing was used, and the drug was simply injected into the uterine cavity after free irrigation. I am aware that at least one case of severe depression following the application of ichthyol to the cavity of the uterus has been reported. But no such untoward symptoms appeared in any of the cases here mentioned. However all these patients were being well stimulated with strychnine ammonium carbonate at the time. Instead of any unpleasant symptoms arising, exactly the opposite were observed; in fact, the drug acted like a specific. Not only were the pulse and temperature reduced, rigors ceased and discharge lessened, but patients had a feeling of well-being following the use of ichthyol, which was a pleasant contrast to the appearance of mental and physical suffering which one often witnesses in these cases.

College Point, Borough of Queens.

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**Prevalence of Tuberculosis among the Mentally Affected.**—Dr. H. Timbrell Bulstrode says that among 70,958 lunatics treated in Prussian asylums during 1901 there were 5,128 deaths, or a fatality rate of 7 per cent. The incidence of tuberculosis was heaviest upon the idiots, as out of 12,212 idiots treated during 1900, 462, or 4 per cent., died, and of these, 259, or over half, died from lung diseases.

## THE SURGICAL TREATMENT OF COLITIS.*

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At the present time the application of surgical measures to the relief of colitis usually begins where medical measures leave off and so it fails, the surgeon having an opportunity to treat only the severer and more hopelessly chronic cases. I trust that in the future surgical measures may find a place as a prophylaxis against acute conditions assuming such permanently unfavorable phases. I realize, however, that this end can be attained only if surgical art can offer methods giving a reasonable certainty of improvement, yet devoid of the risks and possible bad after-results inherent to a serious surgical operation.

In my experience the severer cases of colitis, whatever the etiology, involve the greater part, usually the whole, of the large intestine. Topical treatment from below under these conditions is necessarily inefficient, so to treat the whole, and not the part alone, surgical aid may wisely be sought for the cases not yielding to the curative effects of time, physiological feeding, and the administration of medication of unproven efficacy.

Prior to the introduction of a method which will be the chief subject of this paper, the surgical relief of colitis, consisted of a single measure, the establishment of an artificial anus to give physiological rest to the bowel and for the treatment of the ulcerated areas by appropriate flushing with cleansing, or antiseptic or supposedly specific solutions. A partial artificial anus, that is a simple lateral opening in the gut gives a maximum amount of discomfort, while perfect physiological rest can be obtained only by a complete artificial anus—namely, severing the gut and fastening its upper end permanently to the surface of the body, necessitating for its future repair one of the severest operations practised in abdominal surgery. It is no wonder then that surgical measures of this kind fail to appeal, either to the patient or to the conscientious practitioner whose responsibility it is to conduct such a case. It is my belief that there must be a middle ground between these two extremes—medical treatment incapable of meeting certain given conditions, and the repulsive and hazardous features incident to an artificial anus. On this basis, in 1900, I devised an operation which made direct treatment of the entire colon possible—simple in its performance, and devoid of any discomforts to the patient; and is performed carefully, attended with a minimum of danger. Its application was first demonstrated by the kind courtesy of Drs. P. R. Bolton and F. H. Marloe in accepting my suggestions, as it was not till considerably later that I had an opportunity to perform it on a patient of my own.

The cases and technique have already been described by me in a paper entitled "The Creation of an Artificial Valvular Fistula for the Treatment of Chronic Colitis," read in Boston, March 5, 1902, and published in the *Boston Medical and Surgical Journal*, September 25, 1902.

Described briefly, my plan is as follows: a small intermuscular incision is made over the caput coli. Then, reproducing the technique of the Kader gastrostomy, a catheter is introduced into the bowel through an opening just large enough to admit it. By using two tiers of sutures, the tube is infolded into the cæcal wall, absolutely guaranteeing against any leakage, and the bowel is finally secured to the

*Read before the New York County Medical Association, May 18, 1903.

abdominal wall. So perfect is the technique that the irrigations of the colon might be begun at once, but it will be wisest to wait forty-eight hours. After the tube has been in place a week, it is removed, when the essential feature, the artificial valve, becomes operative. For so soon as the tube is removed, the infolded cone of intestinal wall prevents absolutely the exit of intestinal contents. From now on so soon as the patients strength responds to the beneficial effects of the operation, he can continue the treatment while gradually resuming his ordinary mode of life; for after ten days he can leave his bed, all dressings are discarded, as there is no leakage, and the tube is only required as described.

The further treatment consists of the reintroduction of the tube two to four times a day and flushing of the gut by appropriate solutions, chief reliance being placed on saline solution for cleansing; and of gradually increasing strengths of nitrate of silver. To obtain permanent closure of the fistula, it is only necessary to discontinue the treatment: for by omitting to pass the catheter, after a few days, the valvular infolding of the walls becomes permanent and the patient's surgical condition is at an end.

The cases so far treated, although few in number, have shown a striking response to the treatment, with rapid amelioration of the character of the stools, decrease in their frequency and prompt constitutional improvement and gain in strength and weight.

A modification in the technique of my operation has lately been practised by Dr. Weir by using the appendical stump instead of making a valvular opening. Its seeming advantage is that it makes a very simple operation still simpler. The necessary and essential feature of my operation, the valve formation, being wanting, the after-treatment is far less agreeable to the patient, as he is subjected to the inconvenience of leakage, and the necessity of a prolonged wearing of a tube and dressing. The very small hole also allows of less freer flushing. Moreover the patient has to undergo further treatment in order to close the fistula.

Contrast this picture of a simple, cleanly, and yet efficacious course of treatment, involving only ten days' stay in bed, with the misery of the unfortunate victim of an artificial anus wallowing in fæces for months with the prospect of a more or less severe operation to be undergone before he can be restored to health, and I think you will justify me in my attempts to put the surgical treatment of colitis on a new basis.

Summing up, I would say that in this operation just described the results have been such as to justify the hope of marked amelioration or cure of the symptoms.

It is devoid of every disagreeable feature of an artificial anus.

It calls for only a short confinement to bed.

If a prolonged course of treatment is required, it may be carried out if necessary by the patient himself.

A change of climate, so often beneficial, is made possible.

Its performance is perfectly simple and safe.

The intermuscular incision greatly reduces the risk of a subsequent hernia.

The prompt closure of the fistula is certain and spontaneous.

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**Aphasia as a Result of Heat Exhaustion.**—R. E. Weigall reports the case of a patient who was prostrated, almost pulseless, with a cold surface of the body and a temperature of 95°, as a result of walking half a mile in the hot sun, carrying a bag. Her condition became much worse—there was absolute aphasia, agraphia, alexia, partial arm and face paralysis, and indications of a progressive meningitis and approaching death. Trephining was performed over the speech center, the dura mater was incised, and an extensive intrameningeal hemorrhage made its way out. Free irrigation with hot saline solution was made, and a small tube was inserted, and removed on the third day. Improvement began at once after the operation, and in a week the patient had fully recovered.—*The Australasian Medical Gazette.*

**Autointoxication and Its Relation to Disorders of the Nervous System.**—Benjamin Leon Wyman says that the modern idea of the nervous system appears to be that there is a constant streaming of nervous energy along neuron after neuron as along link after link of the sensory motor chain. If this theory be correct, it is absolutely essential, in order that the neuronic mass shall function properly, that there be physiological contiguity between the various nerve units, and any condition which hinders their proper connections interferes with the transmission of nerve impulses. Man contains within himself a "laboratory of poisons," and whatever the name given them, ptomains, leucomains, alloxuric bodies, xanthin, etc., they are all more or less toxic in their effects. Autointoxication is dependent largely upon the ingestion of more of the proteids than the digestive organs can appropriate, and as a result effete products accumulate. Neurasthenia, migraine, puerperal eclampsia, epilepsy, neuroses following operations, and many other diseases of the nerve centers are due to this autointoxication, in some cases acting on a hereditary instability of the neurons. The author concludes: (1) That autotoxæmia is an etiological factor of great importance in many functional disorders of the nervous system. (2) That these poisons produce symptoms by either lessening, retarding, preventing, or arresting the functional capacity of the nerve center by interference with the transmission of nerve impulses. (3) That the disturbances involve both the central and peripheral neurons. (4) That repeated and chronic autointoxication may lead to structural alterations in the nerve cells and fibers.—*Alabama Medical Journal.*

**The Results of the Treatment of Four Hundred and Eight Cases of Typhoid Fever, with a Report of Experiments with a New Method.**—H. C. McCormick states that the local application of guaiacol for the reduction of temperature has proved so effective and safe a remedy, that after having applied it 3,150 times, he heartily recommends it. The right iliac region is cleansed and dried, and alcohol applied. From five to ten drops of guaiacol are slowly dropped on the surface and rubbed in with the hand from ten to fifteen minutes. The part is then covered with oiled paper. The antipyretic effect lasts from two to four hours. The author treated four patients with acid sulphate of sodium. They were admitted on or before the seventh day. The temperature charts showed, from the time they came under the influence of the sodium salt, a fall of about one degree, and the morning remission was almost entirely abolished. The author finds that in a solution of 1 to 300 the acid sulphate of sodium is germicidal to typhoid bacilli, increases leucocytosis, and thus helps nature to combat the disease, neutralizes typhotoxin, and in a measure lessens delirium and other symptoms attributed to this poison, prevents, to a great degree, the congestion of Peyer's patches, and by this means prevents to some extent hemorrhage and perforation. It will resist bacilli or toxin in any part of the body, and greatly lessens the complications of the disease. It is a prophylactic, and is not neutralized in the stomach. It replaces physiologically the deficient hydrochloric acid. It furnishes an abortive treatment. It may be used to purify contaminated drinking water by allowing the solution to stand from twelve to fifteen minutes before being taken.—*The Therapeutic Gazette.*

# MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

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## DIAGNOSIS OF EARLY TUBERCULOSIS.

IN the *Wiener medicinische Wochenschrift*, Nos. 7-10, 1903, Dr. Martell points out the necessity of early diagnosis, as only in the beginning can the extension of the infection from the original foci be prevented, and the severe damaging of the whole organism by toxins be hindered. Reviewing the criteria available for early diagnosis, the author finds conflict of experience as to the value of the orrhodiagnosis of Arloing and Courmont, Koch's tuberculin, and the eosinophilia of the sputum observed by Teichmüller. The last is, however, an aid; and of great significance in a suspected fluid is the presence of many small lymphocytes, since staphylococcus, streptococcus, and pneumococcus infections involve the presence of many polynuclears. Thrown back then chiefly upon clinical signs, the author lays special stress upon the nervous symptoms which have hitherto received too little consideration. Hammer has shown experimentally that inoculation with tuberculosis produces, both in the peripheral nerves and in the central nervous system (in the latter with great regularity) alterations which appear very early, ten to nineteen days, and involve the cells of the anterior horns, thus producing muscular weaknesses which may, though rarely, proceed to complete paralysis. These tuberculous myasthenias and neurasthenias have the characteristic that they make their appearance principally at the outset, and after some time vanish, to reappear upon the slightest over-exertion. Moreover, we find in the peripheral nerves, palpable, objective evidence in the way of painful pressure points, that the tuberculous toxin has attacked the posterior roots and columns. These phenomena are demonstrable in every case of early tuberculosis (and can, therefore, be regarded as indubitable, pathognomonic signs), while they are absent in chronic and advanced cases. Sometimes unilateral, sometimes bilateral, now in the upper, now in the lower, extremity, these pressure pains give evidence as to the locality of the focus, while the degree of the hyperæsthesia serves as a measure of the amount of toxin generated. Of special importance is the unilateral plexus pressure pain which, according to Schmidt, is a certain early symptom of pulmonary tuberculosis and of the initial hæmoptysis; and if it become extraordinarily violent, we have to think of an impending hemorrhage. On the other hand, the complete vanishing of this pain implies an unfavorable prognosis. These facts find their explanation in an early sensitiveness of the nerves (the correlate of neuritis), while their integrity is preserved, and a later obtuseness of sensibility when degenerative changes have taken place. If, then, rather heavy pressure over the intercostal spaces brings out flinching and complaint of pain, this is so characteristic that we may regard it as an extremely certain sign of gland disease, all the more if the phenomena cannot be elicited on the opposite side. Similarly, investigation of the abdomen will reveal disease of the mesenteric glands. The existence of an abdominal focus leads to a series of well characterized painful pressure points. According to Faber, two such points exist; one between the xiphoid and the navel, and one between the navel and the pubis. According to Kelling, a second epigastric point exists, corresponding in position to the pylorus. Inconstant, and often only demonstrable with difficulty, are four points situated around and about 25 mm. from the navel; one on either side, one above, and one below. Constant, like the epigastric, is one point over the ischiatic nerve. Its existence is diagnostically of such importance that we are justified, when it is unilateral, in assuming a definite diseased focus on the corresponding side. This pain is demonstrable lower down, over the tibial nerve, and over the plantar at the end phalanx of the great toe. On the side of the patient it gives rise to the most various complaints, such as of too tight shoes, and of a feeling of cold or numbness. Not infrequently crossed pressure points are observed. Thus right ischiatic pain, left plexus pain, and pain in the left bronchial gland region warrant the diagnosis of tuberculosis of the right mesenteric and left bronchial glands.

Turning now to the avenue of contagion, the author argues with considerable plausibility in favor of the primary rôle of the lymph glands as against the secondary place usually assigned to them. Thus, in his opinion, pulmonary tuberculosis does not, in general, result in infection of the bronchial glands, but is the outcome of the initial infection of the latter. He supports this view chiefly from three sides, citing observed cases of transmission from mother to fœtus, via the (tuberculous) placenta; and bringing forward statistics showing the great frequency on the one hand, of heredity in the histories, and on the other, of glandular involvement in the autopsies. Infection spreads by (*a*) the lodgement of bacilli in a gland, leading to local tubercle development which (*b*) gradually obstructs the lymph flow, and finally results in (*c*) the establishment of a collateral or retrograde lymph circulation from the infected territory which (*d*) infects the next adjacent gland territory, and (*e*) ultimately more remote regions. Infection of organs is thus regarded as secondary to that of their glands. Indeed, Aufrecht has recently shown that in pulmonary tuberculosis the initial lesion begins as an involvement of the walls of blood vessels which have a cheesy gland at their hylus, and has found tubercle bacilli in the thickened walls.

**A Woman Ship Doctor.**—According to a British weekly journal, a Mlle. Sarah Broido, a young woman physician, has obtained an engagement as ship's doctor on board a steamer plying between Marseilles and Algiers. Mlle. Broido is the first French medical woman who has been employed in such a capacity.

## INSPECTION OF THE TEETH AND GUMS AS AN AID TO DIAGNOSIS.

*The Medical Times and Hospital Gazette* of August 15 refers to a paper published on this subject by Campbell in the *British Dental Journal* of June 15. The state of the mouth is to a considerable extent an index to the condition of a person's health. If an individual is free from bodily ailments, then, as a rule, the teeth and gums are sound and healthy. Campbell says that "the state of the teeth must exert a constant influence upon the condition of the body; and as truly the general condition of the body exerts an important influence upon the state of the teeth, and it is this close relationship of the state of the mouth to the state of the general health that makes the work of the dental surgeon of such paramount importance and interest to the physician." By some it is asserted that morbid states of teeth, gums, alveoli, etc., are the causes of certain deadly diseases. Hunter has endeavored to show that oral sepsis, having its origin in long continued and neglected carionecrotic conditions of the teeth is the cause of pernicious anæmia. He argues that this fatal malady is due to a special infection of the digestive tract, caused by oral sepsis. Campbell does not deny to oral sepsis some contributory power, or even that in some cases that power may be considerable, but is nevertheless convinced that it is not only not responsible for the causation of the disease but plays a quite unimportant part in this connection. Since the publication of Hunter's book upon pernicious anæmia, the author has carefully investigated the condition of the mouth in every case that has come under his notice, and has found that although in the majority the gums were spongy, the teeth loose, with pus welling up by their sides and the gums receding, yet in others the teeth and gums have shown no sign of disease. He, therefore, concludes, as the result of his own observations, that such oral conditions are rather the outcome of than the cause of the disease.

Reference is made to the sweet apple-like odor with which the breath of patients suffering from diabetes mellitus is impregnated. The dental condition most frequently met with in cases of this disease is a loosening and painless shedding of sound teeth. Dental caries, gingivitis, and spongy or bleeding gums also occur at times, but these conditions are, of course, not such distinctive features as is the former.

It is noted that the changes in the teeth due to the imperfect calcification of the enamel dentine, often supply a valuable record of the life-history of the patient.

Other conditions of the mouth which will serve as a useful guide to the physician in making a diagnosis are, says the author, the ground-down teeth of the gouty, the occasionally met with dental periostitis of the rheumatic, and caries or impaction as a cause of various ailments of children. Again, a suspicion as to the presence of tuberculous disease may be aroused from the pallor of the mucous membrane, or of Addison's disease from the presence of pigmentation. The effect of certain poisons, in producing marked changes in the jaws and gums, is pointed out by Campbell.

The condition of the teeth and gums affords satisfactory testimony as to the general state of health of an individual, and is an invaluable aid to the physician in making a diagnosis. However, most medical men would probably agree rather with Campbell than Hunter in thinking that oral sepsis is not the cause of but the effect of disease. At the same time the great importance of keeping the teeth and gums in as good a condition as possible must not be minimized.

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### Sporozoan Origin of Dengue.

In the *Journal of Tropical Medicine* for July 1 Dr. H. Graham of Beyrouth, in an article supplementary to that published previously in the Medical Record, describes his successful experiments in transmitting dengue by mosquitos which had fed upon patients suffering from this disease, and his discovery in the red blood cells of a protozoan parasite. Beyrouth and the villages on Lebanon contain the mosquitos *Culex fatigans* and *Stegomyia fasciata;* the latter being less frequent in the villages. By killing all the mosquitos in a room daily by chlorine gas, and moving the patient into the room thus cleared, it was possible to preserve a child from infection by its mother though nursing continually through the attack. The same precautions sufficed to prevent infection of three children who played in the room of, and slept in the same bed with a fourth ill with the disease. Again, the same precautions operated to prevent the infection of any others of the family by the father ill with dengue. Three out of four men who slept under a netting with mosquitos infected by feeding on a dengue case contracted dengue, the fourth and immune man having had the disease before. To settle the question beyond doubt, infected mosquitos were taken to a locality at an altitude of 3,000 feet where the disease was unknown, and two non-immunes were infected by sleeping under a netting with the mosquitos; and these latter being killed no other cases of the disease occurred in the locality. In 1889 the author slept one night in mosquito plagued Beyrouth and then went 4,600 feet up the Taurus range to a mosquito free locality. Sleeping in a cabin with eleven others he alone developed dengue. In handling the infected mosquito his wife was accidentally bitten, and developed dengue after the usual incubation period. Finally, injection of infusion of an infected mosquito's salivary gland transmitted the disease. In all the cases of the disease examined the blood was found to contain an unpigmented protozoan situated within the red cells. A much smaller number of the last were affected than occurs with the tertian malarial parasite. The parasite found resembled *Pirosoma bigeminum* but had not the divided form to which the latter owes its specific name. The most satisfactory results were obtained by examining the blood fresh.

The changes from day to day in the parasite taken from the mosquito's stomach differed in no essential way from those occurring in the patient's blood. A day to day search for zygotes such as are found in malaria resulted negatively, and nothing resembling the fusion of microgamete and macrogamete could be observed either in the blood or in the mosquito's stomach. The evolution of the parasite resembled that of *Pirosoma bigeminum*. Within forty-eight hours after infection by feeding upon a patient on the fourth day of the disease, spores make their appearance among the cells of the mosquito's salivary gland, and spores were found in mosquitos kept alive up to a month after infection. Referring to the reported finding of malarial parasites in the blood of dengue patients

by Stedman of Hongkong, the author thinks that they were the dengue parasites that he found, and not malarial parasites. His pirosoma-like parasite is found in much larger numbers during relapses, but careful examination will reveal it in the first attack. The great mass of patients with relapse have never had malaria, and in Syria at least the mass of them live where no anopheles is present to infect them with malaria. While resembling, under the microscope, the estivoautumnal parasite, the development in the mosquito is too different to allow of its being confounded with the unpigmented quotidian parasite of Marchiafava and Celli. The author concludes that *Culex fatigans* is the transmitting agent, and that the prophylactic measures now in vogue against malaria will suffice to prevent the spread of dengue.

It was reported some time ago that the health authorities of Honolulu were acting upon the mosquito theory of transmission in instituting measures for the suppression of the epidemic of dengue there prevailing.

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### The Medical Attendance of Londoners.

In a speech at the annual meeting of the Portland Town Free Dispensary, Sir Henry Burdett considers the question of the uses and abuses of medical charity is always with us. In 1895 the various medical institutions in London treated 1,753,611 persons, while in 1902 2,098,905 were treated, an increase of 345,294, though the annual increase in the population was only 60,000. That is, "we find in a single period of twelve months the total number obtaining free medical treatment makes up a grand total representing nearly one out of every two of the population of London. . . . There are not so many as over 2,000,000 really poor people in London. The thirst for hospital relief now pervades all classes. Many well-to-do people argue that after all the hospitals are great public institutions, and as such it is their duty to provide free medical relief for everybody who chooses to take the trouble and expend the time and energy in going to them for it. This continual increase in free medical out relief is wrong." The excuse of the hospitals is that they must not keep anybody away or they may lose an interesting case from a clinical point of view." This is owing to the association of medical education with the hospitals. "In London there is no great medical school as a center. Our system of medical education is in a state of chaos. . . . We have twelve medical schools attached to twelve hospitals. . . . Now if we had one big medical school for all the students of the various hospitals, we should then get our system of medical education into order, and we should hear no more of these attacks of the anti-vivisectionists on the hospitals. . . . I do most heartily hope that the public will combine as one man and set their face absolutely against the perversion of the funds of the hospital to the struggling medical school attached to it." As a remedy the speaker advocates the out-patient department of a hospital's treating only urgent cases; indeed, as it now exists, the out-patient department should be abolished, but the hospitals should arrange to see all cases sent to them by a physician. Thus a system of coöperation between the hospitals and the profession would grow up. After examination the patient would be handed over to the reformed out-patient department—that is, to the provident dispensary.

"At Battersea (it is a little remarkable that the poorest district in London should have shown the way) the working classes and the doctors have united with the Bolingbroke Hospital authorities to carry out a scheme of out-patient relief on the lines I have just explained. Mr. John Burns is said to be proud of it, and well he may be. . . . The Battersea out-patient Provident Dispensary attended 36,564 patients last year. The Battersea out-patient department is a provident dispensary, and the majority of those seen there went first as patients to the hospital, where they were examined and then handed on to the dispensary. The Camberwell Provident Dispensary saw only 7,000, and the Clapham Provident Dispensary 1,435 patients last year, showing that, from the patient's point of view, this system, as carried on at Battersea, is much more widely popular than the present system of medical relief, and it ought to have the candid and immediate attention of all those in charge of our hospitals."

The reason why the hospitals should turn over outdoor work to the dispensaries is that the latter can do it much more economically, the figures showing a cost of two shillings per head for the hospital, as against nine pence for the dispensary. Regarding the reformation of indoor relief, the speaker says that with the assistance of an eminent actuary a scheme is in active preparation whereby for a small annual payment the insured will be guaranteed so many weeks' treatment and care in hospital. This will enable the middle classes to secure treatment as private patients without paying, as many are unable to do, the amounts now charged for private rooms in many hospitals.

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### Traffic in Cities.

In almost every large city of the world the traffic question is an important one, while in the very large manufacturing cities it is the most difficult problem that confronts the authorities. Various methods are now being adopted to relieve the congested state of the streets of the crowded centers of population, the most popular of which is the construction of subways. London was probably the first large city to introduce this means of facilitating locomotion, and the improvement effected in electrical appliances with the advance made in harnessing electricity to the use of man has immensely widened the field. Subways in which electricity is used as the motive power and for lighting purposes have been made in many places, and the construction of such underground tunnels is proceeding apace. The fact is obvious that measures to draw from the streets a considerable amount of the traffic is an absolute necessity in many towns and it is therefore well that subways should be built. At the same time, however, every precaution should be taken to render these passages healthy and free from danger. Grave complaints have been leveled against the longest London subway, known as the "tuppenny tube," on the grounds of defective ventilation. The most conspicuous example of the menace to life and health afforded by this mode of locomotion was given recently in Paris, when in the subway of that city upward of one hundred human beings perished miserably like rats in a trap. The unhappy occurrence may be looked upon as a warning to those responsible for the building and equipment of subways now under construction. In the first instance the cars used should be fireproof, and in the second place the ventilation of these underground railroads should be as perfect as possible.

In some of the suburban districts of London—according to the *Hospital* of August 1—electric cars have been introduced driven by "the conduit system." The noise made by the approach of a car furnished with its motive power in this manner is compared, by our contemporary, at a distance to the sound of muffled drums, rising gradually to a roar

like that of Niagara. Furthermore, it is pointed out that the gong attached to each car, manipulated by the foot of the driver, emits a most discordant note. The gist of the remarks in the *Hospital* is that these horrible and unaccustomed noises render sleep impossible to the inhabitants of the localities through which the car lines run, and it is feared that the tormented suburbanites will abandon their homes *en masse* and betake themselves to regions where electric cars are unknown. It cannot be denied that the noise made by electric cars is unpleasant, but after a time one becomes accustomed to it. New York has borne with both the elevated railway and the surface electric cars for a considerable period, and its citizens have not been crazed by the noise, nor, indeed, do they appear to have suffered in health. In the same way the people living in the outskirts of London will soon learn to endure with philosophic equanimity the affront offered to their organs of hearing by the electric railroad, and will be able to sleep whilst the cars rush and roar to and fro and the gongs clang throughout the night.

## News of the Week.

**The University of Berne.**—The new buildings of the University of Berne were recently opened. An address was delivered by Professor Kocher. For nearly seventy years the university was housed in an old Dominican friary. In recent years its popularity has increased and the names of 1,200 students are now on its books. The new buildings are charmingly situated on an eminence commanding a view of the whole city and of the Bernese Oberland. The total cost has been £48,000.—*British Medical Journal.*

**The American Association of Obstetricians and Gynecologists** will hold its sixteenth annual meeting in the Northwestern University Medical School Building, Chicago, Ill., Tuesday, Wednesday, and Thursday, September 22, 23, and 24, 1903, under the presidency of Dr. Lehman H. Dunning of Indianapolis. The Auditorium Hotel, Annex, has been selected for the headquarters of the association. Dr. J. B. Murphy, Reliance Building, 100 State street, is the chairman of the committee of arrangements and will gladly furnish any information to members and guests upon application. Dr. Murphy also can be addressed, relating to accommodations, at the hotels. The scientific program contains the titles of thirty-eight papers. During the meeting Dr. J. B. Murphy, by request, will hold a clinic, at which some demonstrations of special interest will be made. Dr. Macdonald will give a demonstration of Emergency Surgery at the Patient's Home, showing operator, assistants, nurses, and equipment in full detail, immediately preceding Dr. Murphy's clinic. All members of the medical profession are cordially invited to attend the scientific sessions. The secretary of the association is Dr. William Warren Potter of Buffalo, N. Y.

**Richfield Springs.**—The bathing establishment at Richfield Springs, N. Y., has recently been sold to a syndicate composed of residents of the Springs and of a number of New York and Philadelphia physicians. Dr. William Baker Crain has become medical director vice Dr. C. C. Ransom resigned.

**American Electrotherapeutic Association.**—The thirteenth annual meeting of this association will be held at the Hotel Windsor, Atlantic City, N. J., on September 22, 23, and 24, 1903. The subject of radiotherapy will occupy a prominent place in the deliberations, the majority of papers to be read during the second day's session being on the Röntgen rays. Members of the medical profession generally are invited to be present. The secretary is Dr. C. E. Skinner of New Haven, Conn.. of whom a program of the meeting and other information may be obtained.

**Anthrax** is reported to have broken out in a herd of cattle on a stock farm in Illinois not far from Chicago. Some apprehension is felt, as much of the milk reaching that city is brought from the region about Palatine, where the disease is reported to prevail.

**A Tuberculosis Aid and Education Association.**—A new association for the alleviation of tuberculosis and the education of the community hopes soon to commence active work in Cambridge, Mass. The constitution says: "This association shall be called the Tuberculosis Aid and Education Association," the object being "to cure at home, if possible, persons suffering with tuberculosis; to relieve with food, as far as possible, all needy tuberculous persons; to educate the entire community in the care and prevention of this disease; to promote the establishment of hospitals for hopeless cases." A deep interest is being awakened in the community, and representative men and women are to be found on the Board of Managers. The Advisory Expert is Dr. Edward O. Otis of Boston. Dr. J. L. Hildreth is chairman of the Advisory Board, consisting of twelve physicians, who will advise the Board of Managers on medical matters. A trained nurse will care for such cases of the poor as need her attention, free of expense, giving instructions as to the disposition of sputum and the formation of healthful habits. Various committees will have charge of the distribution of food, of lectures, of sanitation, etc. The movement is intended to be largely educational, and for this reason there will be on file, open to the public, reports from other organizations working along similar lines, reprints from papers read by physicians before medical and other societies, and pamphlets descriptive of public and private sanatoria. The committee will be grateful to physicians, and others, who will donate any of the above. If possible, they would like three copies, one for the library, one for a special room devoted to advisory conferences, and one for private consultation by the Board of Managers. Communications and donations of literature on tuberculosis may be sent to Mrs. Rufus P. Williams, 86 Washington avenue, North Cambridge, Mass.

**Gift to the Cancer Research Fund.**—Mr. William Waldorf Astor has contributed £20,000 to the British cancer research fund, in response to an appeal made by Mr. Balfour at a public meeting held a few weeks ago.

**Smoking Allowed at West Point.**—Colonel Mills, the commandant of the West Point Military Academy has, with the approval of the Secretary of War, issued an order permitting cadets to smoke during relief from quarters within the barracks limits. The order includes permission to the cadets to purchase pipes and tobacco at the post store. The object of this order permitting pipe-smoking at certain times and places is, it is said, to discourage the clandestine use of cigarettes which is now almost universal. When this order becomes generally known there will probably be a good deal of noise heard from the old ladies of both sexes who have no small vices and few great virtues.

**A Man of Great Size.**—Joseph Grimes, known as "Big Joe" Grimes, believed to have been the largest man in the world, died recently in Cincinnati as the result of a peculiar accident. While riding

in a cab his great weight broke through the bottom, and one of his legs was gashed, the wound refusing to heal. Grimes weighed 754 pounds, and was thirty-four years of age. He was six feet four inches in height, and his body and limbs were of ponderous dimensions.

**Salicylated Wine from Bordeaux.**—The first instance of the Government's refusal to admit to this country adulterated wines, under the Pure Food act, took place a few days ago when entry was refused of a shipment of white wine from Bordeaux, France. Upon analysis this wine was found to contain salicylic acid. Under the Pure Food act entry may be refused to any article of food or drink, the sale and consumption of which are prohibited in the country whence imported. The French Government expressly prohibits the sale of any food substance, solid or liquid, in the composition of which there enters any quantity whatsoever of salicylic acid or its derivatives.

**Abuse of a Lunatic by an Attendant.**—On complaint of Superintendent Pilgrim of the Hudson River State Hospital, one of the attendants has been held for the Grand Jury on the charge of misusing a patient, while the latter lay helpless on a bed under what is called a protection sheet, which is used in cases of suicidal mania. The attendant is said to have confessed that while intoxicated he amused himself by tickling the feet and ribs of the patient and pulling his nose. He is also charged with striking him and blackening his eye.

**Undersized British.**—The Director-General of the British Army Medical Service has issued a report showing that the physique of recruits for the army has declined within the past ten years. He gives the proportion of men in the army under five feet five inches as 106 per thousand in the year 1889 and 132 per thousand in the year 1898. The proportion of men under 33 inches around the chest was 17 per thousand in 1889 and 23 per thousand in 1898. The recruits passed for the service under 120 pounds were 159 per thousand in 1871, 269 per thousand in 1898, and 301 per thousand in 1900.

**Formaldehyde in Milk.**—The arrest and conviction of a milk dealer in Buffalo has brought to the notice of the authorities the practice, said to be common in most of the cities of the State, of adding formaldehyde as a preservative to milk and cream. The milk dealer, when arrested, pleaded guilty. Then he informed the District Attorney where he bought his stuff and gave information to the effect that a New York manufacturer and two Buffalo manufacturers were selling the "preservative" in all the large cities of the State. The District Attorney has instituted proceedings for the arrest and conviction of these men on the charge of selling poison without labelling it as such, which is a violation of the penal code.

**A Sanatorium for Actors.**—Incorporation papers have been filed in Denver for a tuberculosis sanatorium to be reserved for the use of actors who are suffering from consumption.

**Dr. Lapponi Honored.**—Piux X, in order to show his appreciation of the services rendered by Dr. Lapponi to the late Pontiff during his last illness has conferred on him the title of Commendatore. His holiness accompanied the announcement of the honor with a very flattering letter to the doctor, and insisted on personally bestowing the title.

**Sanitary Conditions in Cuba.**—In a recent interview on Cuban matters, which the Washington correspondent of the *New York Times* had with Mr. Louis Garthe, the latter said, anent the sanitary condition of the Island: "By the way, I greatly fear that before long Secretary Hay will be compelled to invite the attention of the Cuban Government to that article of the Platt amendment which relates to sensation. Havana, Matanzas, and some other cities in the west and on the north coast are scrupulously clean; cleaner, indeed, than Washington and some other American cities, but down in the east municipal sanitation is little better than a farce, and sooner or later our Government will be compelled to take official cognizance of their failure to carry out their obligations in this regard." Dr. John Guitéras, we understand, has gone to Santiago to study the blackwater fever prevailing near that city, and if the conditions there are such as stated they will doubtless be reported to Dr. Finlay and rectified by him.

**The Internes at Bellevue Hospital** were in revolt last week against the superintendent of the hospital and the superintendent of the training school, the trouble being caused by the suspension of one of the members of the house staff. They drew up a complaint against Dr. Mabon, the superindent of the hospital, and Miss Delano, the superintendent of nurses, but withdrew the protest on the announcement that the physician would be reinstated. The interne was suspended for having placed another member of the staff, suffering from typhoid fever, in the Townsend cottage instead of in the general ward, without notifying the superintendent of his action. The protest was signed by all the internes of the hospital.

**The Mosquito Plant.**—Some time ago Captain Larymore of the British army reported the discovery of a plant, *Ocimum viride*, the odor of which was said to keep away mosquitos. This was confirmed by Sir George Birdwood in Bombay and then denied by Dr. Prout of Sierra Leone and Sir William Thiselton-Dyer, director of Kew Gardens. But now the *Deutsche Kolonial-Zeitung* renews the claim of the antimosquito properties of the plant, saying that two or three of those placed on a veranda will drive away all mosquitos from the house. The Department of Agriculture at Washington will, it is said, undertake an investigation to determine the correctness of this claim. In Nigeria the natives, according to the German paper above mentioned, make an extract from the plant that is used in the treatment of malaria in place of quinine, being of equal therapeutic efficacy without any of the disagreeable action of quinine.

**An Imperial Rebuke to an Insanitary City.**—Typhoid fever has been prevailing for some time at Metz, and the municipal authorities, like those of some cities nearer home, did little or nothing to abate the epidemic, although it was shown that the water supply was at fault. Emperor William hear of this, and fearing for his beloved army, telegraphed to Prince Hohenlohe-Langenburg, the stadthalter of Alsace-Lorraine, as follows: "Again, as last year, an epidemic of typhoid fever has broken out among the civil population of Metz, and is threatening the health of the garrison. It has its origin in the bad condition of the springs and conduits, which state of affairs is due solely to the city administration of Metz. According to the report made by the commission which investigated the matter last year, the sanitary conditions prevailing in Metz and its environs deserve the greatest indignation. Such condition can no longer be tolerated. In case of war they would be followed by a catastrophe. I ask your highness to put an end to this state of affairs by the strongest measures." The Burgomaster and the aldermen were highly incensed when this telegram was placarded in the city, but they bestirred themselves nevertheless. The water supply of the city, derived

from the mountain springs at Gorze, was turned off for an entire day and the reservoirs were thoroughly cleaned. Water for animals was brought in carts from other sources, while the inhabitants quenched their thirst with beer and various bottled beverages.

**A Temperance Hospital for Chicago.**—A hospital, to cost $75,000, is to be erected in Chicago, the physicians of which must use no alcohol in their prescriptions. The hospital will be called the Frances E. Willard National Temperance Hospital. The three schools of practice—regular, homœopathic, and eclectic—will be represented on the medical staff.

**Exhibitions of Hypnotism Forbidden.**—The Prussian Minister of the Interior, in Berlin, has reissued the old decree forbidding public exhibitions of hypnotism on the ground that such proceedings are injurious to the subjects hypnotized.

**San Francisco's Chinatown Threatened.**—A report from Washington says that officials of the Public Health and Marine Hospital Service are in consultation with representatives of the business men of San Francisco in regard to a proposition to abolish Chinatown. It is believed that the seeds of plague are kept alive there, and the existence of the quarter thus presents a constant menace to the health of the city. The attempt to stamp out the disease there has been only partly successful, although the most rigid sanitary measures have been practised. Several months ago Mexico and Ecuador declared a quarantine against San Francisco, and the national conference of State board of health officials condemned the hygienic conditions of Chinatown and publicly deplored the danger of a spread of the plague to other States. It is believed by many of those most competent to judge that the situation cannot be permanently improved unless Chinatown is abolished.

**Sanitary Conditions at Ithaca.**—Dr. G. A. Soper, special consulting expert of the State Health Department in connection with the Ithaca typhoid epidemic, has resigned. Dr. Soper is reported as saying that typhoid fever would be stamped out at Ithaca if the local authorities would follow instructions, but they have not even appointed a health board to succeed the men who recently resigned.

**Yellow Fever in Tampico.**—A telegram from Mexico City states that the health authorities of Tampico are taking desperate measures to stamp out the yellow-fever epidemic there. They have just burned 200 residences which have been inhabited by yellow-fever patients. One would judge from this that they had never heard of the experiments of Major Walter Reed and his fellow members of the U. S. Army Commission in Cuba, or of the practical application of their demonstration by Colonal Gorgas in Havana. Dr. Salazar of the American Hospital at Tampico is reported to have died of yellow fever contracted while endeavoring to stay the epidemic.

**A New Cure for Hay-fever.**—Dr. F. R. Stowell of Worcester, Mass., recommends, in an article in the *New York Medical Journal and Philadelphia Medical Journal Consolidated*, the wearing of colored glasses for the relief of hay-fever. There is no question that this will afford some amelioration of the symptoms, but it is not a very novel expedient, for thousands of hay-fever sufferers always wear smoked glasses when out of doors in the sunlight. Their curative action is not very apparent at night, however.

**The Crusade against Tuberculosis.**—It is stated in the *British Medical Journal* that Signor Pietro Cartoni, a wealthy Italian landowner, who has lost two beloved children from consumption, has offered 1,000,000 lire for the erection, outside the walls of Rome, and the partial endowment of a great sanatorium for consumptives. Signor Cartoni has further announced his intention of bequeathing everything he possesses to further the prevention of consumption.

**Obituary Notes.**—Dr. Henry De Haven Cameron late Surgeon of Troop C, N. G. S. N. Y., died of pulmonary tuberculosis in Pony, Mont., on September 4. He was born in Brooklyn thirty-seven years ago and was a graduate of the College of Physicians and Surgeons, New York, in the class of 1889. For a time he was an interne in the New York and Chambers street Hospitals, and then was attached to the Methodist Episcopal Hospital in Brooklyn. He was one of the organizers of Troop C, in 1896, and was first appointed assistant surgeon. He went with Troop C to Porto Rico and performed the duties of surgeon during that campaign. When the troop was mustered out of the United States service he was promoted to be surgeon.

Dr. Joseph Schnetter died recently at Harrenalb, in the Black Forest of Würtemberg, Germany. Dr. Schnetter was one of the founders of the German Hospital and Dispensary of New York, and for forty years was an active practising physician in this city. He was eighty-two years of age. He was born at Gerolzhoven, Bavaria, and was graduated from the University of Wurzburg. He came to America in 1849, and settled in New York, where he soon became connected with many charitable institutions, among them being the German Hospital and Dispensary. In 1889 illness caused him to give up his practice.

Dr. William C. Barrett, dean of the Dental Department of the University of Buffalo, died recently at Nauheim, where he had gone for treatment of cardiac disease from which he had suffered for about a year. He was a graduate of the Medical Department of the University of Buffalo, in the class of 1880, and was a member of the American Medical Association, a former president of the Dental Society of the State of New York and a member of the American Microscopical Society.

Dr. Charles F. W. Myers, for thirty years a practising physician in Paterson, died in that city on September 1 from apoplexy. Dr. Meyers was a graduate of the Medical Department of Columbia University in 1874. He was a member of the Order of Military Surgeons of the United States, and was also on the brigade staff of New Jersey. He was invariably selected as grand marshal of the Republican Presidential parades in Paterson.

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**Treatment of Mammary Cancer.**—H. N. Chapman holds that all cases of mammary cancer should first be submitted to the *x*-ray, not for the treatment of the disease *per se*, but that the axillary glands may be put into as perfect a condition as possible, and when this has been done, the cancerous mass in the breast should be removed with the knife, but the axillary glands scrupuiously preserved as a defensive barrier. After the wound has healed the glands and breast should be again submitted to the *x*-rays. This conclusion has been arrived at after *x*-ray treatment and observation of four cases operated on by three of our leading surgeons. The axillary glands being removed in each case, and in each case the final result being disastrous. It is well worth while for this method to be tried, because usually the delay will not mean any serious consequences to the patient, and under the present method of operating first and using the *x*-rays afterward the results are extremely humilating.—*St. Louis Courier of Medicine.*

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

LORD SALISBURY'S ILLNESS—IRISH MEDICAL MATTERS IN PARLIAMENT—ALCOHOL—NOTES—OBITUARY.

LONDON, August 21, 1903.

LORD SALISBURY'S illness has been the topic of the week. As I write he seems to be *in extremis*. Last night his condition was admitted to be hopeless. At one moment it was thought he had breathed his last, but to the surprise of his watching relatives he rallied again. This attack is one of those which are apt to occur in the course of Bright's disease when the circulation often seems about to fail. Two or three days ago the distinguished patient seemed as if he might once more pass through the crisis of feeble circulation and nerve prostration. But his seventy-three years of strenuous work must naturally be reckoned with, and any of such intercurrent attacks in the course of a chronic enfeebling disease must be dangerous and likely to prove fatal.

Irish medical grievances managed to secure some notice in the House of Commons before the prorogation. Thus, in reply to Dr. E. C. Thompson, M.P., for N. Monaghan, who asked why no notice had been taken of the remonstrances of the medical officers, the chief secretary had to promise that any report the poor law medical officers might make in writing as to their alleged grievances should be considered. Mr. Wyndham also stated in reply to the same member that every application for increase of salary receives the careful consideration of the Local Government Board, and in case of refusal to sanction the increase the reasons are communicated to the guardians concerned. Nevertheless, Dr. Thompson evidently did not regard the statement as satisfactory, for he had referred to several recent instances in which the Government Board refused to sanction increases granted to dispensary officers by the local authorities concerned.

Dr. Thompson asked further why Dr. McCarthy, who lately resigned a temporary appointment, had been threatened with an inquiry as to the cause of his resignation and told that if not satisfactory he would be prohibited from future employment. Mr. Wyndham said Dr. McCarthy refused to enter upon the duties of the office after the approval of the Local Government Board had been obtained, and the guardians were accordingly directed to call upon him to do so, and, in the event of continued refusal, an inquiry would be held with a view to his removal by sealed order. From this reply it is plain that Dr. Thompson's question was justified and that the Local Government Board is addicted to very despotic methods. Dr. Thompson afterward invited attention to a circular respecting consultations on members of the constabulary when the chief secretary said the rule in no way prevented sick members of the force from employing medical men of their own choice, but only the appointed officers could be paid out of public funds.

It would be remarkable if many complaints could be made from Ireland without the introduction of sectarian differences. So it was not surprising that on the vote for the Local Government Board an honorable member took occasion to state the case of the nuns who formerly nursed the Granard Union Hospital, but who had been replaced by lay nurses at great expense to the ratepayers. Friction, he declared, was brought about by the medical officer's adverse reports on the work of the nuns. These latter bore with such insults until their position became intolerable. An inspector was sent down and patched up a peace, and the Local Government Board was to blame for not adhering to that arrangement and not censuring those who ought to be censured. The bishop, finding there was no redress for his nuns, withdrew them. Mr. Wyndham said no reflection was cast upon the nuns, whose services were most acceptable, but they did not care to perform, and ought not to be asked to perform, some hospital duties, and, therefore, it was essential they should have the assistance of trained nurses. Dr. Kenny had expressed regret for the manner in which some of his dissatisfaction had been stated, but it was necessary to point out defects, and there was no reason why the nuns should not resume their work.

Mr. T. M. Healy treated the House to his view of medical questions. His sympathy, he said, was altogether with the ratepayers. Every fad of a medical man—the discovery of a new disease or a new cure—was sure to be supported by the Irish Government Board. He did not read of those diseases and cures either in Shakespeare or the Bible, though people in those days were as healthy as those of to-day with a government board to look after them. If medical fads were to be carried out let it be at the cost of Imperial faddists, not local ratepayers. In a small union hospital they could not expect the environment of Guys or St. Thomas's Hospital.

All this parliamentary talk arising from a difference between nuns and lay nurses is very Irish. Sectarian prejudices penetrate where you might not expect them. A councillor of one of the royal colleges once confided to me that he could not trust a brother councillor to vote as he had promised, and when I asked why he simply said "sure, I wouldn't believe one of his faith."

Irish poor law medical officers have at present nothing to thank Mr. Wyndham for. On a previous occasion, questioned as to their grievances and the difficulty of filling vacancies, he admitted they had very hard work for salaries which were "not high," but added that "their claims would be more deserving of recognition if they waited for the report of the vice-regal commission" instead of adopting the plan of the Irish Medical Association, which is to refuse dispensary appointments at less than £200 per annum. Yet, not long ago, he said these very grievances were beyond the scope of that commission. I hope his great parliamentary success has not impaired his memory. Perhaps he has accepted without thought the answers prepared for him by the official staff—a practice likely to lead to contradictory statements. While devoting millions to pacify political agitators he might spare a few hundreds for the starved medical service.

Dr. Roberts has been taken to task for his rather loose quotation of the international manifesto on alcohol. In his address he referred to the signatories for "some of whom" he professed the greatest respect as persons "who absolutely and entirely object to the use of alcohol in any circumstances." Now the manifesto in question refers only to alcohol as a beverage and says nothing about its use as a medicine. We have here, as you know, a medical temperance association, but its members do not absolutely abjure the use of alcohol as a drug. It would have been more prudent of Dr. Roberts to verify his reference before making his criticism.

This subject of alcohol came up on other occasions at Swansea. In the Section on Psychological Medicine there was a notable discussion about its relation to mental disease opened by Dr. Hyslop, Medical Superintendent of Bethlem Hospital. He held that it did more harm than good in the body, and that in weakly, especially neurotic persons, it might be compared to a loan at heavy interest. It produced a deceptive feeling of well-being, but lowered mental capacity and energy while producing confusion of ideas. The muscular overaction under its influence was the result of stimulation of the motor areas and diminished power of the inhibitory cortical centers. It increased the exudation of lymph and leucocytes from the cerebral vessels into the surrounding tissues. Referring to the morbid changes induced in the brain, he traced their relation with the clinical and psychological symptoms of alcoholism. He thought that alcohol *per se* did not cause general paralysis of the insane.

Dr. Archdall Reid followed with a paper on "Human Evolution in Relation to Alcohol." He laid down a series of sixteen propositions which he considered undeniable, more or less, for he had to admit that some of them would be disputed, while the conclusion to which they led him had been strongly denied. He has for a long time advocated views which are more or less in opposition to the opinions generally entertained, particularly as to the effect of alcohol on the race. He has no fear of its causing degeneration or extinction of races, for he holds that those which have indulged in it over the longest periods are now the most temperate people on earth, and in support of this instances Jews, Greeks, Italians, and other Southern Europeans as less drunken than the peoples of Northern Europe, while some savages with little or no experience of the poison are the most drunken of all. He repudiates the prevalent opinion that parental intemperance affects offspring subsequently born, and says that if true it would be an exception to an apparently universal law. The statistics which have been published in support of the general view he puts aside as compiled by those who believe they are supporting an indisputable fact—a large part of them further compiled before exact observations on heredity had been made.

There was quite a long discussion on these two papers, in which, as you will suppose, many of the speakers criticised the propositions put forth by Dr. Reid, more especially those which directly contravene prevalent opinions.

The bioscope is being shown extensively at places of entertainment. At one the circulation in a frog's foot is being shown on the screen. The mites in a piece of cheese are exhibited crawling about magnified to look like small crabs. The sap coursing through the veins of the water weed. The dart of a chameleon's tongue and other living pictures—the most attractive being perhaps the work of the bees in a hive.

Dr. A. Castellani of the Uganda Malaria Commission and who found the organism in the spinal fluid of patients with sleeping sickness—a discovery which is receiving more attention just now—has been appointed by the Government of Ceylon to a professorship of pathology and bacteriology.

Smallpox is diminishing in the north and also at Cambridge.

Dr. Ivor Murray, who died on the 24th ult., aged seventy nine years, had seen much practice in China, where he built a hospital in 1852. On the outbreak of the Crimean War he sailed for Sebastopol and was appointed to the Balaclava Hospital. Later he served as Colonial Surgeon at Hongkong. From 1875 to 1900 he practised at Scarborough. On retiring he took up his residence in London, where he died.

Dr. Wm. A. Henderson, who also served in China for more than twenty years, died on the 28th ult., aged fifty-seven years, at Florence, to which he had retired in broken health. He had made a special study of psilosis, from which he had himself suffered.

Dr. Meller, formerly M.O.H. for Carisbrooke, died on the 1st inst., aged eighty-three years.

Dr. Weaver, who also died on the 1st inst., aged seventy-one years, had served in the navy during the Crimean War. Subsequently he had been M.O.H. for Longton, where he practised for some twenty years and afterward retired to Southport, where his son is now M.O.H.

A sad accident was the cause of death of Dr. J. Riley Greenway at the Tunbridge Wells Hospital. He was waiting at the station and as a slow train passed was seen to fall backward between that and the platform. He was greatly injured; the skull being fractured was the cause of death. He had been in ill health for some time and suffered from occasional giddiness, which was doubtless the cause of his falling. He was sixty-seven years of age and had retired for some time.

## LETTER FROM CONSTANTINOPLE.

(From Our Special Correspondent.)

DECREASING DEATH RATE—THE AMERICAN MEDICAL SCHOOL AT BEYROUT—A NEW MEDICAL SCHOOL AT DAMASCUS—LEPROSY—IRREGULAR QUARANTINE AGAINST PLAGUE—THE HAMADIEH HOSPITAL—THE THERMAL SPRINGS OF ASIATIC TURKEY.

CONSTANTINOPLE, July 31, 1903.

THIS season has been remarkable for its variations of temperature; but that these variations have been within healthy limits may be inferred from the statistics of diseases and deaths, which have been, so far, under the average.

The prevailing malady of the early summer season has been German measles, characterized by glandular complications. Some cases of smallpox, which disease, for practical purposes, may be considered a mildly endemic condition; and a slight increase of typhoid cases.

The scares of cholera and plague during the past three years gave an undue stimulus to sanitation; undue in the sense that the measures adopted to keep out these plagues had little relation to the external conditions of the population. The external conditions of quarantine were, to a certain degree, favorably reflected internally, and doubtless produced good results, as in spite of much accumulated dirt and municipal neglect of the various "Imperial Iradés," the death rate is gradually diminishing.

It may be feared that in proportion to the diminution of disease the municipal health authorities may diminish their energies. The Imperial Society of Medicine, after an ordinary session, is now *en vacance* until autumn. Doctors and patients who can afford the luxury have betaken themselves to the various summer resorts of the Bosphorus and islands, or to the baths of Broussa and Yalova.

The American Faculty of Medicine of Beyrout has succeeded in obtaining a like privilege to that of the French Faculty, viz., that instead of the students being obliged to come to Constantinople for their graduation examination, representatives of the Imperial Faculty of Medicine will join the American examining body at Beyrout. The examiners for the first examination were Drs. Mahmuud Hakki Pacha, Hairaddin Pacha, and Rifaat Husammedin Bey, who have finished their task and returned to the capital. They report favorably on the results of their labors.

Another faculty of medicine has been ordered by imperial "iradé" to be created at Damascus. The "iradé" grants a credit of one million piastres for the building of the structures and another million for other expenses of the faculty. Meanwhile a large "conak" will be hired and a sum of twenty thousand piastres yearly is allowed for this purpose. The taxes on slaughter houses are assigned to the support of this faculty, as follows: oxen, 5 pias; calves, 3 pias; sheep, 1 pia; goats, 30 paras, and lambs, 8 paras. A further announcement is made that a concours will take place at the Imperial School of Medicine for the three chairs at the Damascus Faculty: (1) Physics, 1,200 pias per month; (2) Geology, 300 pias; (3) Chemistry, 1,200 pias. The Professor of Physics will also take the geological course and exercise the functions of Director of Studies, with a supplementary pay of 1,000 pias per month. All this sounds very good and nice!

An association has been formed against consumption, which also sounds good and nice!

Dr. Zambaco Pacha, who is a well-known and distinguished writer and authority on leprosy, is a strong non-contagionist. Some six years ago, when the question was discussed at the medical society, Dr. Zambaco asked that a commission should be named by the Imperial School of Medicine for the study of the transmission of leprosy at Constantinople. The commission, it is said, after numerous researches, was not able to advance a single fact in favor of contagion. The commission, however, not having yet presented its official report, the learned Pacha, truly considering the question of importance to science and humanity, has again brought forward the subject. Zambaco Pacha's opinions are too well known to need repetition here, and are entitled to careful consideration, as few have had more opportunities of studying the disease in different countries of the East and Europe, and among varied races. He now challenges the opinions and so-called proofs of the contagionists in a series of questions, he, himself, stating: "*Quant à moi, je répète partout et toujours; je ne cesse de m'enquérir méticuleusement auprès des nombreux lépreux qui continuent à venir à moi et que j'adresse aussi à d'autres confrères avec prière de les étudier, et je n'ai jamais eu la chance de tomber sur un examp le de contagion qui me fît plier devant l'éclatante vérité.*"

This clear statement of Zambaco Pacha is apparently intended to apply to Turkey, as he admits that, possibly, leprosy does not everywhere comport itself in the same way. Although a small leper house exists near Scutari, on the Asiatic side of the Bosphorus, it appears to have only a few stationary families from the interior provinces, who are not much restricted. But as Dr. Zambaco observes, it is quite notorious that Constantinople, as other capitals, contains numerous lepers living in their families in the midst of society, circulating everywhere and following various trades and professions; fish and fruit merchants, boatmen, silk merchants, domestics, even school teachers, without prophylactic measures. In the winter session of the medical society an interesting and useful discussion on the subject may be forthcoming should the medical body of Constantinople respond to Dr. Zambaco's invitation in the sense he asks.

Quarantine against Syria and Egypt is still in force—being somewhat spasmodically relaxed or increased, according as an extra case of cholera or plague occurs. As these conditions of quarantine may continue in indefinitely, those interested are asking if it would not be well to recognize that plague is endemic in these places, and establish a reasonable and steady period of quarantine observation and precaution in place of the shifting and changing proceedings now practised which satisfies none and disturbs all? At the present time it is somewhat more stringent, as the reports from Syria state an increase of cholera at Devi Ali, four hours from Damascus, though there is, as yet, little indication, if any, of the seacoast villages of Syria being infected.

His Majesty, the Sultan, has decided that four new pavilions shall be constructed as the "Hamadieh" hospital for electrotherapeutic purposes. What is the "Hamadieh" Hospital? It is the show hospital of Constantinople, and a first rate show it is in a city where nationalities, great and small, "go in" for hospitals, which for size and cost are out of proportion to the requirements of their communities, *i. e.* their poor.

Of thermal springs Asiatic Turkey possesses many, the most celebrated are those of Broussa, Courej-Yalova and Mitylene. The two former enjoy a high reputation, and each has a past history. They, also, are within easy distance of the capital. The springs of Courej-Yalova date from antiquity, when they enjoyed high reputations for therapeutical value, and, old chroniclers record, were the seat of an oracle. Several tables in marble have been found near the principle sources of the baths, *ex votos*, dedicated by the sick cured of their diseases and an inscription in the Doric dialect containing the regulations for the sacrifices offered through the intermediation of the Asklapithytai or the priests of Æsculapius. It is ascertained from these monuments that the thermal springs were under the special protection of Hercules, and that there was a sanctuary of Æsculapius and of three nymphs (a nympheon). To this day there exists a little town

in the locality "Eregli" (*i.e.* Hercules) associated with a legend of the Argonauts.

These monuments and legends, dating from Greek and Roman sources, prove that these thermal springs enjoyed a well-established reputation. With the establishment of the Empire at Byzantium by Constantina the Great the old Pagan gods disappeared, the oracle ceased to work, and the *ex-votos* became sunk under ground near the springs. Constantine himself had recourse toward the end of his life to these baths, and it is gathered from contemporaneous sources that these hot springs (of Pythiæ) occupied an important hygienic place, as in 529 A.D. the Empress Theodora, wife of Justinian the First, went there accompanied by a suite of 4,000 persons. This alone will give an idea of the importance of the springs.

The decadence of these baths (of Pythia?) began under the Macedonian dynasty (ninth and tenth century). The provinces became battle-fields and were devastated for the next three centuries. Baths then became too much of a luxury, and those of Yalova disappeared from the history of the times until lately revived. The late Dr. Julius Millingen, a physician of reputation in the service of the Ottoman Government, found the "Valida Sultana" (*i e.* mother of the Sultan) suffering from some malady as history attributed to the Empress Helena, who apparently had undergone the "cure." Dr. Millingen sought for and found, the forgotten hot springs, and advised the Sultana to take the treatment. She recovered her health. Yalova then came into vogue more or less, and became a fashionable watering place for the Turks of Constantinople and the surrounding districts. Thus far the historical record elucidated by various local authorities.

At the present time Yalova is likely to become a real health resort for all classes, inasmuch as the baths and estates attached to them are now the property of the Civil list, have been placed under the skilled management of M. and Mme. Brauzeau. These springs are about four hours distance from Constantinople—by steamer and carriage. The waters have a temperature of 64.5 C. to 68 C., are sulphurous, and are compared favorably with well-known spas of Europe, as Teplitz (Bohemia), Gastein (Austria), Plombières (France), and Wildbad (Wurtemberg). The people of the country state that the temperature of the waters is the same at all times of the year or seasons.

## OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

SURRA—MODE OF INFECTION WITH THE TRYPANOSOME—SURRA IN RATS AND OTHER ANIMALS—SYMPTOMS OF SURRA — RINDERPEST — PREVENTIVE INOCULATION AGAINST RINDERPEST—CATTLE PEST—A CATTLE QUARANTINE STATION.

MANILA, July 18, 1903.

MUCH of the attention of the Board of Health is now being given to the question of animal diseases. The Bureau of Government Laboratories for the Philippines has just issued a bulletin relative to the occurrence of trypanosomiasis, or "surra," in the horses of the islands. The bulletin takes the form of a preliminary report on the subject written by Drs. W. E. Musgrave and N. E. Williamson, who has been engaged in work on surra for some months. The disease was first recognized as occurring in the Philippine Islands late in 1901 by Smith and Kinyoun, and described by them at that time. Since then several papers have appeared on the subject. Drs. Musgrave and Williamson are inclined to the belief that surra had not previously existed in the Philippines prior to May or June, 1901, nor that it was imported from China, as it is not known to exist in that country. From a study of the animals brought to the islands at about that time, they come to the conclusion that the infection was probably introduced by the wild animals brought with a circus from Singapore, though the disease first appeared among a lot of race horses imported from Australia. From these, the spread of disease was rapid. While no record of the native stock killed by the disease is, of course, obtainable, the records of the army show that in the two years, 1901–1902, there died from diseases in the military service, largely from surra, 5,787 public animals. The writers estimate that the introduction of surra into the islands has resulted in a money loss of not less than $2,000,000.

The bulletin states that so far as direct evidence goes, surra is a wound disease, and the infectious agent must be brought into contact with a wounded surface of the skin or mucous membrane. This belief has long been entertained elsewhere, and has been confirmed by the work here. Biting flies are chiefly the carriers of the infection, but do not seem to be able to carry the infection more than two days after feeding on infected blood. This mode of transmittal seems to be mechanical and the fly does not act as the intermediate host of the parasite. All biting flies and insects are dangerous, and the common house fly, which does not bite, may carry the parasite to an abrasion or wound on an uninfected animal. A number of rats taken in Manila have been found to harbor the surra parasite, and may, very possibly transmit the disease to horses through the agency of infected fleas, while there is a common belief that the disease is carried by food and water, yet the observers have never been able to induce it by feeding hay contaminated with surra blood, unless the mucosa of the mouth were wounded, in which case the disease developed promptly. Surra may be mechanically transmitted by the use of bits, harness, currycombs, etc., from infected animals.

The writers state that certain animals may harbor the surra parasite for long periods and thus maintain the infection, particularly certain wild animals, camels and bovines. Horses and mules die within a few days or weeks aftre being infected, and so far as known, no case of recovery in these animals is recorded. The disease is uniformly fatal among them, and for this reason the writers claim that there is nothing to gain and much to lose by postponing the destruction of such infected animals.

They state that the rats, which are already infected, and the wild animals of the islands, which soon will be infected, if they are not already so, must be taken into consideration in any measures looking to stamping out surra, and the problem of getting rid of the disease is thus made more difficult. The experiments of the writers show that the surra parasite quickly dies on grass, and hay and in water, and that the disease occurs as frequently among American horses fed of food brought from the United States as in the grass-fed Filipino ponies. While the disease occurs most commonly in marshy, damp districts, an infected animal taken to a new place becomes a focus for the spread of the disease if biting flies are present, whether the locality is marshy or dry. The biting flies, however, seem largely to require moisture for their development, and are much more common during the rainy season. The writers state their belief that if it were possible to destroy every infected animal and protect the remaining ones from infected flies for forty-eight hours, there would never be another case of surra in the country unless the infection was again introduced from outside.

The early symptoms of surra are thirst, dejection, and a remittent fever. There is anæmia, shown by pallor of the mucous membranes, which take on a pearly white or yellowish tinge. There is a catarrhal discharge from the nose and eyes, with swelling of the lymphatic glands about the jaws. Œdema is a later symptom, beginning in the hind legs or sheath and extending along the belly. The disease frequently ends by paralysis of the hind parts. It is impossible to make a diagnosis of the disease in its early stages, except by the use of the microscope.

To prevent the introduction and spread of the disease, the writers urge the exclusion of all animals coming from an infected port, or, at least, an extended quarantine. Circus animals and menageries should be prohibited entrance. Early diagnosis is essential, and an animal found to be affected should be at once killed and sent to the crematory in a fly-proof wagon, or, if this is not practicable, the body should be protected against flies by a coating of earth or by being covered with a mosquito bar for twenty-four hours. Stables should be kept dark and thoroughly clean, and occasionally washed down with some strong-smelling disinfectant. In the surra season all cases of fever should be at once isolated pending diagnosis. The allowing of horses to congregate in large numbers, as at public cab stands, should be prevented.

Rinderpest is also causing much destruction among the bovines, and the work of protective inoculation against this disease of the thousands of carabao being purchased by the Philippine Government to restock these depleted islands is now being vigorously carried on at Shanghai. This disease has detroyed about four-fifths of the carabao formerly in the islands, and the present work of restocking would be unavailing unless the animals imported had been previously immunized against rinderpest. The carabao are being supplied by private contractors to the government, but the work of preparation of serum and inoculation is carried on under the charge of a government expert.

The method of inoculation is simple. After the animal is placed in bamboo stocks to prevent resistance, 1 c.c. of virulent blood from a diseased animal and 30 c.c. of serum from an immune animal are injected into the subcutaneous tissue of the chest well behind the forelegs. The battle for supremacy begins in a few minutes, the ultimate outcome depending to a great extent on the vital resistance of the animal, which soon sickens with a modified attack of rinderpest. In the Shanghai yards about 10 to 15 per cent. have succumbed after inoculation, which is a pro-

portion about twice as great as obtains among animals inoculated in the Philippines, and this loss the contractors have had to take into account in making their bids. Recently they have made arrangements to have the serum sent from here. The Shanghai yards are divided into a number of pens, from one to another, of which the cattle are moved according to the stage of the disease. Those presenting a severe form of rinderpest are placed in a covered yard, holding as many as 500 head. Great pains are taken to destroy all refuse by fire, keep the premises properly disinfected and in a state of scrupulous cleanliness. As the animals convalesce, they are removed to other yards, according to the degree of recovery, and finally, after they recover their appetite and begin to take on the flesh lost during the two weeks required for immunization, they are ready for shipment to the Philippines.

The government authorities hope that through careful inoculation, perseverance, and proper selection a breed of carabao may ultimately be developed which may possess a relative resistance to rinderpest, and thus do away with a disease which perhaps more than any other one thing stands in the way of the commercial and industrial advancement of the islands.

The first method of preventive inoculation against rinderpest used here was that of injecting the bile of an animal dead with rinderpest, 10 c. c. of such bile mixed with 20 c.c. of glycerin being used for this injection. This method, however, while of some value, nevertheless presented an unduly high mortality. The immunizing serum, which is now employed with such excellent results, is made by injecting the animal with 1 c.c. of virulent blood from a sick animal and 30 c.c. of immunizing serum. After the animal has recovered from the disease so produced and has regained a normal temperature, 20 c.c. of virulent blood are injected, which induces another febrile movement. After the temperature has returned to normal a still larger injection of virulent blood is made, until the animal is able to receive an injection of 1,500 c.c. of virulent blood without rise of temperature. It is then ready for bleeding in the production of immunizing serum, and will furnish prophylactic serum sufficient for the immunization of some eighty animals. In the preparation of this serum it is necessary to have a constant supply of animals sick with rinderpest from which virulent blood can be obtained, and a succession of susceptible animals for its production.

The Board of Health has lately drafted a comprehensive law for the prevention of rinderpest in these islands, the provisions of which, if properly carried out, should ultimately exterminate the disease in the archipelago. This proposed law is now before the commission for its legislative action and will undoubtedly meet with its approval.

As if the presence of rinderpest and surra were not enough of an industrial calamity, a number of the carabao already imported by the government from Shanghai have developed "cattle pest," which in its pathological changes and specific germ closely resembles those of bubonic plague. The microorganism is, however, somewhat larger. The disease has appeared here in a variety of forms, but is apparently identical with the uniformly fatal "cattle septicæmia" which has from time to time occurred in parts of the United States, notably in Minnesota. The disease has heretofore been unknown in these islands, and fortunately the cases were detected before the animals had been removed from quarantine, so that it is not likely that a foothold has been gained here. All the carabao affected have died, and all those brought into contact with the sick animals have contracted the disease. The symptoms are slight fever, hemorrhages into all the organs, paralysis of the hindquarters, and in some cases sudden death in an apparently healthy animal. A number of the cases here have presented a septicæmic form of a more chronic nature, characterized by the development of numerous abscesses occurring particularly in the flanks and about the joints. After the onset of the disease, the animals appear for a few days to be on the road to recovery, but a subsequent relapse carries them off after an illness of a week or ten days. The method of combating the disease, so far, has been to stake out all animals so that there can be no communication between them. As soon as the disease develops, the animal is killed and the body cremated. The site where the animal was tied is then covered with hay wet with kerosene oil, and the whole burned, and the ground is then drenched with strong carbolic-acid solution. Wallows used for mud baths by carabao developing the disease are disinfected with carbolic acid, and their further use abandoned. The health authorities deserve much credit for so promptly recognizing the nature of this new disease, and taking the proper preventive measures before it had a chance to spread. So far as known, treatment is unavailing in this disease, and to have had it added to the other animal diseases here would have been a severe blow to the industries of the islands.

In view of the early importation of thousands of carabao, many of whom are liable to have this or another infectious disease, the immediate establishment of a proper cattle quarantine station is urgently required. A site has already been selected, and pending the erection of the necessary buildings and fences, the cattle will be quarantined under the guard of native constabulary. The Board of Health is alive to the necessity for thorough and prompt action, and with a quarantine station here and one at the point of embarkation in Shanghai the immunization of carabao against rinderpest, the disinfection of every ship bringing cattle, and the broadcast dissemination of knowledge relative to the nature and measures of prevention against surra, it seems to have done about all in its power in the matter of preventing disease in live stock.

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# Progress of Medical Science.

*Boston Medical and Surgical Journal, September 3, 1903.*

**The Resistance of Tissues as a Factor in the Manual Reduction of Congenital Hip Dislocation.**—E. H. Bradford presents a study of the obstacles to the reduction of a congenitally luxated hip, the chief of which are in the soft parts, and summarizes the results of this study as follows: (1) The resistance offered by the capsule to the correction of congenitally dislocated hips is not more important than that offered by the muscles. (2) The chief resistance to forcible abduction is from the strong tendon of the abductor magnus. (3) The resistance to pulling down the head comes from the hamstring group and the long tendon of the abductor magnus and iliotibial band. (4) These resistant tissues can be overcome by small incisions at a distance from the hip. (5) In the lighter cases manual manipulative reduction is sufficient. (6) In resistant cases, mechanical force which pulls upon and abducts the limb, arranged so as to also directly act upon the capsule, is of assistance. (7) Where the tendon of the abductor magnus is so strong that an immoderate amount of force is needed in stretching, it would seem advisable to divide the chief resisting tissues rather than to incur the danger of severely bruising the tissues by the force used. The division of the tendon can be done either before the operation of forcible correction or at the same time.

*Journal of the American Medical Association, Sept. 5, 1903.*

**Neuroglia Tissue and Ependymal Epithelium in Teratoid Tumors.**—Henry A. Christian says that neuroglia tissue is a common constituent of teratoid tumors, its structure in them being very varied, simulating many known forms. Neuroglia is more intimately associated with mesoblastic tissues in teratoid tumors than elsewhere. In such tumors occur isolated fibers and groups of fibers which stain like neuroglia, but whose nature can not be determined by staining reactions of Mallory, Huber, and Benda, since these methods may stain other than neuroglia fibers. In many cells of these tumors occur small dots or groups of dots which have similar staining reactions to neuroglia fibers, and the presence of these dots in cells, though not absolutely diagnostic, may be considered as evidence in favor of the ependymal origin of the cells in which they occur.

**Hæmoglobinuric Fever.**—Walter Shropshire has obtained reports of cases of blackwater fever from forty-one physicians of southern and eastern Texas and Louisiana, and from a study of the 173 cases reported by them and of 29 cases observed by himself concludes that the affection is of undoubted malarial nature. In proof of this he offers the following: (1) This disease always occurs in persons suffering repeated attacks of malaria (this was so in every case reported). (2) It nearly always follows one or more mild paroxysms of malaria at the proper time for its next exacerbation (there was but one exception to this reported). (3) It has all the characteristics of malaria, viz., chill, fever, and sweat. (4) When adequate examination of blood is made, the hæmatozoa of malaria are found. (5) Its habitat, that of most violently malarious districts, is sufficient to establish malaria as a causative agent, if not the only one. The only other cause alleged by a sufficient number of authorities to merit consideration is quinine. As a result of his studies the author finds the evidence against this drug as a causative agent very strong. He summarizes the evidence for and against quinine as follows: Of the physicians reporting, 29.4 per cent. affirm it. When quinine was suspended in treatment, 73.8 per cent. recovered. Distinct recurrences of attacks after the first appearance of blackwater in non-quininized

patients, 9.8 per cent. Per cent. of cases occurring from quinine alone, 0. Per cent. of cases in which quinine was thought to aggravate, 5.9. Of the physicians reporting, 70.59 per cent. deny it. When quinine was administered 83.1 per cent. recovered. Distinct recurrences of attacks after the first appearance of blackwater in quininized patients, 4.4 per cent. Per cent. of cases occurring from malaria without quinine, 15. Per cent. of cases in which quinine was thought not to aggravate, 55.4. Being a believer in the curative and not the causative action of quinine in hæmoglobinuria, the writer urges the administration of quinine in daily doses of 40 grains, administered hypodermically or intravenously, until the next period for an exacerbation is safely passed, and continued in half that dose until the second expected exacerbation is safely passed, when it should be discontinued for three or four days, and repeated in 20 to 30-grain doses every four to six days till five or six weeks have passed without a paroxysm.

*Medical News, September* 5, 1903.

**Puerperal Insanity.**—J. W. Palmer divides puerperal insanity into the conventional classes of (1) insanity of pregnancy, which is usually melancholia; (2) puerperal insanity proper, which comes on in a limited period after delivery and is usually in the form of mania, and (3) insanity of lactation, which is mostly melancholia. The first is the least frequent of all. Under each heading are considered causes, etiology, prognosis, and treatment. The paper is a good consideration of the subject from a clinical standpoint, but offers nothing new.

**Perineal Prostatectomy Without Opening Urethra or Bladder.**—The patient of J. R. Eastman was sixty-nine years old, presenting the usual symptoms of enlarged prostate. The gland was exposed by an inverted Y incision and the capsule split transversely. The gland was removed mostly by being shelled out, but partly by morcellement, and this being accomplished without opening the posterior uretha. It was not deemed safe to permit the bladder contents to escape through the perineal wound, and it was hoped that the obstruction was entirely removed, since by sweeping the convexity of the curve of a large sound across the mucosa of the bladder floor, and following it with the index-finger in the perineal wound, it could readily be determined that the floor of the prostatic urethra and bladder were quite thin. It was subsequently proven, however, that the obstruction was not removed. The residual urine was decreased in amount, but at least three ounces remained. The other symptoms were in nowise improved. After three weeks the perineal wound, which had not yet closed, was re-entered and the posterior urethra opened. On passing the finger through the latter incision, a thin stricture-like obstruction was met at the orifice which raised the bladder outlet at least a half an inch above the level of the bladder floor. The stricture-like obstruction was cut down by galvanocautery division of the urethral floor. This was done with the instrument devised and used by Dr. Wishard of Indianapolis for cauterization of the prostatic collar through a perineal incision. A large perineal drain was left in for ten days. After its removal the wound rapidly closed and dilatation of the posterior was regularly done. Results were most satisfactory.

*New York Medical Journal, September* 5, 1903.

**A Case of Atropine Poisoning.**—C. B. Cortright reports the case of a boy, eight and a half years old, who swallowed two grains of atropine sulphate. When seen twenty-five minutes later, he had a scarlet rash over the face, chest, and abdomen, dilated pupils, very rapid pulse, rapid and deep respiration, dry skin, fibrillary twitching of the skeletal muscles; he was profoundly unconscious; there were slight spasms around mouth and tongue. Morphine sulphate, ¼ gr., was given, and the stomach was washed out with saline infusion at 110° F., until the fluid returned clear. High saline enemata of four pints each, at 110° F., were given every two hours, the amount being gradually diminished, because the enemata were expelled. Two drachms of magnesium sulphate were added to each enema. He was catheterized and given strychnine sulphate $\frac{1}{100}$ of a grain, every three hours, and was surrounded with hot blankets and hot water cans. Iced compresses were applied to the head. The last dose of strychnine was given ten hours after the atropine had been swallowed, and the last saline enema was given fourteen hours after the ingestion of the poison. The boy recovered.

**The Adams-Stokes Syndrome.**—Peter Bassoe reports at length a case of this affection, from a study of which and of other cases recently reported by Luce, he comes to the conclusion that this symptom-complex is not a clinical entity. It may supervene in various diseases involving the heart, vagus nerves, or medulla oblongata, and is especially likely to occur when the upper part of the ventricular septum is diseased. Arteriosclerosis is not essential to its occurrence. Its presence in the case reported, in which there was a localized lesion of the intramedullary portion of the accessory nerve, lends support to the hypothesis that the inhibitory fibers of the heart are derived from this nerve. A lesion of the intraventricular septum may produce bilateral degeneration of the extramedullary cadiac fibers of the vagus nerves. The muscular origin of bradycardia is proved by the fact of the occurrence of slow heart in a case with bilateral vagus degeneration, since then the inhibitory influence of the vagi must be absent. The fundamental feature of the Stokes-Adams syndrome is the bradycardia, for the nervous symptoms vary greatly, according to the degree of susceptibility of the nervous centers to the circulatory disturbances resulting from the bradycardia.

**The Operative Treatment of Tuberculous Glands of the Neck.**—J. G. Sheldon says that his treatment of this condition to-day differs radically from that employed by him a few years ago. Then he was satisfied with curetting in certain cases, and in others with removal of all the palpable glands. Now his operations for tuberculous glands of the neck consist of thorough cleaning out of the diseased areas. The glands, fat, infected fascia, and, in fact, everything except important vessels and nerves are removed. If only a portion of one triangle is invaded by the disease, the entire space is thoroughly dissected; if the region anterior to the sternocleidomastoid is involved, a dissection is made from the styloid process to the sternum; if the posterior triangle is diseased, a dissection is made from the mastoid to the subclavian vein. His experience has been that usually a dissection of the entire region of the neck on the affected side has been necessary to secure a permanent result. He has had three cases in which he deemed it advisable to dissect the submaxillary triangle only; the result was satisfactory in each case. He has had three or four other cases in which he thought dissection of the submaxillary triangle with removal of one or two enlarged glands in the region of the internal jugular was sufficient; recurrences invariably followed these incomplete operations.

*American Medicine, September* 5, 1903.

**The Abuse of Inflation and Massage of the Middle Ear.**—Emil Amberg utters a caution against the indiscriminate employment of inflation and massage in otitis media. Three suggestions are made as to treatment of non-inflammatory processes in this region: (1) The use of the Siegle pneumatic ear speculum, especially for diagnostic purposes, is an absolute necessity. (2) Treatment should continuously be controlled by hearing tests. (3) Local treatment of an injurious nature should absolutely be desisted from. In cases in which the membrane is relaxed from ankylosis of the ossicles, the use of the pressure sound is indicated. Amberg thinks that there may be a possibility that massage carries with it a certain danger to hearing, by causing a flabby membrane and, perhaps, loosening the joints between the ossicles.

**The Significance of the Convulsion in Idiopathic Epilepsy.**—J. W. Whitney advances the theory that the convulsive seizure in epilepsy is a physiological process designed for the patient's relief, and that when adequate it rescues him from the overwhelming effects of an intoxicative that might otherwise result in death. It is analogous to vomiting as an effort of nature to relieve gastric irritation. According to this view, epilepsy is due to an autointoxication which becomes more and more intense and concentrated and finally bursts forth in a muscular explosion, *i. e.* the convulsion which is therefore a sort of safety valve. The explosive point is determined by the pathological condition of the cell, and the latter varies with the disease involvement present in the different sections of the motor area. On this theory, efforts to throttle the convulsion are harmful rather than beneficial. Bromides have often caused dementia and may provoke the very intoxication we strive to avoid. We have used the bromides, says the author, to beat the brain into insensibility. This is the epileptic cycle. A poison which irritates the vasomotor center; complete vasomotor spasm, cerebral nonoxygenation; unconsciousness: then comes universal convulsion; further increase of carbon dioxide; relaxation of vasomotor spasm; neutralization of poison; return to consciousness, and, after a period of rest, a feeling of bodily comfort unknown before the attack. This is the cycle when unhampered and unobstructed by vicious and irrational treatment.

*The Lancet, August* 29, 1903.

**Intussusception of the Vermiform Appendix.**—F. P. Connor describes the case of a boy nine years old, who a month before had received a blow on the abdomen. Symp-

toms of peritoneal trouble developed but gradually passed off. Over a month later they reappeared, and a diagnosis of intussusception was made. This was discovered, on abdominal incision, lying obliquely at the level of the umbilicus. Its greater bulk, consisting of ileum, was easily reduced till the cæcum was reached. A remaining mass was found to be a completely invaginated appendix, which was removed with the caput cæci. The bowels were opened by enema on the fourth day, and perfect recovery ensued. So far as the author knows, this is the first recorded case in which the appendix itself has formed the apex of the intussusception.

**A Case of Automatic Wandering Lasting Five Days.**—The patient of W. S. Colman was a temperate man, aged thirty-seven years and of a definite family history of neurotic affections. He had had one prolonged and several short attacks of the nature described. During the one under discussion he wandered away from home, and at the end of five and a half days found himself in a strange town in which he had never been before. His clothes were muddy, as if he had slept by the roadside, and his general condition suggested that he had been steadily tramping. Examination revealed no evidence of organic nervous disease, and no history of *petit mal*. He was in good health and anxious to resume his work, the nature of which is not stated. Several similar cases are referred to by the author, who calls attention to their manifest medicolegal importance. He notes that automatism after actual epileptic fits is well recognized by medical men, and even magistrates are less skeptical than they were about its possibility. It is well that it should be known that exactly similar attacks may occur not only after epileptic attacks, but even in those who have never suffered from actual fits. But it may be extremely difficult in any given case to decide whether a person is truthful in professing to be entirely oblivious of past actions on his part. He advises that such patients should always carry with them a card indicating their liability to such attacks and giving the names of two responsible persons who could be communicated with in the event of their being found wandering or getting into the hands of the police.

**A Note on the Etiology of Yellow Fever.**—The author, J. B. Tombleson, contracted the disease from a mosquito bite. He had a mild febrile attack lasting only two or three days, of the nature of which he was ignorant. Blood tests were made, and contained, among other germs, a short oval bacillus, almost coccoid in form. Some two weeks later he had a similar, though less severe, attack with similar findings in the blood. A month later he attended a fatal case of undoubted yellow fever, from the blood of which he isolated a bacillus similar in appearance to the one above described, and this time this special bacillus alone was found. Inoculation of cultures of the latter into various kinds of animals was followed by fatal attacks exactly resembling those of yellow fever. At the end of another month he himself was taken down with what turned out to be a modified attack of the same disease. In his blood the same bacillus was again found, the culture reactions of which are stated in full. Hence he resumes that the bacillus was found in his blood in two small febrile attacks; it was found in the blood of a typical fatal case of yellow fever; it was injected into and found capable of producing disease in a wild dog; it was injected into a monkey, producing a disease having the symptoms and typical ending of yellow fever; and it was found after death in the blood and tissues of the monkey in pure culture. It was inhaled by himself, and he, after an interval of eight or nine days, contracted yellow fever, cut short, as he believes, by the comparative immunity produced by the two mild attacks previously mentioned; his blood serum after recovery clumped a motile culture of the bacillus, and his blood, taken at the outset of the disease, contained the bacillus. He concludes that this chain of evidence goes far toward proving that this bacillus is the germ of yellow fever.

*The British Medical Journal, August* 29, 1903.

**The Relation of the Thymus Gland to Marasmus.**—John Ruhrâh gives a summary of the findings in eighty-five autopsies on the bodies of infants. The studies cover eighteen cases of marasmus. In these the average weight of the thymus gland was 2.2 grams, the normal weight of the gland at birth being 12 grams. With the exception of the seminal infection, the atrophy of the thymus gland was the only lesion found. Histologically, the fibrous capsule of the gland was thicker than normal, and the trabeculæ were also greatly thickened, the increased interlobular tissue frequently cutting the lobules up into irregular masses. Sometimes there was more fibrous tissue present than lymphoid structure. In most of the cases there was an increase in size and a hyaline degeneration of the Hassall bodies. The author concludes that atrophy of the thymus gland is always found in cases of infantile atrophy, and that the condition of the thymus is an index of the general nutrition of the infant. The state of the nutrition of infants, he says, may be estimated by a microscopical examination of the thymus. In those of normal infants the structure of the thymus is unaltered, and the differentiation between cortex and medulla is plainly visible. In moderate atrophy the cortex and medulla are not easily distinguished, while in severe atrophies the changes mentioned above are plainly seen.

**Congenital Dislocation of the Hip.**—F. F. Burghard discusses the treatment of this condition, formulating his conclusions as follows: (1) All cases should be checked by radiography, and no "cure" should be spoken of that is not a true anatomical cure. (2) All cases of congenital dislocation under fourteen years of age should be submitted to treatment; in the great majority improvement will result, while in some a true anatomical cure is brought about. (3) In all these cases Lorenz's manipulations should be tried in the first instance; even should they fail to effect reduction they facilitate any subsequent procedures. (4) The prospect of a cure by Lorenz's "bloodless method" is in direct proportion to the youth of the child, and after the age of four years there is little hope of a true cure by its means. (5) In any case the chances of a true cure by the "bloodless method" are not very great. (6) An open operation should be done whenever a radiograph shows that the "bloodless method" has failed to reduce the dislocation, except perhaps in the case of a very young child—under three years—in whom the manipulations may be repeated. (7) With the open operation no fear need be entertained of shock, bleeding, or sepsis. (8) Under no circumstances should the joint surfaces be remodelled. (9) An open operation is more calculated to result in a cure, as it enables the surgeon to ascertain beyond a doubt when the head of the bone is really in the acetabulum. (10) The open operation is especially suited for cases over four years of age and for those of bilateral dislocation. (11) After the operation the limb should be put up in the position of maximum stability; in the majority of cases this will be similar to Lorenz's position; the limb should be put up in plaster of Paris immediately and the casing should take in the flexed knee; this is essential in order to assure stability of the head of the bone. (12) All tense structures should be stretched or tenotomized as a preliminary measure a week or so previously to the open operation. The after-treatment is practically identical with that of the Lorenz method.

*Münchener medicinische Wochenschrift, August* 18, 1903.

**Alcoholism and Beer.**—Georg Keferstein deplores the widespread use of beer in Germany, and says that so far as pathological lesions are concerned, no appreciable differences exist between beer drinkers and those who are addicted to the stronger alcoholic liquors. Furthermore the early idea that beer drinking would largely do away with the use of brandy, whiskey, etc., has proved fallacious so far as Germany is concerned. The nutritious qualities of beer which have been loudly exploited by many are not to be considered when compared with the damage wrought by the alcohol which it contains. Taken all in all, the substitution of beer for the stronger alcoholic liquors as a beverage has been a failure, since its devotees neither live longer nor show a better mentality than the consumers of brandy, whiskey, etc.

**Resuscitation of the Heart's Action after Removal from the Body.**—Alois Velich reports some interesting studies. The heart of a young dog was taken from his body and buried in snow for six hours. It was then removed from the snow and through the aortic opening Locke's fluid at 35° was slowly poured in. As soon as a small portion of this fluid had been driven through the blood vessels of the heart their occurred a distinct contraction of the auricles and ventricles. A similar result was obtained with a heart which had been frozen in physiological salt solution for twenty-four hours. These results are similar to those obtained by Kuliabko, but the time of exposure to cold is much longer. They show conclusively that their are no important differences between the hearts of cold and warm-blooded animals in the ability to regain their vitality following exposure to low temperatures. The resuscitation of paralyzed hearts have been attempted in various ways. Spina was successful in a case of a dog ten minutes after the heart had ceased to beat, by injecting into an artery in the direction of the heart 200 c.c. of a warm physiological salt solution. The author has accomplished the same result in a dog by a similar injection of physiological salt solution to which 1 per cent. of glucose was added—thus making it similar to Locke's fluid. It is not improbable that paralyzed human hearts can be resuscitated in a like manner, but as yet no similar experiments have been tried upon man.

**Prophylaxis and Therapy of Puerperal Fever.**—H. Fehling recommends, as a prophylactic measure, the routine use of the rubber glove by the obstetrician. This should be used during labor in all vaginal examinations, and under no circumstances should the naked hand be brought into contact with even the external genitals of the patient. Of course before using the gloves they should be thoroughly sterilized by heat. Experimentation has shown that sterilization of the hands is a practical impossibility while rubber gloves are easily rendered sterile by heat. It is therefore apparent that infection by the obstetrician may be prevented by their use. The author has used them exclusively during the past two years in his hospital service with the following satisfactory results: 1901, 802 labors, five severe cases, 11 per cent. mortality, no case of death from sepsis. 1902, 803 labors, one severe case, 8.47 per cent. mortality, no case of death from sepsis. In the treatment of puerperal sepsis the intravenous injections of silver have given, in the author's hands, as good, if not better, results than any other method of treatment. A 2-per-cent. solution of colloidal silver is employed for this purpose, and of this 10 to 20 c.c. are injected into the median vein. Frequently following this there is a rapid improvement in all symptoms, but in many cases no result is produced. In cases in which a favorable result is produced the injections should be repeated if exacerbations occur. About 50 per cent. of the severe cases treated by this method end in recovery, so that while it cannot be regarded as a specific, it is nevertheless a valuable weapon in the treatment of the disease.

*Berliner klinische Wochenschrift, August* 17, 1903.

**Post-typhoid Strumitis.**—K. A. Krause and Carl Hartog report a case of typhoid fever which was followed by a swelling and suppuration of the thyroid gland. This was subsequently evacuated, and from the pus typhoid bacilli were isolated. The enlargement of the thyroid was first noticed during the lysis of the fever. From this time on it increased in size with considerable rapidity. A peculiarity of this case consists in the fact that although the suppurating process was actively going on in the thyroid, no increased temperature was produced thereby, the characteristic lysis not being interfered with.

**Stomach-tube for Use During Narcosis.**—W. Kausch has devised a stomach-tube for use in operations for occlusion of the intestine. As is well known, such patients, when under the anæsthetic vomit with great frequency, and the aspiration of the vomited material often produces a pneumonia which usually carries off the patient. In those cases in which vomiting does not occur the retention of the contents of the stomach and intestine greatly interferes with necessary manipulations during the operation. The attempt has been made to overcome these difficulties by the introduction of the ordinary stomach tube during the narcosis. This has been found unsatisfactory for two reasons: (1) The stomach tube is frequently vomited entire. (2) Stomach and intestinal contents are often evacuated between the tube and the wall of the œsophagus, and aspiration pneumonia hence frequently occurs. Both of these difficulties are obviated by the use of the tube here recommended. It consists of an ordinary stomach tube, to which is attached a thin, hollow rubber sack of 7 cm. diameter when inflated, at its stomach end just above the tubal openings. This sack is connected by a thin rubber tube which runs along the side of the stomach tube, with another rubber sack of the same size, which hangs out of the mouth of the patient. This in turn connects with a small rubber tube that can be tied off at pleasure. When this apparatus is introduced, both of the rubber sacks are deflated. When the tube is in position they are inflated by blowing into the tube, which leads from the upper sack. The lower sack being inflated in the stomach prevents the vomiting of the tube, since it will not pass the cardiac opening. The upper sack acts as a control to the lower sack, as the size of both is the same. By exerting gentle traction upward, while the tube is in the stomach the lower sack completely blocks the cardiac orifice and prevents the leakage of matter between the tube and the œsophageal wall. In other words, all of the matter is evacuated through the tube as is desired.

*Deutsche medicinische Wochenschrift, August* 13, 1903.

**Herpes Gestationis.**—Fritz Callomon reports a case which is similar to those which have been previously observed, excepting that in the following pregnancy a recurrence of the eruption took place and thus absolutely established the validity of the diagnosis. Since the constitutional symptoms which sometimes accompany this trouble may be severe and sufficiently prolonged to seriously threaten the life of the patient, an accurate and early diagnosis is much to be desired, so that the subsequent pregnancies may be guarded against. To this end the publication of typical cases is greatly to be desired.

**The Vital Action of Irritations.**—A. Schücking has conducted a curious series of experiments in that he has taken the eggs of various parasites, submitted them to certain irritations (electric and chemical), placed them in distilled water and then, after a short interval (five minutes), successfully impregnated them while this was impossible with eggs which were not thus irritated. Two facts are therefore apparent: (1) Protoplasmic irritations are capable of preserving the life of the cell against the deadly influence of osmosis. (2) Leaving out of sight the destroying influence of the water which we can control, the uncontrollable intake and outgive of water, upon which the entire chemistry of the cell depends, is in turn dependent upon irritations which work upon the living protoplasm. The fact that living protoplasm is able to maintain its normal amount of water even for a short time against such enormous differences of tension as exist between the cell fluid and the distilled water proves that the cell is able to regulate the osmotic differences of its normal metabolism independent of its intake and outgive of water.

*French and Italian Journals.*

**Ignipuncture in the Treatment of Cutaneous Angiomata.**—E. Daraiquez says that electrolysis and galvanopuncture, while of benefit in the treatment of angiomata, necessitate too complicated an apparatus to be always practicable. Ignipuncture, however, is easily applied and gives excellent results. Patience is the only requisite, and as fibrous and cicatricial tissue require a certain amount of time for their formation, there is no use in having the treatment too frequently repeated. Once a fortnight is all-sufficient. The ignipuncture must penetrate the whole thickness of the tumor, and the various points applied during the treatment should be about a centimeter apart, or even more in very spreading tumors. The author reports five cases successfully treated in children.—*Gazette Hebdomadaire des Sciences Médicales*, August 9, 1903.

**Some Cases of Beriberi.**—V. Tiberio, having observed a number of cases on the ship *Volturno* in Zanzibar, states that the disease is probably due to a special microorganism, as yet unknown, and can occur independently of alimentation, bodily over-exertion, or excesses of any kind. It may begin insidiously, with symptoms which lead one to suspect its existence but do not definitely establish it. In the early stages the specific gravity of the urine is constantly low, then it rises, and may end by being above normal. No special abnormal products are fouhd in the urine. The anæsthesia occurs in zones, and it is to be supposed that the chief lesion is in the central nervous system, especially the spinal cord. The best treatment consists in removing the patients from the locality where they contracted the disease. Hygienic and pharmaceutical treatment are merely coadjuvant.—*Annale di Medicina Navale*, June, 1903.

**Gastric Cough.**—Louis Revol discusses this form of cough which may occur in health as a result of pressure on the epigastrium, or the ingestion of iced drinks; in certain forms of anæmia, in gastric affections, pulmonary troubles, and especially in case of simultaneous lesions of the stomach and the lungs, a condition found most frequently in pulmonary tuberculosis. The cough is dry, usually paroxysmal, frequently repeated, sometimes accompanied by dyspnœa. Vomiting may be present. It is useless, weakening, and interferes with alimentation. Treatment may be directly addressed to the gastric mucous membrane, by diet and by one or two drops of laudanum before meals, or cocaine, 0.001 (gr. $\frac{1}{60}$) of the hydrochlorate in a teaspoonful of lime water. Painting the pharynx with a strong solution of potassium bromide to narcotize the pneumogastric nerve through its pharyngeal branches may be tried, or bromide of potassium be adminstered to act upon the reflex centers. —*Gazette des Hôpitaux*, August 8, 1903.

**The Results of Nephrectomy for Renal Cancer.**—M. Rochel reports the case of a man operated on two years previously, who is so far apparently in perfect health. He would certainly have died before this had the operation not been performed. The author urges its adoption in cases seen at an early stage; cancer is rarely bilateral, it remains for a long while encysted by the fatty or even the renal capsules, and generalization to other viscera occurs late. The chances of good results from nephrectomy are, therefore, excellent. At an early stage the paraperitoneal rather than the peritoneal route can be followed, with lessened danger, and decortication directly from the renal capsule can be performed, thus avoiding the possibility of wounding the vena cava, the intestines, or the pleura. Unfortunately, it is extremely difficult to diagnose renal cancer at an early stage.—*Lyon Médical*, August 9, 1903.

# Book Reviews.

THE REFRACTION OF THE EYE AND THE ANOMALIES OF THE OCULAR MUSCLES. By KENNETH CAMPBELL, M.D., Edin., F.R.C.S., Eng.; Surgeon to the Western Ophthalmic Hospital; Surgeon-Oculist to His Highness the Maharajah and Gaekwar of Baroda. New York: William Wood & Company, 1903.

THIS work is presented in a small volume of 214 pages, is well printed, and contains illustrations in sufficient number properly to elucidate the text. The subject is presented in a manner that can easily be grasped by the student. Abstruse formulæ are avoided, and an effort has apparently been made to remove all obstacles in the way of an easy acquisition, by the reader, of the principles laid down.

The work is one that presents the subject of refraction and anomalies of the ocular muscles from the English point of view, which differed somewhat from that of the advanced American ophthalmologist. Retinoscopy is well but briefly considered. Under the term asthenopia the muscular anomalies of the eyes are described. With few exceptions, the author adheres to the older nomenclature regarding the conditions of the muscles.

The book is well adapted for the student and should be received with favor by the general practitioner.

THE ERRORS OF ACCOMMODATION AND REFRACTION OF THE EYE AND THEIR TREATMENT. A Handbook for Students. By ERNEST CLARKE, Fellow of the Royal College of Surgeons of England; Doctor of Medicine and Bachelor of Surgery of the University of London; Surgeon to the Central London Ophthalmic Hospital; Ophthalmic Surgeon to the Miller Hospital. New York: William Wood & Company, 1903.

THIS is a small volume of 225 pages. It embodies all of the essentials of refraction as it concerns the human eye. The principals of the optics are discussed in a simple, brief, and accurate manner. Where illustrations are needed to make the subject-matter clear they are supplied. The author displays familiarity with the subject born of careful study and experience, and he has succeeded in presenting it attractively and in a form which renders its acquisition by the student comparatively easy.

Considerable attention is given to the subject of asthenopia, which is discussed in this work under two chapters —first, muscular asthenopia; second, retinal asthenopia. The first really deals with muscular anomalies other than true heterotropia, and would be considered in the chapter on heterophoria by American writers.

A chapter is devoted to the subject of the adjustment of spectacles, and a short chapter is given to vision-tests for the services, Army, Navy, railroad services, etc. Test-type for near and for distance vision and an astigmatic chart are supplied.

On the whole, the work is a very excellent one, admirably suited to the use of the student.

THE PRACTICAL DETAILS OF CATARACT EXTRACTION. By H. HERBERT, F.R.C.S., Eng., Major I.M.S.; Professor of Ophthalmic Medicine and Surgery, Grant Medical College; in charge of the Sir Cowasjee Jehangir Ophthalmic Hospital, Bombay; Fellow of the Bombay University. New York: William Wood & Company, 1903.

THIS volume is one of 109 pages and is of convenient size. The work is based on an experience gained by the extraction of two or three thousand cataracts. The operations were performed at the Ophthalmic Hospital in Bombay, India.

The work is divided into five chapters. The first deals with operable cataract and gives a description of the different varieties, discussing briefly the changes which take place in cataractous lenses. The second chapter is devoted to a description of the combined operation, including the preparation of the patient, the dressing, and the after-treatment. The third chapter takes up the consideration of the different methods of operative procedure, corneal section, preliminary iridectomy, the simple operation, capsulotomy, removal of the cortex, etc. The fourth chapter is devoted to the discussion of the complications arising, infection of the wound, prolapse and incarceration of the iris, hemorrhage, secondary glaucoma, detachment of the choroid, etc. In the fifth chapter certain forms of complicated cataract are considered, extraction in high myopia, extraction of dislocated lenses, etc.

There are illustrations of instruments and of some of the procedures. The subject is treated in a clear and direct manner and presents the views of one of experience. The author has adopted or rejected the views of others according as they have proven beneficial or otherwise in his practice.

The methods advocated can be followed with safety. As the extraction of cataract is an operation done almost wholly by the ophthalmologist, the work is of value principally to the ophthalmologist, by whom it will be read with interest and profit, since it sets forth the conclusions of one whose experience has been rather exceptionally large.

THE PREVENTION OF DISEASE. Translated from the German, with an Introduction by H. Timbrell Bulstrode, M.A., M.D., Cantab. D.P.H. Two volumes of 500 pages each. New York: Funk & Wagnalls Co., 1903.

IT is safe to say that very many of those who take up this book for the first time will be both astonished and delighted at the very broad sense in which the term "preventive medicine" is used. The work is unique in that it is an attempt to view human disease in its entirety from the standpoint of preventive medicine, and its chief object is to show the general practitioner how individual prophylaxis may be developed. Professor Martins gives an idea of what is meant by this last term when he says: "To bring up a weakly child, who may be hereditarily tainted, so that it does not succumb to the threatening danger of tuberculous infection, is individual prophylaxis;" and Dr. Rosen significantly adds, that the physician ought not to wait until the microscopical findings and the physical signs point certainly to pulmonary tuberculosis before he begins to treat the patient hygienically and dietetically.

The volume opens with an interesting article on "The History of the Prevention of Disease," by Dr. S. Goldschmidt of Bad Reichenhall. This is followed by an instructive discussion of "General Prophylaxis" by Professor Martins of Rostock, who points out that a scientific scheme of exact individual prophylaxis may be founded on the determination of the relative functional capacity of the organs of the individual by means of exact physical and chemical examination. Then there follow clear and concise treatises by the several contributors, among whom may be mentioned Dr. Richard Rosen, who discusses the diseases of the blood and of metabolism, infectious diseases and diseases of the lungs; Professor Martin Mendelsohn of Berlin, writing upon diseases of the heart; Professor A. Hoffa of Wurzburg, on surgery; Dr. O. Schaeffer of Heidelberg, on nervous diseases; Drs. von Notthafft and Kollmann, on diseases of the urinary organs, and Dr. Max Joseph, on venereal and skin diseases. There are also articles on the eye, the ear, the teeth and mouth, the nose and throat, the digestive organs, mental disease, and the diseases of children.

The translators deserve the highest praise for having succeeded completely in excluding the long and intricate German sentences, so wearisome to the English reader, and in presenting the thoughts of the many contributors in clear, crisp Anglo-Saxon. Those who have been accustomed to view preventive medicine in the narrow sense in which that term is commonly used in this country will find this work indeed a revelation; is is a book to "read, mark, learn, and inwardly digest" in the quiet of one's study. To the thoughtful reader it is an arraignment, by inference at least, of the present-day craze of the public for specialties in medicine, and an earnest plea for the uplifting of the family physician and his restoration to the time-honored place of valued friend and confidential adviser.

THE MEDICAL EPITOME SERIES. Obstetrics. A Manual for Students and Practitioners. By W. P. MANTON, M.D., Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine; Visiting Obstetrician, Woman's Hospital and Infant's Home; Gynecologist to Harper Hospital, and to the Eastern and the Northern Michigan Asylums for the Insane; Consulting Gynecologist to St. Joseph's Retreat. Series Edited by V. C. PEDERSEN, A.M., M.D., Clinical Assistant at the New York Polyclinic Medical School and Hospital. Illustrated with eighty-two engravings. Philadelphia and New York: Lea Brothers & Co., 1903.

THIS manual of obstetrics will prove of value to both the student and practitioner. It is brief, clear, and comprehensive. The text is unbroken, but at the end of the several chapters a list of questions is placed, so that the volume is suitable for quizzing. The text is presented in twenty chapters, which include all of the essentials of obstetrics. The new born child and its management are considered in closing, and directions are given for feeding a healthy child during the first year, including various formulas for the home modification of milk. The book is completed by a very good index.

ATLAS MANUEL DE GYMNASTIQUE ORTHOPÉDIQUE. Par MADAME NAGEOTTE WILBOUCHEVITCH. Paris: C. Nau, 1903.

THE author states that the book has been written especially for family physicians and others who may have the supervision of children, and thus the opportunity to detect postural deformities of the spine when cure is

still possible. Intractable cases of this class are usually allowed to develop because of carelessness or ignorance, not infrequently on the part of physicians, who assure anxious parents that such deformities are of no importance, or that they will disappear with the growth of the child.

The author aims to show the predisposing causes of postural distortions by a series of photographs. These illustrate:

(1) The effect of habitual posture in infancy, as when a weak or rachitic child is supported on the mother's arm or seated in her lap. (2) Posture during sleep, which may exaggerate pre-existing distortions. (3) Attitudes induced by occupation, illustrating the effect of improper seats for school children, and the like. (4) Attitudes induced by carrying of burdens. Finally some of the pathological causes of deformity.

It is apparent, of course, that these photographs which illustrate the effect of posture in inducing deformity, indicate also the importance of posture as a means of treatment. The various gymnastic exercises are described, together with an account of forcible correction, and of fixation apparatus.

The book is interesting and instructive, and the author is to be congratulated on having so well carried out the purpose indicated in the preface.

PRACTICAL POINTS IN NURSING for Nurses in Private Practice. With an Appendix Containing Rules for Feeding the Sick; Receipes for Invalid Foods and Beverages; Weights and Measures; Dose List; and a Full Glossary of Medical Terms and Nursing Treatment. By EMILY A. M. STONEY, Graduate of the Training School for Nurses, Lawrence, Mass. Late Superintendent of Training School for Nurses, Carney Hospital, South Boston, Mass. Third edition, thoroughly revised. Illustrated with 79 engravings in the text and 8 colored and half-tone plates. Philadelphia, New York and London: W. B. Saunders & Co., 1903.

THE publishers have procured the services of a physician in the revision of this popular work, owing to he untimely death of the author. The book has not lost any of its original usefulness and still shows the same practical character that made it so readily acceptable in its original form. The third edition has been brought thoroughly up to date and can be recommended as a useful nursing guide to those who are doing private work. It teaches the nurse to be equal to emergencies, showing her how to manufacture many things ordinarily procured in the shops.

BACTERIOLOGY. A Manual for Students and Practitioners. By FRED C. ZAPFE, M.D., Professor of Pathology and Bacteriology in the Illinois Medical College. LEA'S SERIES OF POCKET TEXTBOOKS. Edited by BERN B. GALLAUDET, M.D. Illustrated with one hundred and forty-six engravings and seven colored plates. Philadelphia and New York: Lea Brothers & Co., 1903.

THIS manual summarizes, in concise and practical form, the present status of bacteriological knowledge, and is a convenient epitome of the subject for all who are not specialists. The scope of the work is not extensive enough to make possible very detailed expositions of the purely technical and theoretical aspects of the study, but the author has formulated modern views and conclusions in compact form, and the little volume is thoroughly up to date and reliable. The morphology and biology of all the important clinical organisms are described, and satisfactory illustrations of colonies and individuals appended, together with working directions for carrying out the necessary differential stains. There is but little to criticise and much to commend in the book which is well adopted to the requirements of students and practitioners.

HOW TO KEEP WELL. By Floyd M. Crandall, M.D. New York: Doubleday, Page & Co., 1903.

SELDOM does one find in a popular treatise on health so much valuable information and such breadth of view as in this very readable book of unpretentious title. It only claims to be an explanation of modern methods of preventing disease, but it is, in reality, an epitome of common sense and rare good judgment. The work is singularly free from fads and hobbies, and shows its author to be earnest, thoughtful and conscientious, and a passed master in the art of applying the well-known principles and facts of medicine to the every-day needs of life in such a way as to be readily grasped by the popular mind. He has been prompted to undertake this task by the conviction that "the time has come when the medical man should speak, not in his own defence, but in defence of the people, who are easily misled to their own hurt."

The attention of the reader is directed at the outset to the fact that the modern successful physician is the product of a long and elaborate course of preparation, and that poorly equipped quacks and pretenders cannot permanently succeed at the present day. The necessity for specialism is, of course, conceded, but the layman is cautioned against jumping to the dangerous conclusion that all diseases should be treated by specialists, and is reminded that the family physician's greater sense of personal responsibility is an excellent guarantee of the patient's safety; and that when he is not allowed to select the consultant the sick one often falls into the hands of incompetent and unscrupulous persons. The objection to this procedure, that will rise to many lips, is anticipated by the advice, that if the patient fears to trust the attending physician to make such a choice, he should discharge his physician and get one he can trust. It would be well for all concerned if the laity would read and reread the description of what the family physician should be—a description which is admirably summed up in these words: "Let your physician be a man of character—intelligent, educated, tactful, clean—a gentleman who stands well with his professional brethren and has an honorable record."

Space forbids a detailed consideration of the many excellent features of this book. Even physicians of learning and experience may read with interest and profit the chapters on the effects of modern life, the rearing of children, the dangers of middle life and the prevention of breakdown.

MODERN MATERIA MEDICA AND THERAPEUTICS. By A. A. STEVENS, A.M., M.D., Lecturer on Physical Diagnosis in the University of Pennsylvania; Physician to the Episcopal Hospital and to St. Agnes's Hospital; Fellow of the College of Physicians of Philadelphia, etc. Third Edition, entirely rewritten. Philadelphia, NewYork, London: W. B. Saunders & Co., 1903.

THE main difference between this edition and the preceding ones lies in the abandoning of the alphabetical order and substituting for it a pharmacological classification. This is a distinct improvement in the work, from a student's standpoint, and is practically a necessity for a beginner who has no idea of the grouping of drugs. The articles are brought fully up to date, and the author has included in the text all the latest remedies which have shown themselves to be useful or probably so. The bulk of the work is given to the consideration of drugs, but a fair portion treats of electricity, massage, movement therapy for locomotor ataxia, the Nauheim baths and movements, cold, heat, hypodermoclysis and enteroclysis, lavage, phototherapy and $x$-ray therapy, bleeding, and lumbar puncture. The last portion deals with applied therapeutics in a way far more satisfactory than is usual with most works.

DAS GEWEBE UND DIE URSACHE DER KREBSGESCHWÜLSTE. Unter Berücksichtigung des Baues der einzelligen thierischen Organismen. Von Dr. LUDWIG FEINBERG, arzt. Mit 4 Tafeln. Berlin: August Hirschwald, 1903.

THE author of the present monograph, which is one of the most convincing that has yet appeared, is a staunch supporter of the parasitic theory of the causation of malignant tumors. He ascribes the confusion that has arisen in the study of the subject and the discordance in the conclusions of the various investigators to a lack of sufficiently extensive zoological training and a deficient knowledge of the morphology and life history of the lower forms of animal life. With characteristic teutonic thoroughness he begins with alpha and pursues the rhizopods, flagellates, sporozoa, and ciliata through every subdivision to the very omega of classification before he allows the point of his labors to germinate in the so-called "histosporidium carcinomatosum." This candidate for the unsavory honors its titles indicates has been demonstrated with great regularity by the author in the carcinomata examined, and he gives detailed descriptions as to the necessary technique. The work is interesting and suggestive and should be read by those concerned with the question it treats.

PRÉCIS D'EXPLORATION EXTERNE DU TUBE DIGESTIF. Par A. CHAILLOU et LÉON MAC-AULIFFE. Paris: A. Maloine, 1903.

IN the preface, Sigaud speaks of the insufficiency of our present methods of clinical examination. This is especially true with regard to the abdominal region—that is, the digestive apparatus and the associated glands. His new method is essentially clinical. It has to do with the vital reaction of the digestive apparatus, its physical condition in the presence of its natural physiological excitant, food. By varying the physical or chemical qualities of food, different reactions of the digestive apparatus are called forth, so that this method is not only clinical and experimental, but it is also therapeutic. The external examination of the digestive apparatus is described in detail, in which the three classical methods are made use of—inspection, palpation, and percussion.

# Society Reports.

## CANADIAN MEDICAL ASSOCIATION.

*Thirty-sixth Annual Meeting, Held in London, Ont., August 25, 26, 27, and 28, 1903.*

**Special Report to the Medical Record.**

(Continued from page 392.)

At St. Joseph's Hospital, Dr. Wishart of London performed Halsted's operation for removal of the mammary gland in the presence of a large number of spectators.

At Victoria Hospital, Dr. Ferguson of Chicago performed a thyroidectomy and Ferguson's operation for hernia.

Dr. McGraw of Detroit did the preliminary steps of gastroenterostomy with the elastic ligature in two cases, but both patients were too far advanced in disease to warrant completing the operation.

A character-sketch under the title of "The Country Doctor" was read by Dr. Sprague of Stirling, illustrating the independence of judgment, and originality of resource developed in the course of rural practice.

Dr. Geo. F. Butler, Alma, Mich., read a paper on "The Inter-relations of Diabetes and Other Constitutional Diseases." The paper was highly commended by Sir James Grant of Ottawa, Dr. Reeves of Toronto, and Dr. Sampson of Windsor.

Dr. George Armstrong of Montreal presented a paper on the subject of "Idiopathic Peritonitis."

**The Treatment of Inebriates.**—Dr. Rosebburgh of Toronto, in a paper on this subject, asked the endorsement by the association for the bill now being urged upon the Ontario Government, proposing the adoption of the Massachusetts' probation system combined with medical treatment.

**Practical Considerations on Intestinal Anastomosis.**—Dr. McGraw read this paper. The question of anastomosis came in for consideration, he said, when the gut had become gangrenous. In his procedure he drew the gangrenous coil out of the abdomen far enough to permit him to unite the two limbs of the bowel at a point where they seemed healthy, by means of a rubber ligature. All of that part which was liable to slough was then fastened outside of the abdomen and the wound closed around it. The immediate result was a false anus, and in two or three days a new channel was cut by the rubber ligature and the false anus became unnecessary. It might then in time close spontaneously or be closed by the simple operation of inverting and suturing the ends. Stenosis from chronic obstruction were most commonly caused by tumors or cicatricial contractions. These obstructions furnished the largest quota of cases which required the formation of intestinal anastomosis. The differential symptoms incidental to pyloric obstruction were given, and the certainty of a positive diagnosis insisted on. The speaker maintained that a large percentage of pyloric stenoses were benign. A gastroenterostomy by the elastic ligature gave most satisfactory results in those cases. When the pyloric tumor was cancerous it did not forbid, but rather urgently indicated an operation. The relief would prolong life for from one to five years. Stenoses of the duodenum between the orifice of the bile ducts and the stomach, presented about the same symptoms as pyloric obstruction. Beyond this point bile would always be present in the vomit if the bile ducts were open. The distinctive symptoms of the stenoses of the ileum and colon were pointed out. The facts affecting the mortality following operations were discussed. With or without operation the cases became more and more hopeless, as the vomit became green and finally black.

The methods of making an intestinal anastomosis which claimed consideration were three, viz., the suture, the Murphy button, and elastic ligature. The writer's method by elastic ligature was described, and its superiority to the other two methods argued. Its advantages were (1) simplicity and quickness of application; (2) its aseptic quality, for the rubber filled the opening through which it passed so completely that no extravasation was possible; (3) the delay in opening the passage until the intestines have become well glued together; (4) the ability to make with it a communication at any desired part.

**Thrombosis of the Femoral Veins Following Aseptic Laparotomy.**—Dr. E. R. Secord of Brantford reported a case of this nature. The thrombosis occurred two weeks after an aseptic operation for double inguinal hernia, in which the wound healed by first intention. The thrombosis occurred on the left side, where there was much less handling and trauma of the parts, but where a truss has been worn for twelve years. The writer reviewed seventy reported cases of this complication, 73 per cent. of which were shown to be dependent on operations which produced conditions of lessened local tension. He discussed how this factor operated, and indicated the prophylactic and actual treatment. The writer stated in conclusion that no one etiological factor was alone responsible for the occurrence of this complication; the rôle of infection in otherwise non-infective cases did not appear to bear important one; conditions of sudden decrease of pressure dependent on the operation, probably had a causative influence.

**Hour-glass Contraction of the Stomach.**—Dr. Howitt of Guelph reported two cases of this nature with operation. One was complicated by an ulcer on the posterior wall of the stomach, and the other by cancer. The first patient permanently recovered as a result of the operation; the life of the latter was prolonged eleven months.

Dr. Ferguson complimented the writer upon his cases and approved of his method of operation.

**Address in Surgery.**—Dr. H. A. Ferguson of Chicago delivered the address in surgery. His subject was "The Surgery of To-day," in which he reviewed the present day advances and the future-day prospects.

**A Case of Brain Tumor.**—Dr. Wishart of London reported this case. Patient aged sixty-seven, male, under the care of Dr. Johnson of Sarnia. In December, 1901, he had an attack of tremor and spasm, commencing in the thigh of the left side and extending to the leg, which was painful and jerky. The attack lasted about five minutes. In January or February, 1902, he had other similar attacks. An attack in April was more severe and involved the whole left side of the body, and was attended by difficult breathing. Attacks recurred in August, September, and October. After the attack in October, the mind did not regain clearness, the patient was feverish and prostrated and lost flesh. He was seen by Dr. Wishart in consultation on November 3. Speech was then distinct, but memory was impaired; the man was urinating involuntarily, the knee-jerk was present on both sides, the ankle clonus on the left side, Babinsky's sign was not present, the pupils were equal and responded alike to light, the optic discs were normal, the pulse was 89, temperature 99°, specific gravity of the urine 1020.

A diagnosis of tumor of the brain had already been made by the late Dr. Fraser of Sarnia. Concurring in this diagnosis, Dr. Wishart trephined on the right side of the skull over the leg-center. On removing the disc nothing was visible but the dura mater. On incising the dura mater, beneath it was found a tumor one-half inch in diameter, which was removed. It felt hard and bony to the touch and was subsequently reported by Dr. Nee to be a psammoma. The patient recovered and progressed slowly, and by January, 1903, was mentally clear. On February 17 he had a slight spasm of the left leg. He was able to attend to business, but was not physically strong. He was seen again in May last, when it was apparent that he was growing weaker, being reduced in flesh, and in general physical ill-health. He died a few days ago, but the speaker had as yet received no particulars of his death.

**Dislocation of the Elbow-joint.**—Dr. WISHART also exhibited a case of dislocation of the elbow-joint treated by the open method. He saw the patient four months after the occurrence of the accident. There was an unreduced dislocation of both bones backward, and a fracture of the lower end of the humerus. He cut down and treated the case by open incision. The fracture united and the joint was, at the time of the report, almost normal in its action, the only defect being a slight limitation of flexion and extension.

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# Society Reports.

## CANADIAN MEDICAL ASSOCIATION.

*Thirty-sixth Annual Meeting, Held in London, Ont., August 25, 26, 27, and 28, 1903.*

**Special Report to the Medical Record.**

(Continued from page 392.)

At St. Joseph's Hospital, Dr. Wishart of London performed Halsted's operation for removal of the mammary gland in the presence of a large number of spectators.

At Victoria Hospital, Dr. Ferguson of Chicago performed a thyroidectomy and Ferguson's operation for hernia.

Dr. McGraw of Detroit did the preliminary steps of gastroenterostomy with the elastic ligature in two cases, but both patients were too far advanced in disease to warrant completing the operation.

A character-sketch under the title of "The Country Doctor" was read by Dr. Sprague of Stirling, illustrating the independence of judgment, and originality of resource developed in the course of rural practice.

Dr. Geo. F. Butler, Alma, Mich., read a paper on "The Inter-relations of Diabetes and Other Constitutional Diseases." The paper was highly commended by Sir James Grant of Ottawa, Dr. Reeves of Toronto, and Dr. Sampson of Windsor.

Dr. George Armstrong of Montreal presented a paper on the subject of "Idiopathic Peritonitis."

**The Treatment of Inebriates.**—Dr. ROSEBURGH of Toronto, in a paper on this subject, asked the endorsement by the association for the bill now being urged upon the Ontario Government, proposing the adoption of the Massachusetts' probation system combined with medical treatment.

**Practical Considerations on Intestinal Anastomosis.**—Dr. MCGRAW read this paper. The question of anastomosis came in for consideration, he said, when the gut had become gangrenous. In his procedure he drew the gangrenous coil out of the abdomen far enough to permit him to unite the two limbs of the bowel at a point where they seemed healthy, by means of a rubber ligature. All of that part which was liable to slough was then fastened outside of the abdomen and the wound closed around it. The immediate result was a false anus, and in two or three days a new channel was cut by the rubber ligature and the false anus became unnecessary. It might then in time close spontaneously or be closed by the simple operation of inverting and suturing the ends. Stenosis from chronic obstruction were most commonly caused by tumors or cicatricial contractions. These obstructions furnished the largest quota of cases which required the formation of intestinal anastomosis. The differential symptoms incidental to pyloric obstruction were given, and the certainty of a positive diagnosis insisted on. The speaker maintained that a large percentage of pyloric stenoses were benign. A gastroenterostomy by the elastic ligature gave most satisfactory results in those cases. When the pyloric tumor was cancerous it did not forbid, but rather urgently indicated an operation. The relief would prolong life for from one to five years. Stenoses of the duodenum between the orifice of the bile ducts and the stomach, presented about the same symptoms as pyloric obstruction. Beyond this point bile would always be present in the vomit if the bile ducts were open. The distinctive symptoms of the stenoses of the ileum and colon were pointed out. The facts affecting the mortality following operations were discussed. With or without operation the cases became more and more hopeless, as the vomit became green and finally black.

The methods of making an intestinal anastomosis which claimed consideration were three, viz., the suture, the Murphy button, and elastic ligature. The writer's method by elastic ligature was described, and its superiority to the other two methods argued. Its advantages were (1) simplicity and quickness of application; (2) its aseptic quality, for the rubber filled the opening through which it passed so completely that no extravasation was possible; (3) the delay in opening the passage until the intestines have become well glued together; (4) the ability to make with it a communication at any desired part.

**Thrombosis of the Femoral Veins Following Aseptic Laparotomy.**—Dr. E. R. SECORD of Brantford reported a case of this nature. The thrombosis occurred two weeks after an aseptic operation for double inguinal hernia, in which the wound healed by first intention. The thrombosis occurred on the left side, where there was much less handling and trauma of the parts, but where a truss has been worn for twelve years. The writer reviewed seventy reported cases of this complication, 73 per cent. of which were shown to be dependent on operations which produced conditions of lessened local tension. He discussed how this factor operated, and indicated the prophylactic and actual treatment. The writer stated in conclusion that no one etiological factor was alone responsible for the occurrence of this complication; the rôle of infection in otherwise non-infective cases did not appear to be an important one; conditions of sudden decrease of pressure dependent on the operation, probably had a causative influence.

**Hour-glass Contraction of the Stomach.**—Dr. HOWITT of Guelph reported two cases of this nature with operation. One was complicated by an ulcer on the posterior wall of the stomach, and the other by cancer. The first patient permanently recovered as a result of the operation; the life of the latter was prolonged eleven months.

Dr. FERGUSON complimented the writer upon his cases and approved of his method of operation.

**Address in Surgery.**—Dr. H. A. FERGUSON of Chicago delivered the address in surgery. His subject was "The Surgery of To-day," in which he reviewed the present day advances and the future-day prospects.

**A Case of Brain Tumor.**—Dr. WISHART of London reported this case. Patient aged sixty-seven, male, under the care of Dr. Johnson of Sarnia. In December, 1901, he had an attack of tremor and spasm, commencing in the thigh of the left side and extending to the leg, which was painful and jerky. The attack lasted about five minutes. In January or February, 1902, he had other similar attacks. An attack in April was more severe and involved the whole left side of the body, and was attended by difficult breathing. Attacks recurred in August, September, and October. After the attack in October, the mind did not regain clearness, the patient was feverish and prostrated and lost flesh. He was seen by Dr. Wishart in consultation on November 3. Speech was then distinct, but memory was impaired; the man was urinating involuntarily, the knee-jerk was present on both sides, the ankle clonus on the left side, Babinsky's sign was not present, the pupils were equal and responded alike to light, the optic discs were normal, the pulse was 89, temperature 99°, specific gravity of the urine 1020.

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statistics regarding this varied from 10 to 90 per cent. Frank of Berlin gave 33 per cent. In 190 cases which Dr. Van der Poel reported a year ago last June he reported evidences of posterior urethritis in 39 per cent. This condition should not be lightly overlooked, and, although in all cases symptoms were not given, such a condition might exist and then extend to the prostate. The prostate itself, he said, became infected in those instances when the posterior urethra was infected in almost 100 per cent. When once the gonococci reached the prostatic gland, he said it was almost impossible to say how soon we were going to get rid of them. Massage would accomplish a great deal, but we were unable to get at the entire gland in this way, although we could empty the lateral lobes to a greater or less extent in those cases in which the prostatitis was simply catarrhal or follicular in form. He believed one should differentiate between the different forms of prostatitis. That the gonococci might enter the parenchyma of the gland in a short time had been proven by many observers, and after having once obtained a foothold it was a very difficult question to say how soon we were going to get rid of them. If they were confined to the ducts of the gland (a simple catarrhal prostatitis) or to the follicles we might be able to get rid of them by massage. He said, therefore, that we should not forget that in about one-third of the cases there will be shown a posterior involvement, and that it might be taken for granted that the gonococci would extend directly into the prostate in many cases; that, when once in the prostate, they often get into the parenchyma of the organ, and this fact explained why a great many cases did not permanently respond to any of the silver salts, and why reinfection, or more properly autoinfection, of the urethra was so frequent.

**A Case of Strangulation of the Testis Due to Torsion of the Cord.**—Dr. Arthur Tracy Cabot of Boston read this paper. He said that such cases were extremely rare, Dr. Scudder being unable to find more than thirty-two cases in literature. The patient was twenty-six years old. One morning, without previous injury or disturbing cause, he was suddenly seized with a severe paroxysmal pain in the center of the lower abdomen, close above the pubes. He was pallid, nauseated, and covered with sweat. In the afternoon he was so much better that he got up from bed. For two days following the pain was more or less severe and there was an increase in the size of the testicle. Antiseptic fomentations not giving relief, operation was decided upon. The tissues were thick and oedematous. A little blood stain fluid escaped from the tunica vaginalis when opened. The testicle was black, mottled with plum color. The cord was slightly twisted, the rotation being from within outward. One complete twist of the cord untwisted it. The mesorchium was not long and the cord was tightly wrapped about it. The testicle was in a gangrenous condition and had to be removed. Convalescence was uninterrupted.

Dr. Ramón Guitéras of New York reported an interesting experience he had while operating upon a case of varicocele. He found a complete twist of the cord and yet the patient had never felt any pain.

Dr. Van der Poel of New York, said that he thought there were a great many instances in which the cord might become untwisted, or be untwisted by the patients themselves, without their being aware of it. In the Medical Record, June 15, 1895, he reported a case occurring in a medical student who had had an undescended testicle at birth though at two years it came down to the lower part of the scrotum. Suddenly, when he was twenty-one years old, he experienced a sharp pain along the cord with more or less abdominal tenderness, which ran down into the testicle. He did not know the nature of his trouble and continued to work until obliged by the pain to remain quiet. After some manipulation of the parts for two or three hours the pain was relieved. He had similar attacks at intervals of from once in six months to twice in twenty-four hours, which seemed to come on without any known reasons both during the day and night, but they were more frequent when he was up and about. Soon the true nature of the attack became evident. He found that he had a true twist or torsion of the cord, and that he could untwist it himself. When he had these attacks he simply untwisted the testicle from within outward and was relieved.

**Report of a Case of Complete Avulsion of the Scrotum, the Skin of the Penis, and the Left Testis.**—Dr. Alfred C. Wood of Philadelphia related the instance of a man, thirty-three years old, who was engaged in making an adjustment of a ball upon a revolving shaft. His clothing caught and he was taken around a few times and dropped upon the floor. He was taken to the hospital, and the doctor saw him within half an hour after the accident. The scrotum was found to be entirely absent, and the skin of the penis was dissected off as clean as could be well up to the mucocutaneous junction. The left testicle was absent and the right testicle was left exposed in the wound. Hemorrhage from the torn cord was readily controlled. It became a problem to know how to cover the testis. Flaps were finally taken from either thigh and utilized. The patient remained in the hospital about one month, when the testis was well covered. The Reverdin method of skin grafting was employed to cover the penis, small fragments of skin being taken from time to time from the thigh, with the result being all that could be expected. His sexual relations appeared to be perfectly normal.

Dr. Ramón Guitéras of New York cited the instance of an Italian who had gangrene of the scrotum. The scrotum had entirely sloughed away, leaving both testes exposed. An artificial scrotum was made by taking flaps, two from above the pubes and two from below on the inner side of the thigh, all four flaps being egg-shaped and brought together somewhat like the cover of a baseball.

**A New Method of Performing Perineal Section, without a Guide.**—Dr. Chas. L. Gibson of New York presented this communication. A description of his method has already appeared in the report of the Section on Genito-urinary Surgery, New York Academy of Medicine.

**The Conservative Treatment of Cases of Tuberculosis of the Genito-urinary Tract.**—Dr. George Chismore of San Francisco read this paper. He said that improved methods of diagnosis and a clearer recognition of clinical symptoms had brought us to the conclusion that tuberculosis of the genito-urinary tract was far more commonly encountered than was formerly believed, and that such cases were always prolonged in duration, rebellious to treatment and very grave in character. He gave the histories of several cases that had been under his observation for some time, intending to show that it was possible for a person afflicted with undoubted tuberculosis of the genito-urinary tract to live for years a useful life, without surgical attempts to remove the infected organs. In three of these cases the exciting causes were traumatic, falls and muscular strains. Heredity was not at all marked.

Dr. Hugh H. Young of Baltimore did not think we should or could expect so much in the way of conservative treatment as Dr. Chismore because of climatic differences.

Dr. Arthur T. Cabot of Boston believed that the hygienic treatment of certain cases was better, especially when the tuberculosis was disseminated through a complicated series of channels or organs. Now and then the disease would locate itself in the epididymis, for instance, and then operation would be called for.

Dr. W. K. Otis of New York said that no cases appeared alike in genito-urinary tuberculosis, and, therefore, we were unable to tell what was going to happen when any one method of treatment was employed. He had never

been able to find any satisfactory agent for local treatment of a tuberculous cystitis. He much favored the let-alone treatment in all cases of genito-urinary tuberculosis. However, when surgical treatment was deemed advisable it should be done most thoroughly.

Dr. JOHN VAN DER POEL of New York reported a case of tuberculosis of the left testicle with secondary involvement of the prostate as he then thought. The testis itself did not seem to be involved, but the epididymis was removed, thinking it alone was infected. Subsequently operation was necessary to remove the testis as well as that of the opposite side. This case he said demonstrated how careful one should be in advising a partial operation.

Dr. PAUL THORNDIKE of Boston said that in cases of more or less advanced tuberculosis when it seemed advisable to make a palliative operation for the patient's comfort, one would necessarily be deterred from so operating because of the possibility of not removing all the diseased tissue.

**A Case of Calculous Anuria Relieved by Operation.**—Dr. ARTHUR TRACY CABOT of Boston read this paper. The patient was a strong, vigorous man of fifty-seven years of age who, for fifteen years, had suffered from severe pain in the right lumbar region, the pain shooting down into the right groin and into the penis. These attacks occurred about once a year and were accompanied by nausea, vomiting, and a bloody urine. Frequently they were followed by the passage of stones from the bladder, some being one-third of an inch in diameter. Two years ago he had an attack occurring upon the left side. During the past year he had had these attacks upon the right side about once a week. For the past three weeks he had persistent, almost constant, pain in the right side, with nausea, and vomiting each day, but no stones were passed. Only two or three ounces of urine was voided in twenty-four hours. Burning pain occurred in the glans penis. There was great tenderness and rigidity in the right lumbar region, and a sense of great and deep resistance over the right kidney. No prostatic enlargement existed. A skiagraph showed no calculi in the bladder or kidney. He saw the patient twenty-four hours after his admission to the hospital, during which time no urine could be withdrawn by the catheter, and it seemed probable that the right kidney was stopped by a calculus, and that the left kidney was practically useless. The severe attacks in the right kidney were supposed to account for its inactivity. The right kidney was cut down upon and was so large that it was with difficulty lifted out of the wound. It was dark purple in color and dotted with little yellow spots, strongly suggesting miliary tubercles. One of these little abscesses contained a few indeterminate crystals. The pelvis of the kidney was opened and explored but nothing was found. The ureter was followed down into the bladder but nothing could be felt. A drainage tube was introduced into the renal pelvis, the capsule was split along its convexity, and the wound was closed so far as drainage would allow. Within the next twenty-four hours the patient passed 900 c.c. of urine; in the next, 1,500 c.c., and as much more was supposed to have escaped into the dressings. On the fourth day the urine suddenly ceased coming through the bladder and a proportionate amount escaped through into the dressings. Some hours later urination by the bladder was resumed and drainage through the tube then diminished. On the eighth day the tube was removed and leakage through the wound quickly stopped. On the fourteenth day the bladder was washed out and two stones of about the size of a grain of wheat were obtained and a larger stone was felt to click against the Bigelow evacuator. This stone measured 1 cm. in diameter. This was crushed and pumped out on the twenty-fourth day. From this time recovery was practically uneventful. After convalescence the bladder was examined by the cystoscope. The right ureter was three times the normal size and the urine could be seen coming from it in jets. The left ureter was filled by a string of thick pus.

Dr. RAMÓN GUITÉRAS of New York reported the case of a Canadian who suffered from hæmaturia. From his past history he thought of stone in the ureter. A local *x*-ray worker denied the existence of stone, but Dr. Leonard of Philadelphia said one was present just where the ureter passed over the pelvic brim. Operation was performed and just at the point named by Dr. Leonard there was a bulging of the ureter of fusiform character. Palpation of it revealed no stone. It was incised but no stone was found, but a large mass of thick yellow pus of the consistence of Camembert cheese was noted. The ureter was stripped down into the pelvis. The patient's hæmaturia ceased. Although no stone was seen, he thought the probabilities were that there had been one which had passed down into the bladder and escaped through a large perineal opening which the patient had.

**Conservative Perineal Prostatectomy; Presentations of New Instruments and Technique.**—Dr. HUGH H. YOUNG of Baltimore read this paper. The principal objection to the perineal route was the necessity of the suprapubic incision to push the prostate down into the perineum where it could be enucleated. After several months of experiment he had constructed an instrument which could be used from below to draw down the prostate. It consisted of two fenestrated blades attached to shafts, one of which revolved around the other. When the two handles near the outer end, which regulated the rotation, were brought together the blades were approximated and in position for insertion into the bladder through the opening in the membranous urethra. Once introduced above the intravesical limits of the prostatic lobes, the blades could be made to separate by rotating the external blades away from each other, when the instrument would be ready for any traction on its shaft that was necessary to drag down the prostate well into the perineal wound. The fact that many of those requiring prostatectomy were vigorous men in the fifties, with sexual powers well preserved, rendered it important that nothing should be done to injure their manly vigor, and care should be taken not to injure or remove the ejaculatory ducts.

He considered the exaggerated dorsal lithotomy position the most satisfactory. The perineum should be elevated until it was almost parallel with the floor. He used the median perineum incision, about 6 cm. in length, the posterior limit being quite near the anus, in thin patients; if the patient was large, with the prostate situated deeply, he generally used the inverted "V"-shaped incision. The apex of this incision was just over the posterior part of the bulb and the two branches were each 5 cm. long, the posterior limit being about midway between the anus and ischial tuberosity. After exposing the superficial muscles by blunt dissection the central tendon was caught by a clamp near the bulb and divided. This at once freed the sphincter and the levator ani from the anterior attachment and exposed the rectum drawn forward by the recto-urethralis muscle. In order to reach the membranous urethra and the apex of the prostate this muscle should be divided. This at once exposed the "*espace decollable rétroprostatique*" so well described by Proust. When this muscle was divided the rectum dropped back and one entered the space surrounding the posterior surface of the prostate. Next the membranous urethra was opened upon a sound and a sound of considerable size passed through the incision into the prostatic urethra and bladder. Then the prostatic retractor, already described, was inserted; so soon as the beak was free in the vesical cavity the thumb-screw which fixed the blades in position was loosened, the blades rotated 180 degrees by means of the external blades, and then was fixed by tightening the thumb-screws. Each blade projected laterally so as to engage the intravesical surface of the lateral lobe. As a result of this, a splendid exposure of the entire posterior surface of the prostate was obtained.

Next an incision was made on either side of the median line for almost the entire length of the posterior surface of the prostate and about 1 cm. deep; the two lines should be convergent. The bridge of tissue which was contained between the two incisions contained the ejaculatory ducts, whose preservation was of the utmost importance.

He believed the separation of the capsule from the lateral lobes was best done with a blunt dissector. Capsules were of varying thickness and contained several layers of cleavage. It was important to start not too deeply, going into the prostatic substance, nor too superficially so as to be outside most of the capsule. After the stripping up process had been started correctly it was easily continued by blunt dissectors until first the lateral and then the anterior surface of the lateral lobes had been freed from the capsule. Internal nucleation required considerable care to prevent tearing into the urethra. When the enucleation of the lateral lobe had progressed fairly well on each side, he found it advantageous to have traction made upon the prostate itself, in order to facilitate the separation of the deeper portion. He devised a pair of fenestrated instruments which could grasp the entire lobe and which presented such broad surfaces that no tearing or cutting of the capsule could result. After shelling out the lateral lobes attention should be directed to the median portionof the prostate. The prostatic retractor could be used now with great advantage. Abundant vesical drainage should be provided for, as a small tube may easily become plugged by blood clots and cause great annoyance. He deemed it advisable to keep up continuous irrigations while the patient was being returned to his room, so as to prevent clogging of the drainage tube with blood clots during transit.

He had now operated upon twelve cases with the prostatic retractor and generally by the technique described. All these patients were living and well. All could empty their bladders completely, and none used the catheter.

*Thursday, May 13—Second Day.*

**Acute Vesiculitis—Especially Treatment.**—Dr. JAMES P. TUTTLE of New York read this paper. The chief object of his paper was a prophylactic one, to call attention to the harm often done to the rectum by unwise efforts to treat vesiculitis through that organ. He said that the onset of acute vesiculitis was usually in the course of an acute posterior urethritis. It might be due to gonorrhœa, colon bacillus, tuberculosis, or simple pus infection. It had been rare, in his experience, in those cases which had not been subjected to instrumentation, or forcible irrigation of the posterior urethra. It seemed possible to him that the hydrostatic pressure exerted by the Valentine method on the deep urethra in cases of spasm of the neck of the bladder might easily distend the ducts and carry the infectious secretions up toward the vesicles. The disease may come from other causes than gonorrhœa. Aside from the painful erections and emissions, frequent and straining efforts at urination and sometimes retention of urine, most of the symptoms were referred to the perineum and rectum. There usually occurred aching in the sacrum and pelvis, rectal tenesmus, pain on defecation shooting down the legs into the testicles and to the end of the penis just as was often found in ulcer of the rectum. Diagnosis could only be made by an examination through the rectum, and this was best made with the patient in the knee-chest position and with the bladder moderately filled with urine. The finger in the rectum could then make out an unusual heat, tenderness, swollen, irregular masses leading upward and outward from the lateral lobes of the prostate. Usually the prostate was swollen and tender.

**Treatment.**—After experimenting very largely, he found that, in all such conditions requiring prolonged irrigations, two soft catheters of rubber were more satisfactory than the metal irrigators. In the very early stages cold water gradually lowering the temperature from 90° to 50° by putting ice in the reservoir after the flow had begun was best. The bag should not be so high as to cause a forcible injection of the fluids. Prolonged rather than intense cold was to be desired. After the acute symptoms had subsided one should change from cold to heat, but one should be careful not to raise the heat too high; 110–115° F. was as hot as the water should ever be. To this he advised the adding ½ to 2 per cent. hydrastis. When the swelling and pain persisted irrigations over the vesicles through the rectal speculum gave great relief, and would often start up resolution when nothing else would. Temperature was best reduced by the application of guaiacol along the course of the vas deferens. Pain was best relieved by aconite or acetanilid, or phenacetin. Opium should be avoided on account of its constipating effects. Frequent rectal examinations should be avoided. Hydrastis and ergot internally had good effects in chronic conditions.

Dr. EUGENE FULLER of New York emphasized the importance of rest, with elevation of the hips, the use of the bed-pan, enemata, etc., in the treatment of acute vesiculitis. If such a treatment be pursued few cases will run on to a chronic condition. When dealing with acute suppurative processes he advised against fretting them too much.

Dr. GEORGE K. SWINBURNE of New York deprecated the use of forcible urethral irrigations. He used urethral irrigations a great deal, and had never had a case of acute urethritis or prostatic abscess, or other bad result from its use, because he never used force and so avoided distending the urethra too much. In acute vesiculitis he had used the Chetwood tube with pleasing results.

**A Further Report on the Author's Method of Exposing and Draining the Seminal Vesicles.**—Dr. EUGENE FULLER of New York read this paper. He reviewed his former paper read before the New York County Medical Association, and published in the *Journal of the American Medical Association*, May 4, 1901, entitled "A New Operative Method to Expose the Seminal Vesicles and Prostate for the Purpose of Extirpation and Drainage, a Preliminary Report." In order to facilitate an accurate dissection through the soft, elastic and yielding perineal and pelvic structures they should be made to assume as stable a position as possible, and that could only be accomplished by making them taut. To accomplish this the patient with his thighs sharply flexed was put belly downward on a Trendelenburg table, the buttocks protruding somewhat over the end, while the flexed thighs straddle the table. The end of the table was then inclined upward quite sharply. The body was maintained in this position by sand-bags, strappings, and the attention of attendants. An antiseptic, lubricated cotton tampon, with a tape attached, was pushed into the previously cleansed rectum, well up into the region of the sigmoid, in order to guard against bowel leakage. No catheter was necessary or advisable, as in the Von Dittel operation, but the bladder was emptied before the administration of the anæsthetic. The external incision consisted of two somewhat converging longitudinal cuts, which were connected at their dependent and proximal extremities by a transverse cut. The longitudinal cut to the operator's right began a little above the patient's coccyx and just inside his right ischium, and extended downward and slightly inward, keeping just within the border of that bone, passing the tuber ischii and ending somewhat below that tuberosity at a point laterally and about three-fourths of an inch anteriorly to the anterior margin of the anus. The longitudinal cut to the operator's left corresponded exactly to the one just described. The transverse cut connected the converging ends, dividing the perineum transversely about three-fourths of an inch anterior to the anterior margin of the anus. He incised deeply along the longitudinal cuts, through the fatty tissue of the ischiorectal

space, and divided above a few of the lower fibers of the glutens maximus muscle. The transverse cut was then deepened, the anterior layer of the deep fascia being cut through. Great care was taken to avoid wounding the sphincter muscle. The forefinger of the operator's left hand was next introduced into the rectum, the ball of the tip turned downward against the anterior rectal wall, while the corresponding thumb pressed against the loosely dissected rectum, the hand at the same time exercised upward traction. With the right hand the operator dissected more deeply, cutting through the levator ani muscle and the visceral layer of the pelvic fascia. The pathway of dissection between the urethra and the rectal wall was very narrow, and the forefinger in the rectum acted as a most important guide. The stroke of the knife was inward and toward the rectal wall. The tip of the finger was moved so that it was just behind the portion of the rectal wall where the dissection was being made. This protected against perforation of the rectal wall and the urethra escaped damage. In case the lower portion of the lateral incisions have not been made deep enough to sever the levator ani muscle, they can now be made so. Next the operator's right forefinger was inserted along the dissection, and kept just below the rectal wall until it passed through the cut in the visceral layer of the pelvic fascia and entered the lymph space which lies between the prostate and the rectal wall. When this space was reached the left forefinger was passed in alongside the right and the path of the wound divulsed by separating the fingers. By this process the loose rectal connections were stripped from the seminal vesicles and posterior bladder wall, leaving those parts exposed to direct surgical attack. The operation having been completed for which the incision was made, the walls of the wound were carefully adjusted by deep sutures, so as to bring the rectum back into its original position. A space for gauze packing was left in the middle portion of the transverse cut. If the sutures around the rectal portion of the wound were not deep, so as to allow the sphincter to become firmly attached to the outlying structures, some tendency to rectal prolapse might eventually develop. Temporary retention of urine was apt to develop, especially when considerable gauze packing was left, connecting the deep track of the wound with the surface. As the tissues in these parts were well nourished first intention was the rule. This operation rendered direct surgical attack feasible in many rebellious forms of seminal vesicular disease, which were formerly left unaided, or which have responded unsatisfactorily to palliative measures. He had opened and drained thickened and catarrhally distended seminal vesicles, freed them from dense inflammatory adhesions, and removed a neoplasm from one of them, and had entirely extirpated one. At the time the first paper was written the author had employed the operation on five occasions. For a period of nine months afterward he did not employ the operation but followed the cases upon which he had operated. The final results being satisfactory he employed it in a second series of twelve cases. In the first series the operation was done in three instances to expose chronically diseased seminal vesicles, for incision and drainage, the sacs were opened longitudinally and the interiors were subjected to gentle curretage, after which gauze packing was temporarily introduced. In one instance a seminal vesicle was opened longitudinally and a fibrous tumor removed. In the second series the operation was performed in nine cases for the relief of chronic seminal vesiculitis, and three times it was employed to drain acute peri-seminal-vesicular abscesses. The oftener he had performed the operation the more satisfactory it had proved. There had been no deaths, no complications and no alarming symptoms. In about two-thirds of the cases post-operative retention persisted for four or five days, requiring the passage of a soft rubber catheter. In the cases of chronic seminal vesiculitis the gauze packing was removed on the third or fourth day. In most instances the external wound was kept open by means of rubber drainage tubes for a week longer. In a considerable number of cases there was prompt relief from reflex symptoms, while in some several months elapsed before such relief was experienced. In most of the cases there was thorough restoration of the sexual function, though it might be four or five months before this result was attained. He advised patients against sexual excitement for several months after convalescence, lest they do damage to the seat of operation. He felt that his experience with this operation when employed to drain seminal vesicles was past the experimental stage, and he strongly advocated it in aggravated instances of seminal vesiculitis associated with marked subjective symptoms, which persisted in spite of his treatment of stripping the organs by means of the finger introduced into the rectum. The stripping method took considerable time, perhaps from six to nine months. He did not recommend the operation in tuberculous seminal vesiculitis. He found this method of reaching and draining deep suppurations either about the seminal vesicles or prostate most satisfactory. If the abscess was back of the prostate his operation avoided injuring that gland or the ejaculatory ducts. He always feared the operation per rectum lest bowel leakage into the tissues might give trouble, or in case of an abscess just on the verge of spontaneously discharging itself into the bladder a vesico-rectal fistula might persist. No surgical objections could be raised against the drainage of suppuration by his method since the dissection employed reached the focus of trouble without injury to any of the adjacent organs. Speedy and safe convalescence ensued, and there was little or no danger of subsequent complications. The only objections to the operation was that it required more skill than a cystotomy, with incision through the trigonum, or an incision through the rectum.

Dr. JAMES P. TUTTLE of New York, in order to prevent any contamination of the operative field by the rectal contents, recommended that a metal ring with a groove running around it, with four holes in it, be employed in this way: An ordinary condon should first be tied around the groove in the metal ring, which is then fastened just inside the anal margin. The condon is then inverted, and this would prevent the fæces coming down as well as protect the surgeon's hand from the fecal contents.

Dr. HUGH H. YOUNG of Baltimore believed that too much attention was paid to the vesicles and not enough to the prostate. He said that a chronic prostatitis was more difficult to cure than a chronic vesiculitis, and that it happened very often a cure of both resulted from attention being paid alone to the chronic prostatitis.

Dr. E. L. KEYES, Jr., of New York, always had fancied that a rectal incision was adequate to take care of that kind of cases; he had never found the dangers of infection increased by an incision through the rectum which was a simpler matter than going through the perineum. He related an instructive instance occurring in a man who was in catheter life. He was called to the country to open an abscess, the incision being made through the rectum. Before operating there was no pus in the urine, but after the operation it became loaded with pus. The parts were irrigated with boric-acid solution for eight or ten weeks and he was reported to be no better. He was still passing urine through his rectum. The irrigation was stopped and, six weeks later, the hole closed and remained closed.

Dr. Fuller said he had never had infection from the rectum from following the method of operating advocated, but thought the suggestion of Dr. Tuttle a good one. He believed that a greater effort should be made to differentiate between diseases of the prostate and those of the vesicles. He thought the time would soon come when more would be done for such sufferers by operative procedures. One of the dangers of opening through the rectum was from the urine, and an

operation which avoided such a possibliity would be better than when we obtained drainage elsewhere.

**A Vesical Calculus of Unusual Dimensions.**—Dr. ABNER POST of Boston presented this unusual specimen. The patient was a man, sixty-six years old. He dated the beginning of his trouble from a urethral hemorrhage which he believed occurred fourteen years ago. Since then he had had almost constant discomfort and frequent micturition. For some time he had been compelled to get up every hour of the night to pass his urine. Sometimes his urine would not come until he had raised his leg. It was evident when the doctor first saw him that he had a stone, the removal of which would relieve him of his symptoms. Suprapubic cystotomy was performed and the immense stone was disclosed. It filled the entire vesical cavity. With much difficulty the stone was removed from its bed. To gain sufficient room it was found necessary to divide the recti muscles and to make a transverse incision on each side. The stone weighed 660 grams. It was 11¾ inches in its longest diameter and 10¾ inches in its shorter. The athologist reported that it consisted chiefly of phosphate of calcium and triple phosphates with some carbonate of lime and organized débris. The largest vesical calculus on record was said to be in the possession of the French lithotomist, Morand. It weighed 6 pounds and 3 ounces. An enormous stone, weighing 51 ounces, was long preserved in the hospital of La Charité, Paris. It was extracted after death from the bladder of a poor curate in 1690. Coulson, "On the Bladder and Prostate," said "The largest calculus preserved in our collections is the one which Mr. Cline attempted to extract from the bladder of Sir William Ogilvie; it weighed 44 ounces, and was 16 inches round one axis by 14 round the other. Numerous cases are recorded in which the stone weighed from 5 to 15 or 20 ounces; but how small a proportion they bear to the mass of cases operated on may be gathered from the fact that, of the 703 calculi in the Norwich collection, weighed by Mr. Crosse, only two exceeded 6 ounces in weight, and they were between 6 and 7 ounces."

Dr. HUGH H. YOUNG of Baltimore said that he learned, from a book he had in his possession, that Sir William Ogilvie for five years had found it necessary to stand on his hands, or back up against a wall, in order to urinate; in this way the urine flowed over the top of the stone. The attempt at perineal lithotomy was made in 1816, before the days of anæsthesia. It was stated that Sir William bore the operation with great fortitude. With supplies from a blacksmith, a chisel and hammer, etc., five ounces of the stone were removed, and then Sir William could stand it no longer. The calculus was now in the Museum of the College of Physicians and Surgeons, and had the marks of the work done upon it during the operation, showing where a hole had been gouged out. Last year Dr. Young had seen two calculi which filled the bladder and prostatic urethra, and were practically as big as the one presented by Dr. Post.

**Some Suggestions in the Management of Prostatics About to Enter Catheter Life.**—Dr. GEORGE K. SWINBURNE of New York read this paper. He believed that many patients with prostatic hypertrophy were introduced to catheter life, and allowed to use the catheter themselves, who for a longer or shorter period, by judicious management, could be saved from the frequent self-catheterization with its attendant dangers. The cases varied markedly in the rapidity with which the amount of residual urine increased, according to the situation of the obstruction; but he said there was one element often overlooked, the superinduced congestion, or, rather, œdema of the surrounding tissue, which increased the obstruction and consequently the amount of residual urine. When this obstruction and consequent congestion had been reduced, then the amount of residual urine fell back to an amount due to the mechanical obstruction itself. Many of these patients could be brought back to the condition they were in before the onset of any acute symptoms and kept there for a varying period of time; they would have nocturnal polyuria and a small amount of residual urine, but the urine will be sweet and clean and the bladder remain uninfected; then by careful dieting, abstemious living, the proper amount of exercise, and the local treatment, etc., would cause a lessening of the physicians' visits until they did not exceed two or three a month.

**Cancer of the Prostate.**—Dr. ROBERT H. GREENE of New York presented this communication and said that he had great difficulty in finding any literature which bore upon this subject. Frequent symptoms were pain referred to the perineum, to the rectum, and to branches of the sciatic nerve; the amount of residual urine had little relation to cancer cases. The average age of all cases was sixty-eight years. The size and feel of the growth as found by rectal touch was of no special diagnostic value. There followed secondary lymphatic infection. Autopsies were made on seventy-one men; in 88 per cent. the glands were found to be involved, and in about 35 per cent. the inguinal glands were infected; in about 3 per cent. the axillary glands were involved.

He reported a case of this nature. The patient was sixty years old and had had gonorrhœa forty years previous. At Christmas time, 1901, he had retention of urine and was relieved by catheter. From then on he complained of pain in the right perineal region. There was but little residual urine. Urinary examination was negative. There was no tenderness over the prostate. The bladder was irrigated with nitrate of silver solution and he was given tonics, and all was done that was possible toward improving his general health. The pain continued. He insisted upon an operation. The diagnosis at that time was an abscess of the right lobe of the prostate, or else a small stone incysted in the prostate. The patient was operated upon last June and the prostate was removed. He claimed that the operation injured his sexual functions. The pathologist reported the right lobe of the prostate to be cancerous. Dr. Guitéras presented some photographs of the case.

(To be continued.)

## New Instruments.

### AN INSTRUMENT FOR THE RAPID ESTIMATION OF THE ACIDITY OF THE GASTRIC CONTENTS.

BY C. SIGMUND RAUE, M.D.,
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IN the investigation of the diseases of the stomach, the estimation of the amount of free hydrochloric acid, combined hydrochloric acid, and the total acidity is, perhaps, the most essential result to be obtained. The usual method is to titrate the gastric contents with decinormal soda solution from a Mohr's burette—a procedure that is tedious and requires, beside the necessary outfit of beakers, graduates, burette, etc., a certain amount of laboratory technique. The instrument shown in the accompanying illustration combines, so to speak, the entire outfit required for a titration, besides being far simpler and easier to carry out. For the sake of convenience the instrument may be called an acidometer.

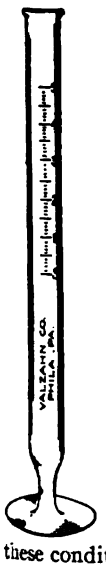
The method of procedure is as follows: Fill the acidometer with filtered gastric contents to the line marked "S" and add a drop of a one-half of one-per-cent solution of dimethylamido-azo-benzol. When free HCl is present, the reagent imparts to the solution a deep red color. This point, however, should be determined beforehand by testing for free HCl with Boas' reagent, or by mixing a drop of the dimethylamido-azo-benzol solution with a drop of the gastric contents on an evaporating dish and noting whether or not the characteristic color change

takes place. Now add, drop by drop, under gentle agitation of the tube, decinormal soda solution until the free acid is neutralized, as indicated by the change of the red color to yellow (pale orange). Read off the amount of decinormal solution that was necessary to get this result, by consulting the scale on the tube (the markings correspond to cubic centimeters and tenths of cubic centimeters) and multiply by twenty. The result indicates the amount of free HCl present. Thus, if five-tenths is the amount of soda solution used, the free acid equals ten (10). By titration, this indicates that in order to neutralize the free acid in 100 c.c of gastric

contents it requires 10 c.c. of soda solution, in this particular instance. The percentage of acid can be calculated by multiplying this result by .00364, but in gastrological work the acidity is recorded, as a rule, in the results obtained by titration, as above

The next step is the estimation of the combined acid. Add a drop of a one-per-cent. solution (alcoholic) of phenolphthalein to the contents of the tube and continue dropping in soda solution until a pink color, not disappearing on agitation, is developed. This indicates the point of neutralization of the combined acid. Note the amount of soda solution required to gain this result and mutliply by twenty. The product represents the amount of combined acid on the same basis as above. Thus, if 2.5 spaces (c.c.) were used the combined acid equals 50.

The sum of free acid (10) and combined acid (50) represents the total acidity. Normally this is from 60 to 65.



Before the above tests are made the actual presence of free HCl should always be determined as described above, and lactic acid should be tested for by Uffelman's reagent—a mixture of a dilute solution of neutral ferric chloride and dilute carbolic acid, forming an amethystine solution changed to canary yellow by lactic acid. When free HCl is present in appreciable amount, lactic acid fermentation is inhibited, and accordingly it may be left out of consideration under normal conditions. In examining the gastric contents of children that have been taking milk, no free HCl will be found, as the acid enters into chemical combination with the milk proteids so completely that it, so to speak, is neutralized. Under these conditions, however, the total acidity is high.

In case only a small amount of gastric contents is obtainable, 2 c.c. may be used in the acidometer, adding water up to the mark "S." The result is then multiplied by fifty instead of twenty. The apparatus is manufactured by the Valzahn Surgical Instrument Company of Philadelphia.

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**Medical Perils.**—In Beloochistan, when a physician gives a dose, he is expected to partake of a similar one himself as a guarantee of his good faith. Should the patient die under his hands, the relatives, though they rarely exercise it, have the right of putting him to death, unless a special agreement has been made freeing him from all responsibility as to consequences; while, if they should decide upon immolating him, he is fully expected to yield to his fate like a man.—*Tit-Bits.*

## Books Received.

*While the* MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

CONSTITUTIONAL THERAPEUTICS, "THE PATIENT, NOT THE DISEASE." By A. W. WOODWARD, M.D. 8vo, 557 pages. Boericke & Tafel, Philadelphia, Pa. Price, linen, $3.50.

LA CURE DE LA TUBERCULOSE DANS SANATORIUMS FRANÇAIS. By A. F. PLICQUE & VERHAEREN. 16mo, 152 pages. Illustrated. C. Naud, Paris, France.

DELA DEGENERESCENCE CANCEREUSE DE L'ULCERE DE L'ESTOMAC. By Dr. C. AUDISTERE. 8vo, 114 pages. C. Naud, Paris, France.

PRÉCIS D'ELECTRICITE MEDICALE. By E. CASTEX. 12mo, 672 pages. Illustrated. F. R. de Rudeval, Paris. Price, Fr. 8.

HYDROLOGIE. By HENRI CAUSSE. 16mo, 346 pages. F. R. de Rudeval, Paris. Price, Fr. 5.

TRATAMIENTO CURATIVO DE LA TUBERCULOSIS PULMONAR. By Dr. ABDON SANCHEX HERRERO. 8vo, 375 pages. Illustrated.

DISEASES OF THE EAR. By EDWARD BRADFORD DENCH, M.D. 8vo, 718 pages. Illustrated. D. Appleton & Co., New York.

THE WELCOME PHYSIOLOGICAL RESEARCH LABORATORIES, FOUNDED 1894. By WALTER DOWSON, M.D. 8vo, 36 pages. Illustrated.

THE EXACT SCIENCE OF HEALTH BASED UPON LIFE'S GREAT LAW. By ROBERT WALTER, M.D. VOL. I, PRINCIPLES. 302 pages. Edgar S. Werner Publishing Co., New York.

TRANSACTIONS OF THE SEVENTIETH ANNUAL SESSION OF THE TENNESSEE STATE MEDICAL ASSOCIATION, 1903. 8vo, 320 pages.

A NURSE'S HANDBOOK OF OBSTETRICS. By JOSEPH BROWN COOKE, M.D. 8vo, 391 pages. Illustrated. J. B. Lippincott Co., Philadelphia.

A MANUAL OF OBSTETRICS. By A. F. A. KING, M.D. Ninth Edition. Revised and Enlarged. 12mo, 622 pages. Illustrated. Lea Brothers & Co., New York. Price, cloth, $2.50 net.

PLAIN HINTS FOR BUSY MOTHERS. By MARIANNA WHEELER. 16mo, 56 pages. Illustrated. E. B. Treat & Co., New York. Price, 35 cents.

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SIGHT AND HEARING IN CHILDHOOD. By Drs. CARTER and CHEATLE. 8vo, 119 pages. Illustrated. The Scientific Press, London. Price, 2 shillings net.

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**Insanity and Heredity.**—Dr. Ernest W. White says that heredity plays a large part in the production of insanity. The intermarriage of persons afflicted with grave neuroses, or even with the actual taint of insanity, is too common. Yet it is one which should be prevented, by educating public opinion and morality if possible, or even by State measures.

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending September 5, 1903:

| | Cases. | Deaths. |
|---|---|---|
| Measles | 78 | 5 |
| Diphtheria and croup | 238 | 32 |
| Scarlet fever | 89 | 10 |
| Smallpox | .. | ... |
| Varicella | 15 | ... |
| Tuberculosis | 248 | 127 |
| Typhoid fever | 129 | 23 |
| Cerebrospinal meningitis | ... | .. |

**Bacterioscopical Analysis of Water.**—At the British Congress of the Royal Institute of Public Health, Dr. Savage opened a discussion on the need of a uniform scheme of examination to be adopted in the bacterioscopical analysis of water. The speaker considered the subject under these headings: (1) The collection and transmission of the samples; (2) the data to be ascertained; (3) the processes and procedures of the examination; and (4) the interpretation of the results with regard to the first he detailed the precautions usually adopted, but stated that he was by no means sure that ice-packing preserved the bacterial contents unaltered. As regards the second point he suggested (*a*) number of aerobic organisms per cubic centimeter developing at 37° C.; (*b*) investigation as to the presence of certain organisms especially liable to be associated with sewage or fecal contamination, such as bacillus *coli communis*, bacsillu enteriditis sporogenes, streptococci and proteus organisms; (*c*) examination for bacillus, typhosus, and spirillum choleræ. As regards the third point, he thought that some uniformity might be reached concerning the temperature of incubation, date of counting the colonies, and reaction of the culture medium, but he did not consider they were yet in a position to suggest a standard method for the qualitative examination for bacillus coli, and for bacillus enteriditis sporogenes, it had yet to be determined whether cultural characters alone were sufficient, or whether the inoculation test in addition was necessary. In the discussion that followed, Professor R. T. Hewlett pointed out that chemists had arrived at a more or less uniform procedure, and half a dozen chemists examining the same water would probably all adopt the same method and would obtain the same figures. He thought that some scheme might be formulated to obtain uniformity among bacteriologists, and advocated the formation of a commission to consider the question.—*Lancet*, August 1.

**Use of Radium in Surgery.**—The *Lancet* of July 25 contains a letter from its Vienna correspondent, in which is given a brief account of the recent meetings of the Vienna Gesellschaft der Aerzte, and the discussion thereat on the physiological action of radium. Dr. G. Holzknecht and Dr. G. Schwartz said they had found that the majority of animal tissues, especially the vitreous body and the crystalline lens, became fluorescent under the action of radium, and they concluded that Dr. Loudan of St. Petersburg erred in supposing that there was an irritation of the retina by the radium rays. Dr. A. Exner and Dr. Holzknecht succeeded in obtaining very remarkable therapeutical effects by use of radium. Dr. Exner showed two cases of melanosarcoma of the skin which had been greatly benefited by one exposure of from five to twenty-five minutes to the rays emitted by three milligrams of radium bromide. In a third case, an epithelioma of the lip, which had been operated on twice, but which at the time of the use of radium was as large as a cherry, was exposed to the radium ray six times for from fifteen to twenty minutes. Seventeen days after the first exposure the tumor had decreased in size very remarkably, and its presence could not be recognized by clinical examination three weeks after the first exposure. The general effect of the demonstration was to prove that radium acts as a very important remedy in many malignant diseases, in the treatment of which it will, no doubt, to a great extent, supersede ordinary surgical measures and the application of the Röntgen rays.

**Prevention of Malaria on Shipboard.**—Mr. Evans of the Elder Dempster Line, speaking at the recent British Public Health Congress, said that as long as the taking of quinine was a voluntary matter, so long would malaria remain on shipboard. It would be wise, he thought, to have a board of trade regulation to insist upon a regular "quinine parade." Officers and men should be educated as to the value of quinine and as to the mosquito theory. It would be difficult to exclude mosquitoes altogether from ships, hence the value of quinine. Dr. C. Christy of Liverpool said that Europeans should be segregated and natives excluded. The last he described as being the only measure which afforded the traveler any real hope of safety.

**Health Report.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended August 29, 1903:

SMALLPOX—UNITED STATES.

| | | | CASES. | DEATHS. |
|---|---|---|---|---|
| California, Los Angeles | Aug. 8–15 | | 1 | .. |
| San Francisco | Aug. 8–16 | | 1 | |
| Illinois, Belleville | Aug. 15–22 | | 1 | |
| Chicago | Aug. 15–22 | | 9 | 2 |
| Louisiana, New Orleans | Aug. 15–22 | | 1 (imported) | |
| Massachusetts, Fall River | Aug. 15–22 | | 5 | .. |
| Taunton | Aug. 15–22 | | 1 | .. |
| Michigan, Grand Rapids | Aug. 15–22 | | 1 | .. |
| Port Huron | Aug. 15–22 | | 2 | .. |
| Missouri, St. Louis | Aug. 15–22 | | 4 | .. |
| New Jersey, Hudson County | Aug. 17–24 | | 1 | .. |
| Ohio, Dayton | Aug. 15–22 | | 2 | .. |
| Hamilton | July 11–18 | | 1 | .. |
| | | (Should have been reported July 6) | | |
| Pennsylvania, Allegheny | Aug. 10–17 | | 2 | .. |
| Pittsburgh | Aug. 8–15 | | 23 | 17 |
| Pittsburgh | Aug. 15–22 | | 41 | 8 |
| | | | (1 imported.) | |
| Scranton | Aug. 8–15 | | 1 | .. |

SMALLPOX—FOREIGN.

| | | | | |
|---|---|---|---|---|
| Austria, Prague | Aug. 1–8 | | 1 | .. |
| Belgium, Antwerp | Aug. 1–6 | | 2 | 1 |
| Brussels | Aug. 1–8 | | .. | 1 |
| Great Britain, Dublin | Aug. 8–15 | | .. | 1 |
| Dundee | Aug. 1–8 | | 2 | .. |
| Liverpool | Aug. 8–15 | | 8 | 2 |
| London | Aug. 1–8 | | 4 | .. |
| Manchester | Aug. 1–8 | | 1 | 1 |
| Newcastle-on-Tyne | Aug. 1–8 | | 4 | 2 |
| Nottingham | July 25–Aug. 1 | | 6 | .. |
| Sheffield | Aug. 1–8 | | 1 | .. |
| India, Bombay | July 1–28 | | .. | 14 |
| Mexico, Mexico | Aug. 8–16 | | 5 | 3 |
| Hermosille | Aug. 11 | | Epidemic | |
| Magdalena | Aug. 11 | | Epidemic | |
| Tegucigalpa | Aug. 15 | | Present | |
| Russia, Moscow | July 25–Aug. 1 | | 3 | 1 |
| St. Petersburg | July 25–Aug. 1 | | 1 | 1 |
| Turkey, Smyrna | June 21–July 19 | | .. | 16 |

YELLOW FEVER.

| | | | | |
|---|---|---|---|---|
| Colombia, Panama | Aug. 10–17 | | 3 | 1 |
| Costa Rica, Limon | Aug. 6–13 | | .. | 2 |
| Ecuador, Guayaquil | July 18–25 | | .. | 1 |
| | | | (Sporadic) | |
| Mexico, Mexico | Aug. 8–16 | | 1 | 1 |
| Linares | Aug. 26 | | Epidemic | |
| Merida | Aug. 1–12 | | 10 | 5 |
| Tampico | Aug. 8–15 | | .. | 14 |
| Vera Cruz | Aug. 8–15 | | 53 | 15 |

CHOLERA—INSULAR.

| | | | | |
|---|---|---|---|---|
| Philippine Islands, Manila | July 6–11 | | 8 | 6 |
| Provinces | July 6–11 | | 866 | 644 |

CHOLERA—FOREIGN.

| | | | | |
|---|---|---|---|---|
| China, Hongkong | July 8–15 | | .. | 1 |
| India, Bombay | July 21–28 | | .. | 1 |
| Calcutta | July 18–25 | | .. | 15 |
| Straits Settlements, Singapore | June 27–July 4 | | .. | 2 |

PLAGUE.

| | | | | |
|---|---|---|---|---|
| China, Amoy | June 11–18 | | .. | 840 |
| | | | (Estimated) | |
| Funchau | July 8–15 | (Becoming epidemic) | | |
| Hongkong | July 8–15 | | 33 | 29 |
| India, Bombay | July 21–28 | | .. | 80 |
| Calcutta | July 18–25 | | .. | 9 |
| Karachi | July 12–26 | | 2 | 1 |

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## Original Articles.

### DIFFERENTIAL LEUCOCYTE COUNT IN THE EARLY DAYS OF TYPHOID FEVER.*

A STUDY FROM THE DEPARTMENT OF PATHOLOGY, COLLEGE OF PHYSICIANS AND SURGEONS, COLUMBIA UNIVERSITY, NEW YORK.

BY HENRY A. HIGLEY, M.D.,
BROOKLYN, N. Y.

THE present knowledge regarding the differential leucocyte count in typhoid fever has been chiefly obtained through the studies of Türck, Naegeli, Ouskow, Thayer, and Winter. From their observations it may be considered as definitely settled that in uncomplicated cases of this disease, the polymorphonuclear neutrophilic leucocytes are relatively and absolutely decreased, while the large mononuclears are always relatively and usually also absolutely increased in number. Furthermore the small mononuclears are relatively and absolutely decreased, normal or increased, the eosinophiles being both relatively and absolutely subnormal. The limits within which these variations usually occur are, however, not accurately settled, since the figures given by different authors vary widely; for example, the average relative reduction of polymorphonuclear neutrophilics as observed in ten cases by Winter is nearly 10 per cent. greater than that found by Thayer in a like number of cases—the observations of both authors having been made with substantially the same technique and at the same period of the disease, namely, during the second week. It is generally supposed and stated, moreover, that these peculiar relative variations in the number of leucocytes in typhoid fever are first manifest during the second week, from which time on they increase in intensity in greater or less degree. This supposition is mainly, if not entirely, based upon the observations of Thayer, since of the observers above-mentioned he is the only one who reports examinations previous to this time—that is, during the first week of the disease. He reports as thus examined, in the first week, twelve cases, and gives the following average figures for the percentages of the various leucocytes present: small mononuclears, 12.9 per cent.; large mononuclears, 12.4 per cent.; polymorphonuclear neutrophilics, 74 per cent.; eosinophiles, .5 per cent.

Curiously enough, in these cases Thayer has not stated the grounds upon which the diagnosis of typhoid fever was made, nor the facts which led him to suppose that the counts were, in truth, made during the first week of the disease. Furthermore, the counts were not made individually by him, but by different internes at the Johns Hopkins Hospital. The number of leucocytes counted in each case varied. In some 200 was the number, while in others upward of 300 were enumerated. I do not bring forward these facts with respect to Dr. Thayer's counts with any intent or desire of minimizing their value, which is great, or of drawing them under any suspicion whatsoever; but simply to make a fair statement concerning the conditions under which they were obtained, and to show that increased observations might demonstrate his conclusions were not universally applicable and to be applied to all cases of typhoid fever during the first week.

In view of all these circumstances, therefore, nearly two years ago I began a series of observations upon the differential leucocyte count in the early days of the disease, utilizing therefor cases as they from time to time appeared in my own practice or in those of other physicians, and which I had the opportunity of examining. I should not deem it worth while at the present time to communicate my results, but for the fact that they vary quite markedly from those found by Thayer during the first week, and having convinced me that in many instances the differential leucocyte count which may be called characteristic of typhoid fever is present, contrary to general supposition, during the first week of the disease.

*Technique.*—The blood drop was obtained in the ordinary manner without pressure.

The smears were made by the cover-glass method and thinly spread. No thick smears in which the leucocytes were entangled in masses of red blood cells were used.

In staining the smears one cover-glass from each patient was stained with Ehrlich's triacid mixture, and the other with either Jenner's or Wright's stain. The manipulations in using these stains were as follows:

Ehrlich's: The smears were fixed by exposing them to dry heat for two minutes at 100°–120° C. They were then covered with the stain and exposed thereto for five minutes. They were then washed off in distilled water, dried between filter paper, and mounted in balsam.

Jenner's: The smears were covered with the stain and exposed thereto for two minutes. During this time they were protected from the air by being placed in small double dishes. They were then washed *actively* in distilled water, dried in the open air, and mounted in balsam.

Wright's: The smears were covered with the stain and exposed thereto in the open air for one minute. Ordinary tap water was then added drop by drop to the stain upon the smear until there appeared upon the surface of the same a yellowish scum. The exposure was then continued for three minutes. They were then washed *actively* in tap water, dried between filter paper, and mounted in balsam.

In making the counts, a $\frac{1}{12}$ oil-immersion objective and a mechanical stage were used. One thousand leucocytes were counted with each stain—that is, in all, two thousand leucocytes from each patient. The count upon each cover-glass was made without interruption until the full number of 1,000 was counted. If interruption unavoidably occurred, the count was begun over again.

*Differentiation of Leucocytes.*—It is not necessary

*Read before the New York Pathological Society.

in this place to consider the differentiation of the leucocytes with the stains which were employed in this work, so far as the polymorphonuclear neutrophilics and eosinophiles are concerned, since no difficulty attaches to the same with any one who has had any experience in the examination of stained blood smears. It is a fact, however, that there is not by different observers a precise uniformity concerning the differentiation of the small from the large mononuclears. For this reason I give the differentiation which has been observed in these studies between these two classes of leucocytes.

Ehrlich's: Those mononuclear non-granular leucocytes which appeared in their entirety of a light blue or green color and were the same size or smaller than a red blood cell, were counted as small mononuclears, and, in addition, all those mononuclear non-granular leucocytes which showed a nucleus of a light blue or green color surrounded by a narrow zone of buff-colored protoplasm, and which in their entirety were not larger than a red blood cell. All mononuclear non-granular leucocytes which were larger than a red blood cell were classified as large mononuclears. In most of these the nucleus was round and symmetrical in form, but in a few it was invaginated. The staining properties of the protoplasm of the large mononuclears varied. In the vast majority it appeared of a buff color, but in a *few* the protoplasm was poorly stained and was somewhat indistinct.

Jenner's: Those mononuclear non-granular leucocytes which stained blue and were the size of a red blood cell or smaller were regarded as small mononuclear leucocytes. All other mononuclear non-granular leucocytes were counted as large mononuclears. Some of these showed a light blue nucleus surrounded by a narow and more or less uneven rim of dark-blue protoplasm.

Wright's: Those mononuclear non-granular leucocytes whose nucleus was of a dark purplish blue color and whose protoplasm was a robin's egg blue, were counted as small mononuclears, provided they were not distinctly larger than a red blood cell. If the latter was the case, they were classified as large mononuclears. In addition, those regarded as large mononuclears were non-granular and mononuclear, their nucleus being a blue or lilac and their protoplasm pale blue or dark. As a rule these latter leucocytes were larger than a red blood cell, but in a few instances they were smaller; in such instances they were classified as small mononuclears.

*Epitome of Cases.*—The number of typhoid cases studied was sixteen. The diagnosis was established subsequent to the count as follows: In seven by the isolation of typhoid bacilli from the fæces, using the Hiss method; in six by the presence of a positive Widal reaction (1-20 or above); and in three, on a clinical basis, by the appearance of a typical typhoid roseola, an enlarged spleen, and a typical clinical course. In these three cases circumstances interfered with the carrying out of either a Widal or isolation test.

In studies of this nature, after having established the diagnosis of the cases examined beyond the peradventure of a doubt, it becomes necessary to demonstrate with as much certainty as possible the fact that the examinations made were in reality conducted at the specified period of the disease to which claim is made. In a disease like typhoid fever such a demonstration becomes at once a matter of the greatest difficulty. When all the circumstances in connection with a given case are taken into consideration, one may honestly feel that he is dealing with a specified period of the disease (suc as in these cases the first week), and yet to prov that such is the case often becomes well-nigh a impossibility. To my mind there is but one facto which can settle such a question beyond a reason able doubt. I refer to the date of the first appear ance of the eruption. Authorities differ concern ing the limiting days of the disease within which th roseola may first appear. Comparatively few giv definite figures. Most say that it usually firs appears during the latter part of the first or th beginning of the second week, and that it may pre cede or succeed this period by a few days. Osler however, does give definite figures, and says from the seventh to the tenth day. While there can be no doubt but that it *may* first appear a few days earlier or later than this period, I nevertheless believe that these dates may be regarded as practical working figures. In the endeavor to establish the date of my examinations, I feel justified in accepting them, recognizing that they are not infallible, but believing that they constitute a standard from which conclusions may safely be drawn. Admitting that in a given series of cases the roseola first appeared on the latter of these days (the tenth), if it can be shown that in each case a given examination was made at least three days previous to this it would appear beyond a reasonable doubt that such an examination was made within the first week of the disease. Of course this presupposes that each case was seen early, and that frequent and careful examinations were made to detect the first appearance of the roseola. In all of these cases such frequent and careful examinations were made, and they were certainly all seen early in the course of the disease. Nine of the sixteen cases respond to this test—that is, the differential and total counts were made at least three days previous to the first appearance of the roseola. Here follows a detailed consideration of each of these nine cases:

CASE I.—L. H., aged twenty-five years. Fairly characteristic prodromal history of typhoid fever. Leucocyte counts made on what was probably the third day. Evening temperature 102.2° F. Pulse 92. Characteristic typhoid roseola first appeared five days thereafter on what was probably the eighth day. Widal reaction (1-20) first positive on what was probably the ninth day. Previous Widal tests had been made on the third and sixth days. No attempts were made to isolate typhoid bacilli from the fæces or urine.

Leucocyte counts made on day above indicated: Total count, 5,250. Differential count:

| | JENNER'S STAIN. | EHRLICH'S TRIACID STAIN. |
|---|---|---|
| Small mononuclears.... | 22.1 per cent. | 19.3 per cent. |
| Large mononuclears.... | 12.4 " | 15.7 " |
| Polymorphonuclear neutrophilics..... | 62.3 " | 62.0 " |
| Eosinophiles..... | 3.1 " | 3.0 " |
| Basophilics (mast-cells) | .1 " | .... |
| | 100. per cent. | 100.0 per cent. |

CASE II.—C. B., aged fifteen years. Fairly characteristic prodromal history of typhoid fever. Leucocyte counts made on what was probably the third day. Evening temperature, 101.8° F. Pulse, 95. Characteristic typhoid roseola first appeared four days thereafter, on what was probably the seventh day. No Widal tests were made. No attempts were made to isolate typhoid bacilli from fæces or urine. Spleen first detected to be enlarged in the latter part of the second week. Subsequent clinical course typical of typhoid fever.

Leucocyte counts made on day above indicated: Total count, 7,200. Differential count:

| | JENNER'S STAIN. | EHRLICH'S TRIACID STAIN. |
|---|---|---|
| Small mononuclears.... | 21.2 per cent. | 22.8 per cent. |
| Large mononuclears.... | 19.4 " | 18.2 " |
| Polymorphonuclear neutrophilics..... | 58.2 " | 57.4 " |
| Eosinophiles..... | 1.0 " | 1.6 " |
| Basophilics (mast-cells) . | .2 " | .... |
| | 100.0 per cent. | 100.0 per cent. |

CASE III.—A. C., aged twenty-nine years. Indefinite prodromal history of typhoid fever. Leucocyte counts made on what was probably the fourth day. Evening temperature, 103° F. Pulse, 98. Characteristic typhoid roseola first appeared five days thereafter, on what was probably the ninth day. Widal reaction (1-40) first positive on what was probably the fourteenth day. Previous Widal tests had been made on the fourth and eighth days. No attempts were made to isolate typhoid bacilli from fæces or urine.

Leucocyte counts made on day above indicated: Total count, 5,200. Differential count:

| | JENNER'S STAIN. | EHRLICH'S TRIACID STAIN. |
|---|---|---|
| Small mononuclears.... | 19.7 per cent. | 20.4 per cent. |
| Large mononuclears.... | 14.0 " | 12.1 " |
| Polymorphonuclear neutrophilics..... | 65.2 " | 65.5 " |
| Eosinophiles..... | 1.0 " | 2.0 " |
| Basophilics (mast-cells). | .1 " | .... |
| | 100.0 per cent. | 100.0 per cent |

CASE IV.—B. N., aged twenty-one years. Characteristic prodromal history of typhoid fever with epistaxis. Leucocyte counts made on what was probably the fourth day. Evening temperature, 100.1° F. Pulse, 93. Characteristic typhoid roseola first appeared four days thereafter, on what was probably the eighth day. No Widal tests were made. No attempts were made to isolate typhoid bacilli from fæces or urine. Enlargement of spleen first detected on the twelfth day. Subsequent clinical course characteristic of typhoid fever.

Leucocyte counts made on day above indicated: Total count, 6,100. Differential count:

| | JENNER'S STAIN. | EHRLICH'S TRIACID STAIN. |
|---|---|---|
| Small mononuclears.... | 9.2 per cent. | 12.8 per cent. |
| Large mononuclears.... | 28.1 " | 24.1 " |
| Polymorphonuclear neutrophilics..... | 59.9 " | 61.7 " |
| Eosinophiles..... | 2.8 " | 1.4 " |
| Basophilics (mast-cells). | 0.0 " | .... |
| | 100.0 per cent. | 100.0 per cent. |

CASE V.—A. H., aged nine years. Characteristic prodromal history of typhoid fever. Leucocyte counts made on what was probably the seventh day. Evening temperature, 102° F. Pulse, 97. Characteristic typhoid roseola appeared three days thereafter, on what was probably the tenth day. Widal reaction (1-20) first positive on the thirteenth day. A previous Widal test had been made on the seventh day. Typhoid bacilli were isolated from the fæces by the Hiss method at the first attempt on the tenth day, and from the urine at the first attempt on the twenty-third day. Urine contained albumin, but no casts.

Leucocyte counts made on day above indicated: Total count, 5,000. Differential count:

| | JENNER'S STAIN. | EHRLICH'S TRIACID STAIN. |
|---|---|---|
| Small mononuclears.... | 11.6 per cent. | 14.2 per cent. |
| Large mononuclears.... | 24.2 " | 22.0 " |
| Polymorphonuclear neutrophilics..... | 63.5 " | 63.0 " |
| Eosinophiles..... | .7 " | .8 " |
| Basophilics (mast-cells). | 0.0 " | .... |
| | 100.0 per cent. | 100.0 per cent |

CASE VI.—M. A., aged twenty-six years. No prodromal history. Onset sudden. Leucocyte counts made on what was probably the fourth day. Evening temperature, 101° F. Pulse, 85. Characteristic typhoid roseola first appeared four days thereafter, on what was probably the eighth day. No Widal tests were made. No attempts were made to isolate typhoid bacilli from fæces or urine. Enlargement of spleen first detected on seventeenth day. Subsequent clinical course was typical of typhoid fever.

Leucocyte counts made on day above indicated: Total count, 4,750. Differential count:

| | JENNER'S STAIN. | EHRLICH'S TRIACID STAIN. |
|---|---|---|
| Small mononuclears.... | 19.0 per cent. | 20.2 per cent. |
| Large mononuclears.... | 28.4 " | 29.3 " |
| Polymorphonuclear neutrophilics..... | 51.1 " | 49.1 " |
| Eosinophiles..... | 1.4 " | 1.4 " |
| Basophilics (mast-cells). | .1 " | 0.0 " |
| | 100.0 per cent. | 100.0 per cent. |

CASE VII.—J. E., aged six years. No prodromal history of typhoid fever. Leucocyte counts made on what was probably the third day. Evening temperature, 104° F. Pulse, 105. Characteristic typhoid roseola first appeared five days thereafter, on what was probably the eighth day. Widal reaction (1-40) first positive on the twelfth day. Previous Widal tests had been made on the third and eighth days. Typhoid bacilli first isolated from the fæces by the Hiss method on the fifteenth day. Similar isolation tests had been made on the eighth and twelfth days. No attempts were made to isolate typhoid bacilli from the urine.

Leucocyte counts made on day above indicated: Total count, 9,000. Differential count:

| | WRIGHT'S STAIN. | EHRLICH'S TRIACID STAIN. |
|---|---|---|
| Small mononuclears.... | 21.2 per cent. | 21.0 per cent. |
| Large mononuclears.... | 26.3 " | 26.9 " |
| Polymorphonuclear neutrophilics..... | 50.1 " | 50.0 " |
| Eosinophiles..... | 2.4 " | 2.1 " |
| Basophilics (mast-cells). | 0.0 " | .... |
| | 100.0 per cent. | 100.0 per cent. |

CASE VIII.—H. W., aged eleven years. Indefinite prodromal history of typhoid fever. Leucocyte counts made on what was probably the fourth day. Evening temperature, 102.5° F. Pulse, 100. Characteristic typhoid roseola first appeared five days thereafter, on what was probably the tenth day. Widal reaction (1-40) first positive on the ninth day. A previous Widal test had been made on the fourth day. No attempts were made to isolate typhoid bacilli from the fæces or urine.

Leucocyte counts made on day above indicated: Total count, 6,000. Differential count:

| | WRIGHT'S STAIN. | EHRLICH'S TRIACID STAIN. |
|---|---|---|
| Small mononuclears.... | 14.2 per cent. | 14.1 per cent. |
| Large mononuclears.... | 23.3 " | 23.1 " |
| Polymorphonuclear neutrophilics..... | 60.0 " | 60.4 " |
| Eosinophiles..... | 2.2 " | 2.4 " |
| Basophilics (mast-cells). | .3 " | .... |
| | 100.0 per cent. | 100.0 per cent. |

CASE IX.—N. H., aged fifteen years. Fairly characteristic prodromal history of typhoid fever. Leucocyte counts made on what was probably the sixth day. Evening temperature, 103.6° F. Pulse, 106. Characteristic typhoid roseola first appeared three days thereafter, on what was probably the ninth day. Widal reaction (1-40) first positive on the fifteenth day. Previous Widal tests had been

made on the sixth and tenth days. No attempts were made to isolate typhoid bacilli from fæces or urine.

Leucocyte counts on day above indicated: Total count, 5,500. Differential count:

| | WRIGHT'S STAIN. | EHRLICH'S TRIACID STAIN. |
|---|---|---|
| Small mononuclears.... | 15.2 per cent. | 15.8 per cent. |
| Large mononuclears.... | 18.6 " | 18.7. " |
| Polymorphonuclear neutrophilics..... | 64.1 " | 64.5 " |
| Eosinophiles..... | 2.0 " | 1.0 " |
| Basophilics (mast-cells). | .1 " | .... |
| | 100.0 per cent. | 100.0 per cent. |

These nine cases show the following average percentages for the various leucocytes present. In computing the averages, I have utilized the counts made with Ehrlich's triacid stain. The averages from those made with Jenner's and Wright's stains show only a variance of a fraction of 1 per cent. from those computed from smears stained with Ehrlich's mixture:

| SMALL MONONUCLEARS. | LARGE MONONUCLEARS. | POLYMORPHONUCLEAR NEUTROPHILICS. | EOSINOPHILES |
|---|---|---|---|
| 17.8 per cent. | 21.1 per cent. | 59.4 per cent. | 1.7 per cent. |

The lowest and highest percentages for the various leucocytes are as follows:

| | SMALL MONONUCLEARS. | LARGE MONONUCLEARS. | POLYMORPHONUCLEAR NEUTROPHILICS. | EOSINOPHILES |
|---|---|---|---|---|
| Lowest— | 12.8 per cent. | 12.1 per cent. | 49.1 per cent. | .8 per cent. |
| Highest— | 22.8 per cent. | 29.3 " | 65.5 " | 3.0 " |

The remaining seven of the sixteen cases, from a consideration of the history and the clinical symptoms, I believe to have been within the first week when the leucocyte counts were made. I cannot, however, demonstrate beyond a reasonable doubt that such was the case. I hence include them in this report, but have not used them in computing the averages. The following is a detailed consideration of them:

CASE I.—M. B., aged eighteen years. Typical prodromal history of typhoid fever with epistaxis. Leucocyte counts were made on what was probably the sixth day. Evening temperature, 103.1° F. Pulse, 101. No characteristic typhoid roseola was ever observed. Widal reaction (1–20) first positive on what was probably the eighth day. A previous Widal test had been made on what was probably the sixth day. Typhoid bacilli were first isolated from the fæces by the Hiss method on what was probably the twelfth day. Typhoid bacilli were never isolated from the urine, although attempts were made by the same method on the twenty-first, thirtieth, and forty-first days.

Leucocyte counts made on day above indicated: Total count, 4,850. Differential count:

| | JENNER'S STAIN. | EHRLICH'S TRIACID STAIN. |
|---|---|---|
| Small mononuclears.... | 14.5 per cent. | 16.2 per cent. |
| Large mononuclears.... | 21.1 " | 18.1 " |
| Polymorphonuclear neutrophilics..... | 62.3 " | 63.5 " |
| Eosinophiles..... | 2.0 " | 2.2 " |
| Basophilics (mast-cells). | .1 " | .... |
| | 100.0 per cent. | 100.0 per cent. |

CASE II.—A. W., aged twenty-seven years. No prodromal history. Leucocyte counts made on what was probably the third day. Evening temperature, 103.4° F. Pulse, 109. No characteristic typhoid roseola was ever observed.. Widal reaction (1–40) first positive on what was probably the tenth day. A previous Widal test had been made on the third day. No typhoid bacilli were ever isolated from the fæces, although attempts were made by the Hiss method on what were probably the third, tenth, twelfth, eighteenth, twenty-sixth, and thirty-fourth days. No typhoid bacilli were ever isolated from the urine, although attempts were made by the same method on the twenty-sixth and thirty-fourth days. The case ran a characteristic typhoid clinical course, with an enlarged spleen, and the Widal reaction (1–40) remained positive into convalescence.

Leucocyte counts made on day above indicated Total count, 5,700. Differential count:

| | JENNER'S STAIN. | EHRLICH'S TRIACID STAIN |
|---|---|---|
| Small mononuclears.... | 21.1 per cent. | 20.0 per cent |
| Large mononuclears.... | 25.2 " | 23.9 " |
| Polymorphonuclear neutrophilics..... | 52.7 " | 54.1 " |
| Eosinophiles..... | 1.0 " | 2.0 " |
| Basophilics (mast-cells). | 0.0 " | .... |
| | 100.0 per cent. | 100.0 per cent. |

CASE III.—E. M., aged twenty-two years. Characteristic prodromal history of typhoid fever. Leucocyte counts made on what was probably the fifth clinical day. Evening temperature, 102.2° F. Pulse, 100. Characteristic typhoid roseola first appeared two days thereafter, on what was probably the seventh day. Widal reaction (1–20) first positive on the twelfth day. Previous Widal tests had been made on the fifth and seventh days. Typhoid bacilli were isolated from the fæces by the Hiss method on the tenth day. Typhoid bacilli were never isolated from the urine, although attempts were made by the same method on the twenty-eighth, thirtieth, thirty-second, and thirty-eighth days.

Leucocyte counts made on day above indicated: Total count, 4,100. Differential count:

| | JENNER'S STAIN. | EHRLICH'S TRIACID STAIN. |
|---|---|---|
| Small mononuclears.... | 8.2 per cent. | 9.1 per cent. |
| Large mononuclears.... | 32.4 " | 30.1 " |
| Polymorphonuclear neutrophilics..... | 57.6 " | 59.2 " |
| Eosinophiles..... | 1.7 " | 1.6 " |
| Basophilics (mast-cells) | .1 " | .... " |
| | 100.0 per cent. | 100.0 per cent. |

CASE IV.—D. P., aged seven years. Fairly characteristic prodromal typhoid history. Leucocyte counts made on what was probably the fifth day. Evening temperature, 101.3° F. Pulse, 108. No characteristic typhoid roseola was ever observed. Typhoid bacilli first isolated from the fæces on what was probably the sixth day, and from the urine on the thirty-second day. Widal reaction first positive (1–50) on what was probably the eighth day. A previous Widal test had been made on the fifth day. A complicating measles developed on what was probably the ninth day. Total leucocyte count on this day, 4,500. A differential leucocyte count on this day gave the following figures:

| | JENNER'S STAIN. | EHRLICH'S TRIACID STAIN. |
|---|---|---|
| Small mononuclears.... | 9.8 per cent. | 8.9 per cent. |
| Large mononuclears.... | 3.2 " | 3.1 " |
| Polymorphonuclear neutrophilics..... | 86.1 " | 86.9 " |
| Eosinophiles..... | .9 " | 1.1 " |
| Basophilics (mast-cells). | 0.0 " | .... |
| | 100.0 per cent. | 100.0 per cent |

Leucocyte counts on day above indicated (the fifth): Total count, 6,750. Differential count:

| | JENNER'S STAIN. | EHRLICH'S TRIACID STAIN. |
|---|---|---|
| Small mononuclears.... | 19.8 per cent. | 19.9 per cent. |
| Large mononuclears.... | 25.1 " | 25.7 " |
| Polymorphonuclear neutrophilics..... | 54.6 " | 53.7 " |
| Eosinophiles..... | .5 " | .7 " |
| Basophilics (mast-cells). | 0.0 " | .... |
| | 100.0 per cent. | 100.0 per cent. |

Case V.—F. H., aged thirty years. Indefinite prodromal typhoid history. Leucocyte counts made on what was probably the fifth day. Evening temperature, 102.9° F. Pulse, 100. Characteristic typhoid roseola first appeared two days thereafter, on what was probably the seventh day. Widal reaction (1–40) first positive on what was probably the twelfth day. A previous Widal test had been made on the fifth day. No attempts were made to isolate typhoid bacilli from the fæces. Typhoid bacilli were isolated from the urine by the Hiss method at the first attempt on the thirtieth day.

Leucocyte counts made on the day above indicated: Total count, 4,000. Differential count:

| | WRIGHT'S STAIN. | EHRLICH'S TRIACID STAIN. |
|---|---|---|
| Small mononuclears.... | 16.2 per cent. | 16.7 per cent. |
| Large mononuclears.... | 31.1 " | 30.2 " |
| Polymorphonuclear neutrophilics..... | 50.1 " | 52.1 " |
| Eosinophiles..... | 2.3 " | 1.0 " |
| Basophilics (mast-cells). | .3 " | |
| | 100.0 per cent. | 100.0 per cent. |

Case VI.—M. M., aged twenty-one years. Indefinite prodromal typhoid history. Leucocyte counts made on what was probably the fifth day. Evening temperature, 103.5° F. Pulse, 112. No characteristic typhoid roseola was ever observed. Widal reaction (1–40) first positive on what was probably the fourteenth day. Previous Widal tests had been made on the fifth and eleventh days. No attempts were made to isolate typhoid bacilli from the fæces or urine. Subsequent clinical course was typical of typhoid fever.

Leucocyte counts made on day above indicated: Total count, 7,000. Differential count:

| | WRIGHT'S STAIN. | EHRLICH'S TRIACID STAIN. |
|---|---|---|
| Small mononuclears.... | 10.1 per cent. | 10.2 per cent. |
| Large mononuclears.... | 24.9 " | 24.7 " |
| Polymorphonuclear neutrophilics..... | 63.9 " | 64.0 " |
| Eosinophiles..... | 1.0 " | 1.1 " |
| Basophilics (mast-cells). | .1 " | .... |
| | 100.0 per cent. | 100.0 per cent. |

Case VII.—E. S., aged fourteen years. Fairly characteristic prodromal history of typhoid fever. Leucocyte counts made on what was probably the fifth day. Evening temperature, 102.4° F. Pulse, 100. Characteristic typhoid roseola first appeared two days thereafter, on what was probably the seventh day. Widal reaction (1–20) first positive on the same day. A previous Widal test had been made on the fifth day. Typhoid bacilli were isolated from the fæces by the Hiss method at the first attempt on what was probably the eighth day. No attempts were made to isolate typhoid bacilli from the urine.

Leucocyte counts made on day above indicated: Total count, 5,750. Differential count:

| | WRIGHT'S STAIN. | EHRLICH'S TRIACID STAIN. |
|---|---|---|
| Small mononuclears.... | 19.0 per cent. | 19.2 per cent. |
| Large mononuclears.... | 18.9 " | 18.4 " |
| Polymorphonuclear neutrophilics..... | 60.1 " | 60.5 " |
| Eosinophiles..... | 1.9 " | 1.9 " |
| Basophilics (mast-cells). | .1 " | .... |
| | 100.0 per cent. | 100.0 per cent |

If the average figures for the various leucocytes in these seven cases are computed it will be found that they do not materially differ from the averages obtained in the nine cases which precede them.

*Summary.*—By comparing the figures found in the nine cases above referred to with those of Thayer in the first week, it will be at once seen that the relative number of polymorphonuclear neutrophilics is, in the average, much lower (14.6 per cent.), while that of the large mononuclears is much higher (8.7 per cent.). The small mononuclears and eosinophiles also show somewhat higher figures, but the marked decrease in polymorphonuclear neutrophilics is principally due to the marked increase in large mononuclears. My figures more nearly correspond, so far as the relative number of polymorphonuclear neutrophilics and eosinophiles is concerned, to those given by Winter, as found by him in ten cases during the second week, which are as follows:

| SMALL MONONUCLEARS. | LARGE MONONUCLEARS. | POLYMORPHONUCLEAR NEUTROPHILICS. | EOSINOPHILES |
|---|---|---|---|
| 5.8 per cent | 31.5 per cent. | 61.4 per cent. | 1.3 per cent |

In endeavoring to account for the marked variance between my figures and those of Thayer, it might be supposed that I had been in error in my differentiation between the large mononuclears and polymorphonuclear neutrophilics and had counted many cells among the former when in reality they should have been classified among the latter. This thought might carry weight provided these observations had been made upon the blood of a disease like diphtheria which we know from the valuable observations of Ewing in 1895 shows the presence of a large number of leucocytes which possess deficient staining properties, so that in the polymorphonuclear neutrophilics the neutrophilic granules are poorly stained and frequently almost entirely absent, while the protoplasm of the large mononuclears also stains faintly. It might be supposed that in examining stained smears of such a blood, the presence of such leucocytes would cause confusion to a man not familiar with Ewing's work, and lead him to misclassify large numbers of polymorphonuclear neutrophilics and large mononuclears. Now, as a matter of fact the blood of typhoid fever shows the presence of few, if any, such deficiently staining leucocytes, and all who have busied themselves with this line of work are agreed that the increase in large mononuclears, which is apparent to all during the middle and latter part of the disease, is principally, if not entirely, due to an increase in typical large mononuclear forms which could not be misclassified by any one who has had any experience in the examination of stained blood smears. I do not think, therefore, that in these observations I have made the error of classifying any polymorphonuclear neutrophilics among the large mononuclears. The only other supposition which could reasonably be advanced to account for the variance in these counts is that in reality my counts were made later in the disease than I claim. This point I have covered in a previous portion of this article, and I believe I have demonstrated, so far as it is possible, that my counts were made during the first week.

If my opinion be correct, the value of the differential in combination with the total leucocyte count in the early diagnosis of the disease, becomes a matter for serious consideration. I do not propose to enter into more than a preliminary consideration of this phase of the subject, because of the limited number of my observations. The acute diseases which usually show a normal total leucocyte count or a total hypoleucocytosis and which, so far as the total leucocyte count is concerned, would have to be differentiated from typhoid, are measles, influenza, pure tubercular infection and malaria. From a practical standpoint, however, only the latter two of these deserve consideration, since measles and influenza can easily be excluded upon a clinical

basis. With the differential leucocyte count in pure tubercular infection I have had no personal experience. So far as I am able to ascertain, there is but one case in literature. This is a case of acute miliary tuberculosis, and is cited by Cabot in the last edition of his work. Here the relative number of polymorphonuclear neutrophilics was 91.64 per cent. With the differential leucocyte count in malaria I have had a small experience (seventeen cases). The following are the total and differential counts found. In all of the cases, malarial organisms were abundantly present in the blood. The number of leucocytes counted was 1,000.

CASE I.—Tertian. Total count, 4,500. Differential count:

| | JENNER'S STAIN. |
|---|---|
| Small mononuclears | 13.2 per cent. |
| Large mononuclears | 32.4 " |
| Polymorphonuclear neutrophilics | 54.0 " |
| Eosinophiles | .4 " |
| Basophilics | .0 " |
| | 100.0 per cent. |

CASE II.—Tertian. Total count, 16,000. Differential count:

| | GOLDHORN'S STAIN. |
|---|---|
| Small mononuclears | 1.6 per cent. |
| Large mononuclears | 14.4 " |
| Polymorphonuclear neutrophilics | 84.0 " |
| Eosinophiles | 0.0 " |
| | 100.0 per cent. |

CASE III.—Tertian. Total count, 12,000. Differential count:

| | GOLDHORN'S STAIN. |
|---|---|
| Small mononuclears | 1.4 per cent. |
| Large mononuclears | 21.6 " |
| Polymorphonuclear neutrophilics | 77.0 " |
| Eosinophiles | 0.0 " |
| | 100.0 per cent. |

CASE IV.—Tertian. Total count, 5,000. Differential count:

| | GOLDHORN'S STAIN. |
|---|---|
| Small mononuclears | 5.0 per cent. |
| Large mononuclears | 18.1 " |
| Polymorphonuclear neutrophilics | 76.9 " |
| Eosinophiles | 0.0 " |
| | 100.0 per cent. |

CASE V. — Tertian. Total count, 7,000. Differential count:

| | WRIGHT'S STAIN. |
|---|---|
| Small mononuclears | 32.8 per cent. |
| Large mononuclears | 42.0 " |
| Polymorphonuclear neutrophilics | 25.0 " |
| Eosinophiles | .2 " |
| | 100.0 per cent. |

CASE VI.—Tertian. Total count, 6,000. Differential count:

| | EHRLICH'S TRIACID STAIN. |
|---|---|
| Small mononuclears | 32.4 per cent. |
| Large mononuclears | 19.0 " |
| Polymorphonuclear neutrophilics | 47.2 " |
| Eosinophiles | 1.4 " |
| | 100.0 per cent. |

(A blood smear made from the same patient at the same time and stained with Wright's stain showed a large number of malarial organisms.)

CASE VII.—Tertian. Total count, 7,000. Differential count:

| | WRIGHT'S STAIN. |
|---|---|
| Small mononuclears | 6.2 per cent. |
| Large mononuclears | 9.2 " |
| Polymorphonuclear neutrophilics | 84.4 " |
| Eosinophiles | 0.0 " |
| Basophilics (mast-cells) | .2 " |
| | 100.0 per cent. |

CASE VIII.—Tertian. Total count, 4,000. Differential count:

| | EHRLICH'S TRIACID STAIN. |
|---|---|
| Small mononuclears | 17.0 per cent. |
| Large mononuclears | 22.0 " |
| Polymorphonuclear neutrophilics | 60.5 " |
| Eosinophiles | .5 " |
| | 100.0 per cent. |

(A blood smear made from the same patient and at the same time and stained with Wright's stain, showed the abundant presence of malarial organisms.)

CASE IX.—Tertian. Total count, 4,000. Differential count:

| | WRIGHT'S STAIN. |
|---|---|
| Small mononuclears | 4.0 per cent. |
| Large mononuclears | 49.0 " |
| Polymorphonuclear neutrophilics | 47.0 " |
| Eosinophiles | 0.0 " |
| | 100.0 per cent. |

CASE X.—Tertian. Total count, 4,500. Differential count:

| | WRIGHT'S STAIN. |
|---|---|
| Small mononuclears | 2.0 per cent. |
| Large mononuclears | 35.0 " |
| Polymorphonuclear neutrophilics | 61.5 " |
| Eosinophiles | 1.5 " |
| | 100.0 per cent. |

CASE XI.—Tertian. Total count 11,000. Differential count:

| | WRIGHT'S STAIN. |
|---|---|
| Small mononuclears | 6.8 per cent. |
| Large mononuclears | 37.8 " |
| Polymorphonuclear neutrophilics | 52.2 " |
| Eosinophiles | 3.2 " |
| | 100.0 per cent. |

CASE XII.—Æstivo-autumnal. Total count, 4,000. Differential count:

| | WRIGHT'S STAIN. |
|---|---|
| Small mononuclears | 3.0 per cent. |
| Large mononuclears | 43 0 " |
| Polymorphonuclear neutrophilics | 52.5 " |
| Eosinophiles | 1.5 " |
| | 100.0 per cent. |

CASE XIII.—Æstivo-autumnal. Total count, 11,000. Differential count:

| | WRIGHT'S STAIN. |
|---|---|
| Small mononuclears | 10.0 per cent. |
| Large mononuclears | 15.8 " |
| Polymorphonuclear neutrophilics | 74.2 " |
| Eosinophiles | 0.0 " |
| | 100.0 per cent. |

CASE XIV.—Æstivo-autumnal. Total count, 6,500. Differential count:

| | WRIGHT'S STAIN. |
|---|---|
| Small mononuclears | 11.4 per cent. |
| Large mononuclears | 12.5 " |
| Polymorphonuclear neutrophilics | 75.3 " |
| Eosinophiles | .8 " |
| | 100.0 per cent. |

CASE XV.—Æstivo-autumnal. Total count, 7,000. Differential count:

| | WRIGHT'S STAIN. |
|---|---|
| Small mononuclears | 10.1 per cent. |
| Large mononuclears | 9.5 " |
| Polymorphonuclear neutrophilics | 80.0 " |
| Eosinophiles | .4 " |
| | 100.0 per cent. |

CASE XVI.—Æstivo-autumnal. Total count, 5,000. Differential count:

| | WRIGHT'S STAIN. |
|---|---|
| Small mononuclears | 8.6 per cent. |
| Large mononuclears | 15.4 " |
| Polymorphonuclear neutrophilics | 75.1 " |
| Eosinophiles | .9 " |
| | 100.0 per cent. |

CASE XVII.—Quartan. Total count, 6,000.

| Differential count: | WOOD'S STAIN. |
|---|---|
| Small mononuclears | 6.5 per cent. |
| Large mononuclears | 24.1 " |
| Polymorphonuclear neutrophilics | 69.3 " |
| Eosinophiles | .1 |
| | 100.0 per cent. |

From a consideration of the differential leucocyte counts present in these cases of malaria, it is at once seen that in many instances of this disease the differential count so closely simulates that present in many cases of typhoid during the first week that a separation is impossible. Certain of these cases of malaria (eight out of seventeen) show a marked relative increase in the polymorphonuclear neutrophilics, and hence could be easily differentiated from typhoid. By looking over them it will be seen that, as a rule, they show a much less relative number of eosinophiles than do the typhoid cases. These cases of malaria were all febrile cases, and the smears were made at the time they appeared for diagnosis. In them the relative number of eosinophiles was almost always below 1.5 per cent. and usually below 1 per cent., while the reverse holds true for the typhoid counts. Just how important a point this is in separating the differential counts of these diseases, I do not know. This point can only be determined by increased observations.

*Conclusions.*—1. Many cases of typhoid fever, contrary to general supposition, show the characteristic differential leucocyte count within the first week of the disease.

2. The definite value of the differential leucocyte count in the early diagnosis of typhoid fever is as yet problematical; but it seems certain that when used in addition to the total leucocyte count, more information may be obtained than by employing the total count alone.

In conclusion, it gives me pleasure to acknowledge my indebtedness to Prof. T. Mitchell Prudden and Dr. Francis C. Wood for valuable suggestions during this work.

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227 PARK PLACE.

**The Relation of the Islands of Langerhans to Diabetes Mellitus.**—Albert Ernest Finney concludes that (1) Diabetes may occur in the absence of any demonstrable lesion in the islands of Langerhans, and the glycosuria in such cases may be of nervous origin, or may correspond to the type described as "alimentary glycosuria." (2) Diabetes may occur accompanied by lesions of the islands, which, however, are not of sufficient extent to be in accordance with the results of Mehring's and Minkowski's experiments on extirpation of the pancreas. In such cases it is possible that the islands which present no anatomical lesion may have become functionally inactive. (3) Diminution in number of the islands in diabetes may occur in various proportions, even to total disappearance, and where such diminution is slight, its only importance is the inert, or retrogressive, condition of the islands which it implies. (4) Lesions of the islands may occur in the absence of diabetes, being in such cases of slight extent, and never of primary nature. (5) Diabetes may, lastly, be associated with lesions of the islands apparently primary, and even confined to the islands themselves. These consist in hyaline transformation, and specific necrobiosis.—*The Medical Chronicle.*

## A CASE OF LEUCOSARCOMA OF THE CHOROID.*

BY THOMAS R. POOLEY, M.D.
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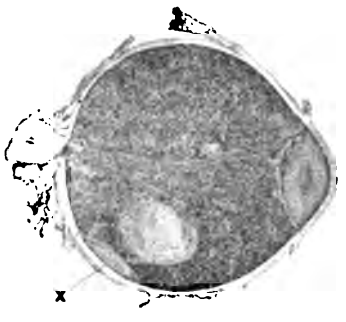
THIS case is reported because of the comparative rarity of non-pigmented sarcoma of the choroid, as well as on account of some points of interest in its clinical history and anatomical findings.

The patient, a man aged thirty-five years, came under my care on December 12, 1902, in my clinical practice. He was possessed of very limited intelligence and could give but little account of his symptoms. About three weeks before I saw him he thought he had gotten something in his left eye, and as his eye continued irritable, and he found that he could not see with it, he applied for treatment. He did not complain of severe pain in the eye at any time, and is sure that before the time referred to he saw very well with it.

When I examined him, this eye showed the typical features of absolute glaucoma: Circumcorneal injection of a venous character, hazy cornea, wide immovable pupil, shallow anterior chamber, anæsthesia of the cornea, T 3; entire absence of reflex with ophthalmoscope, and no perception of light. I made the diagnosis of absolute glaucoma, probably caused by tumor of the choroid, and thought enucleation should be done forthwith. Yielding, however, to the opinion of several of my colleagues, that it might be primary acute glaucoma, or due to a hemorrhage, I consented first to try iridectomy, which operation I did the same day. The operation, with the patient under ether, was successfully accomplished and resulted in a large coloboma; the anterior chamber, however, immediately filled with blood.

On December 14 there was some diminution in the tension of the eye, but hardly any absorption of the blood. By December 17, however, the blood in the anterior chamber was diminished, when, on the 18th, a fresh hemorrhage took place, nearly filling the anterior chamber and accompanied by pain and increase of tension. There was again an attempt by nature to absorb the blood, but fresh hemorrhage always took place, and, on January 3, 1903, I got the patient to consent to enucleation of the eye, which was done without any mishap, and, because of my belief that there was a tumor, I divided the optic nerve as far back in the orbit as I could. The healing was uneventful and the patient was discharged a few days later.

After being hardened in 10 per cent. formalin for a week, the eye was examined by Dr. Edward B. Coburn, pathologist of the New Amsterdam Eye and Ear Hospital, whose report is as follows:




From a photograph by Dr. Edward B. Coburn; dotted line (x) showing connection of the parts of the tumor by a narrow band.

"*Macroscopically.*—Shallow anterior chamber. Iris atrophic, with coloboma (from iridectomy) upward and adherent to the lens capsule. Lens appears swollen as though forced into the space

*Read before the American Ophthalmological Society at Washington.

of the coloboma. The retina is detached and extends like a flattened cord from the optic nerve to the posterior surface of the lens. One side of this retinal cord is attached to the apex of the tumor. The tumor lies between the detached retina and the sclera and arises from the choroid in its posterior temporal portion, about on a level with the external rectus muscle and just behind the equator. The tumor presents two parts—a flattened, somewhat extended portion, about 1 cm. wide and about 2 mm. high, connected by a narrow constricted portion, about 4 mm. wide, to a spherical part, about 7½ mm. high and 9 mm. wide, lying in the vitreous. The tumor is white in appearance, with only a few blood vessels and small pigment spots visible.

"*Microscopically.*—The conjuctiva is congested and slightly infiltrated. The cornea is apparently normal. The anterior chamber is practically abolished, only a small layer of bloodcells lying between the iris and the cornea. The iris is thin and atrophic. The angles of the anterior chamber are closed, the iris being adherent to the cornea at its periphery. The lens capsule shows pigment spots on its anterior surface. Beneath the capsule there is some albuminous fluid and there is a breaking down of the lens fibers in a few places, indicating an incipient cataractous change. The ciliary processes are attenuated and dragged forward with the lens, on one side being compressed between the lens and the iris.

"The retina is a flattened, cone-shaped mass extending from the optic nerve head to the posterior surface of the lens and continuing around to its attachment at the ora serrata. The retina is disorganized in the manner common to retinas detached in this manner.

"Only a small portion of the tumor appears in the sections, and that is taken from the side of the spherical portion lying in the vitreous. This consists of small round cells, with a slight amount of intercellular substance. The blood vessels which are small, have walls of a single layer of cells. A few pigment granules and pigmented cells appear in the peripheral portion of the tumor. The flattened part of the tumor between the lamina and vitrea and the sclera does not appear in the sections.

"*Diagnosis.*—Small, round-celled leucosarcoma of the choroid.

"*Remarks.*—The flattened part of the tumor is probably caused by the resistance of the lamina vitrea on the one side and the sclera on the other. At one point the lamina vitrea had yielded, and through the perforation the tumor has grown unrestricted in the vitreous, assuming the spherical form. The constriction is caused by the non-yielding character of the lamina vitrea as compared with the looser and less resistant character of the choroid and retina. The vitreous lies between the retina and the choroid, and an interesting question arises how the vitreous assumes this position—whether it is filtered through the gradually contracting and detached retina or whether it passes through a rent in the retina."

It is not my purpose to go into the literature of these tumors, for which I have neither time nor desire; I may, however, say that, according to Griffith, in his chapter on Diseases of the Choroid in the Norris-Oliver System, non-pigmented sarcoma is said to be more frequent in the younger patients, and in the middle or anterior parts of the choroid; which, so far as age is concerned, is confirmed by our case, but the growth developed from the posterior temporal portion of the choroid. The proportion of cases of leucosarcoma, according to the same author, is one for every ten or fifteen of the pigmented variety.

Although the case presented the usual appearance of final glaucoma, yet, according to the patient's statement, there had been only slight pain, not of the severe kind usually associated with acute glaucoma. When increase of tension exists with retinal detachment, with the eye in a state of acute glaucoma and there is no translucency, there need be no longer, as a rule, any hesitation in pronouncing the case one of choroidal tumor, and such, indeed, was my diagnosis, notwithstanding that I first made an iridectomy. That this course is open to criticism I freely admit, for, while iridectomy is strongly indicated in acute primary glaucoma, it is objectionable in choroidal sarcoma, because it delays the enucleation and may give rise to infection of the neighboring tissues. Griffith (*l.c.*) gives some important differential symptoms between glaucoma due to an intraocular growth and the primary form, *i.e.* the sight is lost for a considerable time before the acute symptoms set in, and further that the prodromi usual in primary glaucoma are often wanting. Another very important point in the differential diagnosis is that there are no remissions in the symptoms, such as we see in primary glaucoma. Retinal hemorrhage is sometimes quickly followed by glaucoma, and if this occurs with a large blood-clot may lead to an erroneous diagnosis. Such a case is recorded by Griffith (*l. c.*), and Webster reports a similar experience. It is interesting to observe, as suggested by the case reported, that the size of the tumor does not seem to be the most important factor in awakening a glaucomatous attack, but rather the changes to which it gives rise in the other tissues of the eye, especially of serous effusion, causing not only detachment of the retina but crowding it close to the posterior surface of the lens, the angles of the iris being obliterated and the iris adherent to the cornea at its periphery. This serous effusion seems to be an almost constant accompaniment of choroidal tumor.

107 Madison Avenue.

## THE RANGE OF OSTEOPLASTY AS AN AID IN THE CONSERVATIVE SURGERY OF BONE TRAUMATISM.

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Osteoplasty may be utilized in the therapy of fractures, as a primary or secondary procedure, in fracture-dislocations, or in various dislocations alone; in open-fracture, as a primary measure, when there is displacement, shattering or loss of bone. Its widest range of application is when employed consecutively in deformities. In ankyloses and the pseudoarthroses, its great *forte* is as a substitute for amputation.

It sometimes occurs that, after the severe crushing of an extremity with multiple closed or open fractures, the degree of destruction of the part is so great that the most we are permitted with safety to accomplish is to make a diagnosis; the mangled parts present a dubious vitality, and all our efforts must be directed toward striving to preserve the limb, or any part of it, in any shape. Cases illustrating this class we most frequently witness after machinery or railroad accidents.

In several severe multiple fractures with extensive contusion and laceration of the deeper and vital structures, as the vascular trunks, we must be content to place the limb in such a position as will best relax the muscles, give comfort and secure the best functional results, quite irrespective of imperfect anatomical reconstruction of the osseous

parts. In many of these, deformities and impediment in function are quite certain to follow.

In large open fractures the collapsed state of the patient, from loss of blood or great violence, will compel us to desist from effecting an ideal toilet of the wound or from making such an adjustment of the fragments as modern surgical art requires. Our aim is in this instance to arrest hemorrhage, to cleanse and close in the parts as speedily as possible, and later, after recovery is complete, to correct any gross defect by secondary osteoplasty. There are many cases, however, in which primary osteoplastic methods are both expedient and imperative, before any sort of permanent adjustment is applied to the limb. The hemorrhage controlled, and the parts cleansed, the displaced fragments are reduced, and all those spicula of bone scrupulously replaced and preserved which retain any connective tissue or periosteal attachment. Those fragments which lie entirely free from any connections should be removed as they will later serve only as foreign bodies. If the fracture be of the leg—of the tibia and fibula, and the degree of overriding of the fragments be extensive and not to be overcome, we must not hesitate to divide the tendo Achillis and bring the separated bones into complete adjustment; but this extreme measure should never be resorted to until after three days at least, or until muscular relaxation has become well established.

Open fracture with loss of bone substance calls for various osteoplastic procedures in the way of grafting, autoplastic, homoplastic, and heteroplastic. Or all these may be dispensed with, by boldly contracting or shortening the limb. But few of these devices are possible immediately after fracture, or until reaction is fully re-established and all inflammatory action is subdued.

In the fracture of bone in children it is sometimes remarkable to note the speedy osseous regenerative action frequently witnessed after trauma or destructive pathological action; sometimes an entire bone shaft is restored after fracture, and quite invariably, when there has been extensive shattering of an articulation, regenerative processes may be so complete and perfect that impaired movement is seldom observed.

Juvenile fracture of the open variety generally promises much better results than similar fracture in the adult, provided only the circulation is ample, and is not unduly impeded by any sort of mechanical appliance in the course of treatment. We have here immature bones, their periosteal investment is thick and highly vascular, and besides regeneration of bone at the site of injury, we note its simultaneous physiological augmentation by normal growth. But the blood vessels of a child are easily strangled by firm adjustments after fracture; a limb primarily promising well soon may become cold, pulseless, and asphyxiated.

In open fracture of children, if fragments of the shaft have been shelled out of the periosteum, there is no use of attempting to replace them, for the reason that their fusion will quite certainly fail, and besides, with the periosteum intact, the limb placed in a comfortable position, full regeneration may be expected. In order to avoid sloughing or dangerous asphyxia in children, it is necessary that the dressings be frequently changed and that the adjustment be rather a *support* than a fixation, at least until ossific repair be well advanced.

*Secondary osteoplasty* has a very wide range of application for those deformities or anatomical defects which follow various serious fractures, generally from causes inherent to the injury itself; for a deplorable class of cases, for which in the near past little or nothing could be done; many of the afflicted having been compelled to carry crippled useless limbs for their life-time, or have them amputated. Bilguer, the surgeon-general under Frederick the Great, who is recorded in surgical history as hostile to primary amputation for gunshot injuries of bone shafts, was severely criticised for this practice because after the wars so many crippled veterans were scattered throughout Prussia. In those days the acme of conservatism in surgery was reached when the maimed limb was spared in any shape; but now, thanks to the marvellous advances in surgical art, we go a step further and restore function to a wasted, painful, or deformed member.

Here osteorection, osteoclasis, osteotomy, ostectomy, with all the various resources of oteoplastic grafting, come into use.

In order that we may estimate the relative value of these resources, it may be well to set forth briefly the degree of utility of each at various stages after bones are broken.

*Osteorection.*—This implies the bloodless correction of a deformity or deflection of a broken bone shaft in its plastic, flexible stages of repair, before ossific consolidation is complete. In order to derive the best effects from this valuable and simple expedient, we must see to it that the mechanical adjustments are frequently changed, as sometimes the fragments ossify with surprising rapidity.

Usually from the third to the fifth week is the best period to take advantage of it; but in growing children, earlier; however, it has been successfully availed of by myself even as late as the third month. During the plastic stages of repair, as the parts are more or less sensitive, it may be well to employ an anæsthetic; in many, however, but little pain is felt, while the unaided hand presses the distorted member into line.

After full correction the limb must be placed in an unyielding fixation apparatus until consolidation is complete. If there be a large provisonal callus, and it be the lower extremity which is involved, a supporting brace must be worn until this has resorbed.

I am confident that this simple expedient is not sufficiently frequently utilized, and neglect of it may involve one in a troublesome litigation, or leave a deformity, always easily corrected in the early stages of osseous repair.

The conditions most commonly calling for osteorection are constitutional, often producing "delayed union." Syphilis, strumor, or malaria is often evidence, therefore systemic influence should not be overlooked during treatment.

*Osteoclasis.*—The refracture of bone shafts after vicious union or deformity is a very ancient expedient, though it was very rarely resorted to in preanæsthetic times. It is now seldom utilized, except in orthopedic surgery, when an osteoclast is employed, for the rickety deformities of the limbs in early childhood. Osteoclasis alone is now rarely resorted to, to induce refracture for deformity. Although the callous bond uniting broken bones is wanting in the typical anatomical structure of the normal, it often offers greater resistance to force, and hence the shaft will yield to violence rather above than below, directly through the callus. Moreover, in any event, it not infrequently happens that the force necessary to employ, produces an extensive contusion and laceration of the adja-

cent soft parts. It will be therefore only in exceptional instances that we will resort to refracture by force alone, except with the smaller shafts in childhood, or when calcification at the junction of the fragments is incomplete. Manual osteoclasis frequently serves an admirable purpose in the deflections following in the fractured shafts of early childhood or even later, as it obviates the necessity of dividing the tissues; in this class it should generally be resorted to.

*Osteotomy* alone, or combined with osteorection—The complete, or more frequently the incomplete, division of a bone shaft in the treatment of osseous deformities, traumatic or pathological, is undoubtedly one of the most valuable expedients of modern surgery. In the correction of deformities following fracture, we utilize it as an accessory to force. In every instance we produce an open fracture, something greatly to be dreaded in pre-antiseptic times, or before, or before McEwen of Glasgow demonstrated the harmlessness of this complication. Osteotomy, however, is a more serious undertaking when employed to correct deformities after fracture than when utilized to correct the bowing of the limbs from rickets.

In the former there is nearly always a hyperostosis, the callus often being of marked density and without proper periosteal envelope has acquired extensive and very intimate adhesions with the sheath of large blood trunks, the nerves and muscles; hence in the division of the thick uniting bond, caution must be observed not to encroach unduly on these structures. We never quite completely divide the shaft through, but having penetrated through about one-half or more of the circumference of the cortical layer, we complete the refracture by the use of intelligently applied force.

When there are two parallel bone shafts, as those of the leg or the forearm, osteotomy may be applied to the largest shaft only. It is my experience, however, that it is most expedient and induces less traumatism to employ the osteotome in both shafts, especially when the point for clearage is so located that the shafts lie near the surface.

Osteotomy for the deformity following fracture has been repeatedly employed by myself on all the shafts of the extremities. In children caution must be observed to keep clear of the epiphyseal junction. In no single instance has any serious consequence followed. Union has in all cases been as rapid and complete as in any similar closed fracture.

It is my conviction that the field for osteotomy is certain to expand greatly, and that in the near future it will be largely utilized in Colles, in Potts, and several other fractures which are contiguous with or involve the articulations and which are so often followed by impediments in function or deformity.

*Osteectomy* or resection of sound bone is sometimes called for in defects following fracture, or when, as with the parallel shafts, there has been a fracture with loss of bone substance in one shaft, while the other remains entire; a condition most frequently found in certain gun fractures through the tibia.

*Resection of Bone.*—In osteoporosis or hyerostosis with deformity following fractures of the femur or the humerus, we are sometimes compelled to clear away all the morbid bone callus before we can bring into correct apposition their healthy surfaces.

At present resection of bone is very rarely necessary as a primary procedure after open fracture. There is very seldom any description of open fracture, however great the displacement that permits of any sacrifice of sound bone. In pre-antiseptic times, when the sharp projecting side of the bones penetrated through the integument, if much resistance was offered in attempts at reduction it was the custom to cut them off with a pliers or saw. But now, by embalming and delay until muscular spasm passes away, they are usually easily reduced. If this fail we may do a tenotomy or freely enlarge the opening and replace the fragments.

These fractures are always oblique, a variety, though usually difficult to adjust, unite more quickly than the transverse, because, as Senn correctly states, there is a larger area of ossific regeneration called into activity.

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## SOME OF THE MISTAKES WE HAVE INHERITED.

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With the above caption I shall endeavor to bring before the profession our inherited mistakes concerning the interpretation of (1) vomiting; (2) of appetite; (3) the eating of stale bread; (4) of eating sugars and fruit for their laxative effect.

Vomiting is a symptom of great significance, be it primarily due to the stomach or not. Textbooks lay great stress on vomiting when it ushers in the disease, and attempt to attribute to such vomiting diagnostic value. This latter is manifestly wrong. Vomiting is no more diagnostic of scarlet fever, or of cerebrospinal meningitis, than is the pain of osteomyelitis or the headache of typhoid fever. That vomiting occurs in diseases other than those of the stomach is true, but the vomiting itself, *per se*, is due to a simultaneous, palpable, concrete cause operating on the stomach. To this there is scarcely any exception. We might possibly produce vomiting by irritation of the vomiting center in the medulla, but this is laboratory experiment only. If there really exists vomiting due only to cerebral causes, such causes are few, and, in reflex vomiting, as in reflexes in general, I am not an over-enthusiastic believer. True it is that apparently there is no cause discoverable in many instances of vomiting, but this is due only to the fact that we do not look in the right direction. Let us impress this upon our mind that the phenomena of health and disease cannot (at least not as yet) be demonstrated by the dissector's knife, or by the microscope. These phenomena are chemical in their nature, and it is to chemistry we must look for the cause of the vomiting in every case. Have the physicians been making chemical analyses of the gastric contents in every case of vomiting? And yet, it would appear to the unbiased mind that one ought to look for the culprit in the premises whence emanates the mischief before going outside. But, chemical analyses often require a great deal of time, labor, and knowledge; on the other hand, the pronunciation of the term "reflex"—well. . . . If we but thought of the simplicity of the mechanism of vomiting we surely would have much less of reflex vomiting. The mechanism of vomiting is simplicity itself. Spastic. violent contraction of the stomach wall, during which the pylorus is closed and the cardiac opening open, expels the stomach contents through œsophagus and mouth to the external world. Nay, the stomach may even be entirely guiltless and the vomiting may proceed from beyond it, from the intestine. But in this latter case neither of the stomach openings is closed. Whenever there is violent contraction of the stomach or of the intestine (the pylorus being open in the latter case) vomiting is very apt to occur. When-

ever there are present in the first part of the alimentary canal bodies—solid, fluid or gaseous—which are irritating to the mucous membranes there occurs violent contraction, vomiting. Some individuals do produce vomiting at will. But the stomachs of such patients are never healthy, they always harbor irritating matter. Vomiting is also produced by tickling the fauces, or by putting one's finger into his mouth; these causes appear to act reflexly. However, by putting in of one's finger, the epiglottis is closed, and air rushes into the stomach. This distension produces the vomiting.

The vomiting produced in scarlet fever, in the passing of biliary or renal calculi, in tumors occurring in the abdominal cavity, the vomiting occurring in displacements of abdominal or pelvic organs—such vomiting is not due to reflexes. It is due to the direct, co-existing irritation in the alimentary canal. Anything pressing upon the intestine hinders or absolutely obstructs the passage of its contents. The consequence is, chemical changes, with the accompanying production of noxious, irritating bodies. which cause violent contraction of the walls of the intestines, expelling their contents or the contents of the stomach. We can then understand how tumors or displaced organs, which, compressing the lumen of the intestines, may produce vomiting, and, how after correcting such anomaly the vomiting stops. But the direct cause of the vomiting is in every case the direct noxious action upon the mucous membrane of the alimentary canal. The vomiting of pregnancy, undoubtedly, belongs to the same category.

In the presence of vomiting, as a symptom, we naturally inquire after the character of the vomit, and particularly after its color. Two colors have especially imprinted themselves upon the minds of all—lay and medical—I refer to the green and red vomit. The teaching has come down to us from our ancestors that the green vomit means bile, and that the red vomit means blood. There is some justification for the latter acceptance; the vomit is red and so is blood—due latitude being given to the shade of the color. But why the green vomit should be interpreted as meaning bile, I could not trace. The color of bile is not green, but a golden yellow. The very word "gall" means yellow, and is derived from the older latin word "giallus," yellow; in Italian "giallo." How often do patients complain of green vomit. This surely is not a rarity. In my paper on "Some New Facts in the Chemistry of the Stomach."[1] I have called attention to the fact that the green color of the chyme is due to the growth in the stomach of a green mold; very often such green mold is aspirated in very large patches. In such cases I had many times applied the Gmelin and Pettenkoffer tests, but could get no bile reaction. Kühne[2] subsequently also found that the green color did not mean bile, and my statement has since been corroborated by other gentlemen. So much for the green mold.

Due to the growth of large quantities of red mold in the stomach is very often its chocolate-brown-colored contents. Unfortunately, the chocolate-colored contents are always regarded as blood. I have already described cases[3] in which chocolate-colored contents were aspirated, and in which no blood whatsoever was found. Dark red streaks, variable in quantity, I very often see in the chyme. Whenever such red molds are present in appreciable quantity the accompanying symptoms are always rather severe. We therefore must *never assume the presence of blood;* if blood is suspected, its presence must be proven beyond any doubt with the assistance of chemistry and the microscope. Chocolate-brown vomit, alkaline in reaction, would point to the presence of blood and, if acid, to the presence of mold; however, both may coexist. Perfect assurance is absolutely necessary. The scientific, true physician must assume nothing; certainty must ever be his watchword. To attain the perfection of making an absolutely correct diagnosis in the disease of any organ is a gift one can be proud of, although, very often, the exact diagnosis offers little more than evidence of erudition and studious observation. Here, however, the exact diagnosis is all important. To mistake mold growth, gastrosia fungosa,[4] for gastric hemorrhage and *vice versa*, may be fraught with serious consequences, though mold growth is not incompatible with cancer or ulcus. For the diagnosis of mold growth in the stomach, a disease which affects the human race (undoubtedly animals as well) by the hundred thousands, I refer to my published articles: Organacidia gastrica;[4] gastrosia fungosa[5], and "additional note on organacidia gastrica."[6]

Let me again call attention that vomiting, unless induced voluntarily by the individual himself, is always produced (with possibly very rare exceptions) by the direct irritation of the mucous membrane of the alimentary canal, that it never is of reflex origin, that the cause for such vomiting lies always *within* the lumen of the alimentary canal, no matter what outside cause is responsible for it; that such causes need not be revealed by the microscope; that such causes will be evident on proper chemical analysis. Let us remember that green vomit, in by far the greatest majority of cases, does not mean bile, but the growth of the green mold, and that chocolate-colored vomit need not necessarily mean blood, that chocolate-colored vomit may mean the growth of red mold. Of course, green mold may coexist with bile, and red mold with blood.

A good, hearty appetite is something, the individual possessing it, mentions with gratification and pride. "I am always hungry"; "I could eat more but I am afraid;" "I have never enough," are sentences, which to express, rejoices the person who utters them. The degree of hunger is usually accepted as the standard of measure for the digestive ability of one's stomach. If one is always "good and hungry," if he has a "ravenous appetite," if he "can eat up a horse" the patient has proof evidence of the perfectness of his digestion. The occasional or possibly quite oft occurring spasms or cramps are to such an individual puzzling, and are apt to be attributed to anything else rather than impeach the integrity of an organ he is so proud of. Attendant headaches are easily explained away as due to almost anything; flashes of heat and cold surely denote malaria; the very occasional spell of vomiting is piously blessed, as it surely served to relieve the overloaded stomach, and consequently did good. The patient goes along this way for months, or even years, dieting himself a little while after each attack, and looking upon such attacks as irrelevant, annoying, and uncalled-for interruptions of his good appetite, and begrudging the time lost in dieting. The ringing of these occasional alarm bells is misinterpreted and the "excellent appetite" is accepted as the most convincing proof of perfect digestion. Having misunderstood those danger signals, the patient finally finds himself at a loss to explain the reason for his bad stomach. Such an "excellent," "ravenous" appetite is pathological; such an appetite is but one degree removed from pain. Very often the patients describe such an appetite as a painful appetite, *i. e.* they feel actual pain unless they immediately eat. Such an appetite is a false,

a pathological appetite, which the physician must suppress. The cause of such an appetite is the presence in the stomach of large quantities of organic acids. The organic acids are either introduced into, or are generated within, the stomach. These volatile acids irritate the mucous membrane, the response to which is contraction of the muscular coat. This contraction is commensurate with the irritation. The greater the irritation, the greater the contraction, the greater is the sensation, which in lesser degrees, is interpreted as hunger. Hunger, as already stated, I believe to be a lesser degree of pain, which, we have learned, is appeased by the introduction of food into the stomach. This theory is evidently corroborated by the declaration of the patient who describes his hunger as being of a gnawing, painful type, and that even headaches are apt to appear unless food is taken (for the direct connection of headaches with the condition of the stomach see the article mentioned above[5]). Assuming this theory to be correct, we can easily see the reason why men can fast for prolonged periods with, as they assert, no inconvenience whatsoever. The explanation would be this: The contraction of the stomach produces the painful sensation, the hunger. But as this contraction is after some time followed by relaxation, consequently the absence of the contraction means the absence of hunger. Here, again, the clinical history of the patient serves to corroborate this theory. Patients come to us with the history of previously having had an excellent appetite, but now the appetite is quite evanescent; unless they eat immediately they very soon lose their appetite. That is: the constantly insulted stomach gradually weakens and does no more respond with prolonged contraction. The contraction then very soon gives way to relaxation, hence the evanescent appetite. This mistakenly "excellent appetite" is a symptom of a pathological condition, and is likewise due to the presence within the stomach of organic acids, to organacidia gastrica.

Stale bread has evidently come down to us as a sort of medical incongruity. We always advise fresh food, but with bread we found it best to turn things upside down for once. What is the reason? Dyspeptics often suffer after eating fresh bread, but why? Fresh bread has always been an eyesore to the dyspeptic, not because he did not like it, but because he did like it, and was not allowed to eat it. Clinical experience, however, does teach that the patients, very often, positively do suffer after eating fresh bread. But, if it is true that some suffer after eating fresh bread, it is not proven that stale bread is harmless. In fact, the very contrary obtains. It is not the freshness of the bread that harms; it is not the quality, but it is the quantity of the fresh bread that is consumed. Fresh bread tastes good, is appetizing, and the consequence is that because of this a much larger, and excessive quantity is eaten. It is this excessive quantity that harms, not the freshness of the bread. On the other hand, the staler the bread the sourer it is, the more unappetizing it is and much less is eaten of it. I insist upon my patients eating the fresh bread, explaining to them the difference between the stale and the fresh bread, and never saw any trouble. How grateful are the patients after such advice.

What is true of fresh bread is true of potatoes. A well-boiled potatoe is delicious, and here again it is the quantity not the quality. A well-boiled, mealy potato is really a temptation, which but few can withstand.

Constipation is a question of great importance. I shall not enter here into the causes of an organic nature, but will confine myself to the constipation due to dietetic causes. These are either an insufficient imbibition of water, or the ingestion of constipating articles, or both. The first cause is easily elicited. As the second cause operates ingestion of too much starchy food, or imbibition of too much tanning containing articles, such as red wine, tea, and coffee. To remedy such constipation, we have inherited from our thoughtful ancestors the teaching to eat plenty of fruits, sweets, bread baked with the husks of the grain, whole grain bread, to drink sour milk, etc. That these produce emptying of the bowels cannot be denied. But whether it is rational to advise such a diet is very questionable. I never do advise it and have no regrets for my treatment. Let us think how are movements of the bowels produced. This is very simple. The fecal matter is propelled toward the anus. Assuming the presence of fecal matter within the intestines, and assuming that there are no obstructions to the lumen of the intestines, either from within or without, the fæces are propelled by the contraction of the muscular coats of the intestine. There is no dissenting voice to this. But what brings about the contraction of the intestinal wall? Contraction of the intestinal wall is excited by chemicals which are present within the lumen of the intestine. As a rule these chemicals belong to the lower series of the saturated hydrocarbons, which are in a gaseous state. The presence within the intestine of marsh gas, of acetic and of butyric acids is well known. But there are present also other irritating gases. Whether the presence of such irritating chemicals is absolutely necessary to excite peristalsis appeals to me to require a positive reply. The larger the quantity of such irritating chemicals or the more irritating they are, the stronger the peristalsis. Consequently, the ingestion of such food, which either contains irritating chemicals as their natural constituents, or which favor the production of irritating chemicals within the intestines, or the ingestion of such food which contains constituents that are easily broken up and transformed into irritating gases, such food does favor peristalsis. If too much of such food is taken, the peristalsis will be correspondingly larger, more active, more violent. Sugars are easily converted into the volatile acids of the paraffin series, and the husks of cereals are easily fermented; such fermenting again producing the volatile acids. Fruits contain a good quantity of ready acids besides sugar which is convertible into such acids. Consequently, the ingestion of such food will help to produce peristalsis. The administration of fruits, of stewed fruits, of honey or other sugars, of whole grain, bread, etc., for constipation is well known. But is such medication proper? The administration of sugars and of fruits is not to be advised, as, once recommended, they are taken in excess; and what might do good if taken in small quantities becomes absolutely dangerous when taken in large quantities. Sugars and fruits, by their conversion into organic acids, become decidedly injurious, if indulged in freely, giving cause to the conditions of organacidia gastrica (already mentioned) and organacidia enterica, which I shall soon describe.

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136 EAST SEVENTY-EIGHTH STREET.

## EARLY SYMPTOMS OF DEMENTIA PRÆCOX.*

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DEMENTIA PRÆCOX is one of the most prominent forms of mental disease, constituting over 25 per cent. of the insane of Connecticut, committed to the State Hospital during the past four years. It should also be of the greatest interest to the general practitioner because of the gradual and often insidious character of its onset, which places its subjects in his hands long before necessity seems to demand the care of a hospital. During this period the disease is often unrecognized and untreated.

It is essentially a disease of youth and early adult life, and is characterized by a progressive mental deterioration leading to dementia of different grades, varying from a very moderate degree to the most profound. The disease process when well established is usually recognized without difficulty. At this time hallucinations of hearing are especially prominent, consciousness is usually not clouded, although most patients do show some difficulty in comprehension. The power of attention is undermined by an increasing lack of interest. Memory shows a progressive impairment. The store of ideas becomes more and more scanty, and thought more limited. Judgment is defective, as shown by the presence of delusions, which at the beginning are more often of a depressing nature, but later may become expansive. These disturbances of the intellectual side of the mental life are usually accompanied by emotional deterioration —emotional apathy and indifference. Temporarily there may be considerable despondency or exhilaration, as well as irritability, when hallucinations and delusions are very numerous, but the fundamental alteration is a progressive emotional indifference. Volition becomes gradually paralyzed, and we find the patients exhibiting an increasing lack of energy. They are sluggish and listless. Transiently, there may appear restlessness or agitation, and even considerable motor excitement, also peculiarly modified movements called mannerisms. Catalepsy and negativism may occur, but here also the basic change is an increasing anergia.

This, in a general way, characterizes the disease picture of dementia præcox, but clinically the cases appear in one of three groups, the hebephrenic, the catatonic, and the paranoid. The peculiar symptoms constituting these various forms will not be discussed here, but our observations will be limited to the early symptoms which are practically the same for all of these different forms.

These early symptoms may be conveniently grouped into four different classes; namely, cases in which there is simple mental deterioration without hallucinations or delusions, cases in which a few indefinite delusions appear, cases of a neurasthenic character, and finally those of an hysteroid character. These can be best demonstrated by illustrative cases.

*Simple Mental Deterioration without Hallucinations or Delusions.*—The first patient is a young man of excellent family history. He developed normally as a boy and was of a cheerful, happy disposition. He was a good student and graduated with honors from high school. Nothing of an unusual character was noted until after his graduation, when a change in disposition came over him. At this time he failed to show any interest in the further pursuit of his education, or in adopting a profession. Instead he remained about home and, contrary to his usual custom, did not even aid his parents in the farm duties. Pampered by his mother, he was allowed to devote his time to social life, of which he had always been very fond, but in the course of six months he wearied of this and began to drop his friends. He remained at home, secluded himself in his room much of the time, occasionally reading pictorial newspapers, but more often sitting unoccupied in a sort of dreamy mood. Formerly his wearing apparel and his personal appearance had been matters of great pride with him, but now he became careless in these respects, and went about with disheveled hair and unpolished boots. Social obligations and church relations no longer interested him. Acquaintances and strangers calling at the house were avoided. Later financial difficulties of his father, and subsequent fatal illness, did not arouse him to a sense of responsibility. He no longer read, and never volunteered conversation, while his answers to questions were monosyllabic, clearly indicating his total disinterest in what was transpiring about him. Some months later, when thrown upon the charity of his sister at the death of his father, he could not be induced to do any sort of work. When urged he usually became irritable, and retaliated by saying he would show them that he did not have to work. Most of his time was spent sitting behind the kitchen stove. He showed absolutely no interest in the affairs of the household; occasionally when sent to the shed for wood, he would be found half an hour later standing idly against the side of the building. During the succeeding six months he became more careless of his appearance; refused to bathe, to have his hair cut, and at times to remove his clothing upon retiring at night. At this time the patient was committed to our care, when it was ascertained that the disease was already far advanced. The memory for both recent and remote events was greatly impaired, judgment was weak, emotional deterioration extreme, and paralysis of the will-power marked.

This is a case of dementia præcox in which the onset was most insidious, and the course progressive, leading to dementia before friends and acquaintances were aware of the existence of any disease process, or of the necessity of medical consultation and treatment. Because of the absence of hallucinations and delusions, the *sine qua non* of mental disease in the minds of most practitioners, cases of this sort are progressing to dementia in many communities of the State unrecognized and untreated. A considerable number of the so-called professional tramps as well as alcoholics, are really individuals suffering from this disease, destined sooner or later to reach the insane hospital.

*Cases with a Few Indefinite Delusions.*—The second class of cases is characterized by a gradual development of dementia accompanied by a few indefinite delusions, and is illustrated by the following case: This patient is a well-developed girl whose grandmother had been insane. In early childhood she had had scarlet fever with an abscess on her neck, followed by double otitis media purulenta, which still persists. Menstruation began at eleven years, had usually been excessive, but at times, from fourteen years, very scanty. Her teachers claimed that she was backward in her studies, but applied herself well to her work. In disposition she was quiet and bashful.

At sixteen it became evident to her parents that she was undergoing a change in disposition. She became more reserved, and preferred remaining alone in her room while studying evenings. She lost weight, seemed languid and had no relish for

*Read at the annual meeting of the Connecticut Medical Society, Hartford.

food. She confessed to her mother that she was worrying greatly about a leucorrhœal discharge. She thought that it was a bad disease, that her teacher also had it and had gotten it from her. Because of her physical condition it seemed best for her to remain out of school for the remaining two months of the school year. This change was immediately beneficial and she improved in weight and appetite, and appeared less reserved. But still her former energy was lacking and she failed to show her usual interest in the household duties. In the fall she could not be induced to return to school, as she felt that the teachers and scholars had turned against her. About this time she would often return from the neighbors, saying that she thought they had acted strangely toward her and did not want her to call on them. She was aware that a change was coming over her, and said that she longed to experience religion and wanted to be good, but something seemed to prevent her. She cried a great deal, especially when attending church. She tried to pray but could not. Conscious of her peculiar actions she wanted to unburden her heart to her mother, but felt as if she could not. Her attitude was one of despondency, and she became more seclusive and reticent. Physically, nutrition became impaired, the weight fell, constipation and anorexia appeared. In the course of three more months irritability and a tendency to impulsive actions developed. Once she threw dishes upon the floor, at another time a lamp, and finally broke out window panes without other reason than that she felt like it. These acts led to her commitment to the hospital. It is unnecessary to follow through her history at the hospital where further symptoms of the disease have developed.

A case of a similar sort, in which the symptoms were of a more insidious character and in which the delusional ideas and impulsive actions were of a more serious nature, is as follows:

The patient is a young man of good parentage, who had always enjoyed excellent health. The first change was noted at twenty-eight. At this time he began to have trouble with patrons, lacked his usual civility in responding to minor complaints, and was surly. His duties at times were indifferently performed and some irregularities were noted. Old friends were dropped, and instead of going to the club evenings, he would walk through the main street alone and then return home to lie on the sofa or sit alone in his room. He ceased attending church and often argued against his religion. Unintentional annoyances by others while at work were taken as purposeful hindrances, and at times led to hot words. At home he could not tolerate jokes, but became angry and even profane with his sisters. He would not brook interference or tolerate any suggestions from his younger brother, by whom he thought he was being supplanted. The family, unaware of the pathological character of these manifestations, did taunt him rather more than usual, while the male members of the family coped with his surliness by administering one or more punishments. This behavior on their part gave rise to the idea that the family intended to force him to leave home. Following this he became still more sullen and resentful, and finally armed himself for an anticipated assault. Some months later, when reproved by his parents for the use of profanity in the presence of his sisters and ordered to leave the house, he shot and injured both his father and brother. Fortunately, this patient fell into the hands of two physicians who had had special training, and his disease was clearly recognized, so that he was sent to the hospital, where close examination corroborated their diagnosis of beginning dementia præcox

It is not at all unusual that cases of dementia præcox, as the result of persecutory delusions, come in conflict with the law. Unrecognized by the medical and legal profession, most of these cases are subjected to the hardships of penal institutions instead of treatment in institutions provided for their care. During the past five years the majority of the youthful cases sent to our institution from the States' prison and jails, have been suffering from this form of disease, whose early symptoms must have been in evidence at the time of the commitment of their crime.

*Neurasthenic Cases.*—The third class of cases is represented by the following: The patient is a young man of good family without neurotic taint, except that his father had been intemperate and immoral, and there had been a history of tuberculosis on both sides of the family. He had passed through an uneventful boyhood, had been a good student, and after graduation had been successfully employed as a bookkeeper. From the ages of sixteen to eighteen he had been addicted to moderate masturbation, and also had been moderately intemperate. At nineteen, following an attack of gonorrhœa which had subsided into gleet, he presented a gradual change of character, first noted by his parents during his annual vacation at home. He displayed no interest in family affairs, but remained alone and seemed to be self-absorbed and suspicious. Unbeknown to his parents he was reading quack literature, and had consulted several physicians of the same order in reference to his trouble. He conceived the idea that the use of metallic sounds had forced the disease backward into the deeper parts, where it had communicated with the spinal column and was undermining his health by allowing the escape of the "vital fluid." This accounted for his various neurasthenic symptoms, such as pains in the head, dizziness, peculiar sensations in the limbs, as well as increased sense of fatigue. As objective symptoms he presented impaired nutrition, loss of weight, increased reflexes, and vasomotor disturbances. Self-absorption increased and his sole topic of conversation was in reference to his somatic disorders. He soon returned to his work, which he could follow with only indifferent success. He would frequently absent himself from his work, and would be found standing alone in the basement of the store, gazing vacantly before him. His incompetency increased and led to his discharge six months later. For the two succeeding years he remained about home, idling away his time. Meanwhile his hypochondriacal ideas of a sexual nature gradually faded and somatic delusions of a pronounced character took their place. He also expressed delusions of influence, and said that he was being hypnotized and that others could read his thoughts. Deterioration of memory and judgment advanced, and impulsive acts and silly laughter occasionally appeared. At the time of his commitment to the hospital at the end of this period the disease was already far advanced.

Such cases at the onset are naturally regarded by most practitioners as cases of neurasthenia. While it must be admitted that sometimes the distinction between neurasthenia and dementia præcox at the onset is not easy, yet most cases of the latter disease can be detected. In neurasthenia there is always present an adequate cause for the asthenic state of the nervous system. This is rarely present in dementia præcox. The emo-

tional attitude of the neurastheniac is very different from that of the dementia præcox patient. In neurasthenia there is usually some despondency, also apprehension for the outcome of the disease, but this emotional condition regularly varies, and the patients have their hopeful days, when they are cheerful and buoyant. Neurastheniacs regularly improve as the day wears on, and in the evening one usually finds them at their best, and capable of some mental application. In dementia præcox, on the other hand, when despondency is present, it is constant, and shows neither daily nor hourly variations. The usual emotional attitude is that of increasing indifference and apathy.

Again, hypochondriacal ideas, while present in both neurasthenia and dementia præcox, are essentially different in each disease. In neurasthenia the hypochondriacal ideas are extensive, usually involving several parts or organs of the body; there is the feeling of pressure in the head, roaring of the ears, palpitation of the heart, coldness and numbness of the extremities, etc. In dementia præcox hypochondriacal ideas are far less extensive, and usually center about one or two organs, and are quite apt to involve the sexual organs. Furthermore, in neurasthenia, hypochondriasis tends to increase except as the disease abates, while in dementia præcox it tends to diminish as the disease progresses. Neurastheniacs are apt to complain of failing mental power, and express the fear that they are losing their minds in the absence of such symptoms, but in dementia præcox, evidences of deterioration really exist, which are not recognized by the patient. Finally, in dementia præcox, impulsive acts are often present, but are rarely encountered in neurasthenia.

*Hysteroid Cases.*—The following record represents cases of dementia præcox in which hysterical symptoms are prominent: The patient, a young woman of good family history, was always considered eccentric, unusually bashful, and somewhat seclusive. At the age of eighteen, while in service as a maid, she began to show greater timidity, and became more seclusive and reticent. Two months later she left her place of employment and returned home unannounced. Here she immediately went to bed and remained there, saying that she did not feel well, though she presented no objective signs of illness. She complained of headache, indigestion, and palpitation of the heart, but refused medical attendance. Whenever her mother insisted upon her leaving the bed, she regularly developed hysterical attacks with laughing, crying, screaming, and convulsive movements. In the course of four months she gradually improved, and upon the insistence of her mother, who found a place for her, re-entered service. She, however, worked indifferently and required constant prodding. Hysterical attacks were apt to recur at critical times when her assistance was most needed. Most of her time off duty was spent in her room, and she rarely went home to visit. Following this she frequently changed her places of employment, rarely staying longer than four weeks in any one place. These changes were usually made without warning, and always without excuse. On two occasions during the succeeding eight months she returned home for two weeks at a time, and suffered from what her physician called hysterical attacks. Finally she went home saying that she had had a vision, probably an hallucination, in which she claimed to have seen a black woman enter her room and touch her while asleep. By this time it was noticeable that she had lost interest in her personal appearance, and was paying little attention to her religious duties. Sometimes her mother would find her sitting on the floor laughing over her baby books. The tendency to indulge in unrestrained and meaningless laughter became more marked, and she would laugh not only at table, but also on the street. Two months later, about one year after the onset of the disease, the patient was first seen by me, and from this time the disease has presented the characteristic picture.

The hysterical manifestations early in this case would naturally obscure the diagnosis. In differentiating dementia præcox from hysteria, the following distinctions should be borne in mind: In hysteria there is always present what is termed the hysterical basis. This condition usually makes its appearance during puberty, and is irregularly manifested by various hysterical symptoms. Such a condition occasionally antedates dementia præcox, but is by no means essential. The emotional attitude is quite different in the two diseases. In hysteria the patients are entirely under the control of their feelings, and we find them vacillating from one mood to another, impelled by the most thrilling incidents. At one time they are extremely despondent, at another very angry, and again they are happy and cheerful, or sullen, but always craving sympathy. In dementia præcox the characteristic emotional state is one of emotional indifference and apathy, with an absence of reaction to the environment. Transient despondency, or moderate exaltation, may be encountered, but these states do not vary from hour to hour or day to day. In hysteria hypochondriacal symptoms are extensive and involve more than one organ, while in a dementia præcox they are limited. Hysterical paroxysms are characterized by both sensory and motor nervous symptoms. In dementia præcox the only paroxysms that ever occur are motor and of an epileptoid nature. In hysteria the mental processes of perception and comprehension are unimpaired. The patients are even keen in the recognition of their environment, especially any defects in it. In dementia præcox occasional hallucinations, such as occurred in this last case, are encountered very early in the disease. In hysteria genuine hallucinations and delusions are never present. What may seem to be hallucinations and delusions are found, upon close inquiry, to result from fabrication and a lively imagination. The store of ideas in hysteria rarely suffers any impoverishment, though voluntary conversation usually centers about the patient's ills, but in dementia præcox desultoriness, or scattered thought, in which there is a lack of continuity, often occurs early, while progressive impoverishment of ideas regularly accompanies the course of the disease. Finally, hysterical patients are extremely egotistical.

The necessity of an early recognition of dementia præcox becomes all the more apparent when one learns that the disease in the vast majority of cases has been in existence one or more years before the patient comes to the hospital, in which interval some have wandered from home and become lost to the family, others have developed alcoholic habits, or have acquired sexual diseases, conceived and given birth to children, or have committed criminal assaults, all of which might possibly have been prevented. The honor of the family, the protection of society, and the welfare of the patient demand more careful attention from the practitoner to this common mental disease.

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**Conscientious Objectors in Great Britain.**—It is stated that 203,413 certificates of conscientious objection to vaccination of children were received last year by the vaccination officers of England and Wales.

**Traumatic Tetanus.**—Elsässer gives an exhaustive analysis of all the cases of traumatic tetanus observed in Kocher's clinic at Bern, and descants particularly on the results of the various modes of treatment employed. These embraced a number of variants of the usual combinations of narcotics, saline infusions, serum, and carbolic acid, and from the statistics obtained he has elaborated a definite plan to be followed as routine: (1) Energetic and prompt disinfection of the wound with tincture of iodine, carbolic acid, and in some cases the thermocautery. (2) The immediate injection of serum, either subcutaneous or intravenous, or in urgent cases intracerebral or subdural (lumbar puncture), in order to neutralize any free toxin circulating in the blood. (3) The free administration of opiates to anticipate convulsions. Most advantageous are chloral hydrate and morphine alternately. When necessary chloroform temporarily for severe seizures, accompanied by dyspnœa. (4) The systematic injection of carbolic acid in doses of fifteen minims of a 3-per-cent. solution every one or two hours, according to the severity of the case. (5) Subcutaneous infusions of salt solution for the purpose of contributing fluids in all cases, particularly when swallowing starts convulsions. (6) Feeding per rectum and, when indicated, by subcutaneous injections of oil (3-6 ounces) as recommended by Leube. (7) Isolation of the patient to avoid external stimuli. The greatest stress is laid on thorough disinfection of the wound at as early a date as possible, and for this purpose the two agents indicated, iodine and carbolic acid, are by far the most active. The tetanus serum, while of undoubted value labors, under the disadvantage of almost never being administered until the disease is well established, but the carbolic acid injections first advocated by Baccelli have a great and well demonstrated curative value. The mortality of the cases treated in the clinic according to the various older methods is 58.3 per cent., a remarkably favorable figure. —*Deutsche Zeitschrift für Chirurgie.*

**Subcutaneous Fat Absorption.**—H. Winternitz publishes a careful study of this question, and comes to conclusions differing widely from the generally accepted views. Since Leube's original experiments were described, the feasibility of employing subcutaneous injections of fats to supplement rectal feeding has been taken for granted, and both clinicians and experimenters have made use of the method. The mistake has been made, however, of considering all the fat found in the bodies of laboratory animals after injections of oils as representing an available fat supply for the organism to draw on. It is the author's view that whatever fat is to be of use to the organism must undergo oxidation, and that the efficacy of the method depends upon the amount of fat the body has actually been able to apply to its metabolic demands. By using iodized oils he has been able, as it were, to mark the fat he has administered, so that it is capable of subsequent identification on autopsy, while the iodine found in the urine gives an accurate index for the amount that has undergone oxidation. Experiments conducted along these lines, both in man and in animals, lead to the conclusion that fats do not afford a suitable medium for subcutaneous alimentation. While it is true, as Leube stated, that subcutaneously administered fats are absorbed and made use of by the organism, still the quantity so taken up is far too small to be of any use. After an injection of 500 gms. of oil under the most favorable conditions the amount absorbed during each of the first five days would not be more than 2-3 gms., while for the first eight days the figures would be still lower. That is to say, months would elapse before the 500 gms. would be absorbed, and a starving organism can take up only from 20-25 calories daily at the most from such injections.—*Zeitschrift für klinische Medicin.*

**A New Form of Sterilized Swabs for Surgical Operations.**—J. Jackson Clarke describes a swab which is triangular in form and consists of absorbent wool, everywhere covered with a double layer of soft gauze, which is so stitched that no rough edge and none of the cotton wool is exposed on the surface, thus reducing to a minimum the amount of cotton fiber that will be left behind in the wound when the swab is removed. At one angle is a pocket into which a finger, probe, or other instrument can be introduced; this greatly facilitates careful packing of a cavity or a large wound during the process of operation. For instance, in operating for appendicitis it is often difficult to pack in the ordinary square swabs without unduly pressing upon the surrounding coils of healthy intestine, while the insertion of the thin-pointed swab by means of the index-finger pushed into the pocket, can be done without difficulty, and the broader ends are then easily arranged so as to isolate completely the inflamed area. The ordinary process of hæmostasis is also facilitated by this form of swab held in the left hand with the tip of the index-finger in the pocket of the swab, the remainder of which is held in the hand. The general surface of the wound being freed from blood by the main part of the swab, the angle of the swab can be pressed by the index-finger on any particular vessel which is secured by forceps on raising the index-finger with greater ease than when a large surface with several bleeding points is suddenly exposed.—*Medical Press and Circular.*

**Of What Value Are Drugs in the Treatment of Children?**—Frederick Leavitt believes that, taking the world over, greater harm has been done children by the giving than the withholding of drugs. In such constitutional diseases as anæmia, rickets, scrofula, goiter, cretinism, acromegaly, Addison's disease and diabetes can we rely on drugs alone as exerting much influence in their cure? In infectious diseases how much real benefit is derived from the thousand-and-one indicated remedies? Is there a specific for meningitis, for pneumonia, or a common cold? Many of the diseases we try to cure are undoubtedly of benefit to the human race by their fatal consequences, as hydrocephalus, tuberculous peritonitis, etc. They are natural agencies which weed out the weaklings before they reach the age of reproduction. Aconite is of doubtful value, opium is a valuable drug, but needs the greatest care in its administration; digitalis is often useful, but should be used with the greatest circumspection; tonic restoratives are of less value than hygienic measures; chloroform, ether, and cocaine are necessary for anæsthesia, but not to be otherwise used; the coal-tar products are needless for the reduction of temperature, since water does it as well. Quinine is invaluable in malaria, mercury and potassium iodide work wonders in syphilitic affections; antitoxin in diphtheria is certainly a God-send, and the closing decade of the nineteenth century will be forever marked in the history of medicine because of its discovery.—*Pediatrics.*

**Hemorrhage of Typhoid Fever Treated by Calcium Chloride.**—Samuel E. Earp says that when the hemorrhage first appears an enema of one quart of water at 115° F. containing 60 grains of calcium chloride is to be used twice a day by means of a fountain syringe, held at an elevation of twenty inches. Thirty grains in solution is given by the mouth twice a day. This treatment is kept up from three to five days. At the beginning of the treatment some of the prepared liquid foods take the place of the milk diet, and the cold bath is abandoned. The diet should be simple and scanty for a few days. Powdered opium is to be used to retard peristalsis, and occasionally a low vitality will call for the nitrate of strychnia. On the fifth day the calcium chloride treatment is stopped, and five grains of salol or benzosol are given three times a day, and also an emulsion of turpentine, fifteen drops to the teaspoonful, every three hours. Several ten-grain doses of the subnitrate of bismuth may be used. In a few days the patient can again return cautiously to the milk diet if deemed advisable, and to the use of cold baths if there is a high temperature. Alcohol baths or cold packs may be used.—*The Medical and Surgical Monitor.*

MEDICAL RECORD:

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## MODERN VIEWS ON GOUT.

THE *Practitioner* for July contains a symposium on gout. Dr. T. B. Futcher of Johns Hopkins University, in an article to which we referred recently, called attention to the frequency of gout in this country. Dr. Samuel West pointed out that the relation between gout and uric acid gravel and calculi is no simple one. Urine may contain excess of uric acid without depositing, and may deposit much when the contained amount is not large. Also the two conditions rarely occur in individuals or localities, and uric acid deposits in the kidneys occur in conditions other than gout. As shown by the statistics of Ord and Greenfield, Norman Moore, and Pye Smith, gout and chronic interstitial nephritis are closely, yet not necessarily, associated. But the association of lead poisoning with both diseases is also very intimate. Pointing out that granular kidney is a very common disease, West concludes that neither gout nor lead poisoning cause it, but that given the defective eliminating power inseparable from granular kidney, the liability to the development of gout or lead poisoning is greatly increased.

Dr. F. S. Toogood, writing on gout among the poor, says that only malt liquors cause the disease; spirit drinking does not. Dietetic errors do not enter into the etiology. Heredity is an uncertain factor, owing to the difficulty of separating rheumatism and gout in the histories. The age by preference is 40 to 50. Invariably the first joint attacked is the metatarsal-phalangeal of the great toe. Later lesions are much influenced by occupation strains, the joints most frequently involved being the great toe, the small joints of the feet, ankle, wrist, and fingers; rarely the shoulder, hip, and vertebræ. A very characteristic deformity is the fixation (by deposits) in hyperextension of the proximal-middle interphalangeal articulation with flexion at the middle-distal articulation. The only joint disease liable to be confounded with gout is osteoarthritis, acute attacks of which may present real difficulty, but here the inflammation is not quite so intense, or the skin so tense and shiny. Moreover, in gout the deformity is in the fibrous structures *around* the joint, whereas in osteoarthritis it is the joint itself and the bones immediately adjacent that are affected. Tophi aid, but they are often absent in gout.

Dr. Alexander Haig says uric acid produces two series of diseases, a local group (gout-rheumatism), and a circulation group (headache, epilepsy, mental disease, anæmia, Bright's disease, Raynaud's disease, etc.). If albuminoids are not taken in excess, the uric acid formed in the body does not harm, provided none be introduced. Haig discusses at length the subject of uric acid in the organism, and resolves the whole question into the physicochemical one of solubilty in the blood, and he explains all symptoms, even to detail, from this physicochemical standpoint. Remedies, too, are either solvents or precipitants of uric acid, and their effects follow naturally from this property. The two principles of treatment are to cut off the supply of uric acid and to eliminate that already present. In acute cases a solvent (sodium salicylate or salicylic acid) should be given in large doses. In chronic cases without fever or debility the same should be given, feeding up, however, with tonics and acid, and keeping the patient cool. With marked debility the patient should be well fed (without regard to ingestion of uric acid), and when he is better nourished salicylates should be given. Sir Dyce Duckworth, writing on a dietary, does not take seriously the various hyperfastidious distinctions so much in vogue, such as that white meats are "safe," while red ones are not, and he sees no sense in the notion that things grown underground are taboo. Iconoclastic as he is, when it comes to the subject of wines the distinctions drawn seem a trifle exiguous. Still his main contention is that the amount is to be curtailed markedly, and that a man's idea of moderate drinking is generally considerably too much. Any animal food is beneficial in moderation, though pickled and salted meats are best avoided. Indeed relief to the high liver comes not so much by yielding up some particular besetting sin, as by cutting down the total consumption. Dr. A. P. Luff applies to the acutely inflamed joint sodium bicarb. ʒ iv, lin. belladonnæ ʒ ii, tinct. opii ʒ iss, aquæ ad ʒ viii, mixed with an equal amount of hot water, on cotton under oil silk. For acute attacks colchicum is one of the most valuable drugs; 30–40 minims of the wine for the first dose, followed by 10–20 minims with 40–60 grains of potassium citrate. The first night 3 or 4 grains of blue pill should be given and the next morning Epsom salts. The first day or two bread and milk and tea made with milk instead of water should be given, and alcohol avoided if possible, as also beef tea and meat extracts at all times. Subacute and chronic cases require careful attention to diet, the securing of one stool a day, and small doses of colchicum with guaiac resin (5–10 grains) to stimulate hepatic metabolism and relieve portal congestion. The best alkali is potassium citrate. When the removal of deposits is in question sodium must be avoided, but when none is present sodium compounds benefit as hepatic and gastrointestinal stimulants. For reduction of chronic inflammatory thickenings iodide of potassium (5–10 grains t. i. d.) should be used, usefully combined with 5–10 minims of tinct. iodi. In subacute and chronic cases massage and galvanism (5–10 milliampères), and radiant heat and superheated air baths are very useful. Cataphoresis of potassium bicarbonate solution under 10–30 milliampères, benefits many chronic cases. The Turkish bath is most undesirable. Successful handling of the eczema requires the securing of regular defecation, careful dieting, and the entire avoidance of alcohol

and acid fruits. Locally, in dry eczema, liq. plumbi subacetatis ʒ i, liq. carbonis detergens ʒ i, aqua sambuci ad Oi, is most soothing; an opium preparation being substituted for the tar preparation in the moist eczema. Pruritus is best allayed by carbolic lotions. Insomnia and broken sleep are frequently benefited by a blue pill and a saline. For prophylaxis no drug equals guaiac resin (5 grains, increased to 10 or 12, after meals); quinic acid also seems of decided use. Much exercise (bicycling is an excellent form) is of great importance. The dietary should be simple and digestible, and should include at least one meat meal a day. Starches need only be curtailed when they produce indigestion. Alcohol as a rule is best avoided, but that depends on the patient. The best climate is one characterized by a fairly bracing air with a relatively low humidity.

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## STANDARDIZATION OF DISINFECTANTS.

Mr. Samuel Rideal and Mr. Ainslie Walker read a paper on this subject before the recently held British Sanitary Congress, an abstract of which has been published in *Public Health* for August. The authors are of the opinion that in view of the steadily increasing demand for disinfectants due, in great measure, to the fact that the general public is acquiring a better knowledge of the true cause of zymotic disease, the efficiency of all disinfectants sold as such should have, if not a government guarantee, at least a maker's warranty which is capable of being checked.

At the present time there exists in Great Britain no official control over the sale of disinfectants, with the exceptions of those set forth in the Privy Council Orders of July 27, 1900, and June 5, 1902. The first of these permits the sale, without control, of liquids containing less than 3 per cent. of carbolic acid or its homologues as disinfectants, on the ground that such fluid is not a poison within the meaning of the Pharmacy Act of 1868; and "thus," say the authors, "has the direct effect, obviously, of placing a premium on inefficiency." In the subsequent order it is stated that liquid disinfectants containing scheduled poisons—which, for the present, are practically confined to carbolic acid and its homologues in solutions of more than 3 per cent., and corrosive sublimate—shall be sent out in bottles rendered distinguishable by touch from ordinary medicine bottles, with a label giving notice that the contents of the bottle are not to be taken internally. Formaldehyde and potassium mercuric iodide, which are both efficient disinfectants, can be advertised and sold as such by anyone without control.

The writers state that it has been suggested frequnetly that the example of Massachusetts of extending to such articles the provision of the Food and Drugs Act, should be followed. At any rate, the fact is patent that Parliamentary action is necessary to deal effectively with this particular problem.

In Great Britain, according to Messrs. Rideal and Walker, there is no thoroughly reliable test for disinfectants, which may account for this apparent apathy on the part of the authorities. "It is obvious," they go on to say, "that a bacterial rather than a chemical determination of efficiency is required. . . . Again, much depends upon the conditions, both chemical and physical, in which the disinfectant is employed. Thus it has been found that a disinfectant containing 10 per cent. of tricresol in emulsion is equivalent in bactericidal value to one containing 30 per cent. in solution when tested against a vigorous culture of bacillus typhosus."

While, however, it is agreed on all hands, that there is a great need of a bacteriological test, the methods employed by different bacteriologists result in glaring discrepancies. Consequently, in order to obtain results which would be comparable, a standard method for the examination of disinfectants must be employed. The authors submit that the following are some of the factors to be considered to attain this object: (1) Time; (2) age of culture; (3) choice of medium; (4) temperature of incubation; (5) temperature of medication; (6) variations in vital resistance of different species; (7) proportion of culture to disinfectant. The standard recommended is pure phenol, and the method advocated by the authors is as follows: To 5 c.c. of a particular dilution of the disinfectant in sterilized water add five drops of a twenty-four hours' blood-heat culture of the organism in broth; shake and take subcultures every two and a half minutes up to fifteen minutes. Incubate these subcultures for at least forty-eight hours at 37° C., allowing thirty seconds for each act of medication and the same time for making each subculture, four different dilutions of the disinfectant under examination, together with one standard control, may be tested against the came culture under conditions which make the results strictly comparable. If preferred, the field may be extended and divided into intervals of five minutes; but the authors contend that no table is complete which does not show a positive result in the first column and a negative result in the last. The strength or efficiency of the disinfectant is expressed in multiples of carbolic acid performing the same work; *i. e.* when a dilution of the disinfectant is obtained which does the same work as the standard carbolic acid dilution, the former is divided by the latter and so a ratio is obtained which is called the "carbolic acid coefficient."

With regard to the various factors enumerated above, their importance is clearly illustrated by numerous tables, but which can be only referred to very briefly. It is pointed out that to obtain regular and consistent results in the examination of disinfectants, time must be taken as the constant and strength as the variant. As to choice of medium, broth is recommended rather than agar, and with regard to reaction of the medium used for primary cultures, the authors have followed the lead of the American Public Health Association in 1898, by adopting a reaction of + 1.5 per cent. They have adopted 15° to 18° C. as the range of temperature most easy of attainment throughout the year. Respecting the proportion of culture to disinfectant. Messrs. Rideal and Walker say that "this is, perhaps, the most important factor of all, and yet it is one which is most frequently ignored. When a casual reader learns that a certain disinfectant is capable of destroying certain organisms within a specified period of time, he accepts the statement as a valuable contribution to our knowledge of the

article in question. Yet the absence of this factor entirely robs the statement of any value it might otherwise have. It is in cases such as these that we find the strongest argument in favor of a standard control."

The writers have shown that there is a great need of reliable bacteriological tests, a fact which has been more or less plain for some time. It would be well if the matter were fully discussed both in the United States and Great Britain, so that some decision might be come to regarding the establishment of a standard method for the examination of disinfectants.

## ALCOHOLISM AND HEREDITY.

At intervals during the past two years an animated discussion has been going on in *The Lancet*, with regard to heredity in connection with alcoholism. Many well known men have taken part in the dispute, and the conclusions arrived at by distinguished authorities have been freely quoted. Mr. G. Archdall Reid has been the most prominent disputant, indeed he may almost be termed the father of the new theory. Scientific and medical men for the most part have long held the view that certain acquired traits can be transmitted, and especially so with respect to alcoholism. That is to say, the son of a person addicted to alcohol will not on that account necessarily be an alcoholic himself, but he is likely to inherit a neurotic and unstable temperament, and will easily fall a victim to the drink habit. In fact, he will possess through the sins of his father a predisposition to travel the same road trodden by the latter.

Mr. Reid absolutely denies that this theory contains a grain of truth or has anything to recommend it, and he thrusts aside the assertions of noted biologists as founded upon misconceptions. In a paper read in the Section of Psychology, at the recent meeting of the British Medical Association, Dr. Reid set forth his opinions in a series of propositions. He calls his paper "Human Evolution with Especial Reference to Alcohol." The propositions are sixteen in number and far too long to quote at length here. The gist of his argument, however, is that races are resistant to any disease precisely in proportion to the length and severity of the ancestral sufferings from it; that disease does not extinguish a race, but actually strengthens it by the operation of natural selection; that parental temperance, like disease, does not affect offspring subsequently born. If offspring are affected, then races which have long used alcohol should be degenerate and tending toward extinction. On the other hand, if offspring are not affected, races that have longest used alcohol should, through the weeding out of the unfit, be the least inclined to excessive indulgence, the least susceptible to the charm of drunkenness, of all races. Mr. Reid claims that clear evidence is given that such is the case by the example of the Jews, Greeks, Italians, South Frenchmen, Spaniards, and Portuguese, who have longest had an abundant and continuous supply of alcohol, and who are the most temperate people on earth. North Europeans and others who have had a less plentiful supply are less temperate, while some savages and others who have had little or no experience of the poison are the most intemperate of all. In short, the contention is made that alcohol, like disease, is the cause of an evolution protective against itself. Drunkenness in the ancestry is the cause of temperance among the descendants.

Mr. Lawrence Irwell of Buffalo contributed to the *Medical News*, July 19, an article in which he treats of heredity and alcoholism. He says that alcoholic susceptibility is undeniably hereditary, but that the acquired taste for alcohol is not passed to the next generation, for if it were, the Jews, who have had alcohol for innumerable years, would have been almost wiped out by its use. If a few Jews were still left, they would be chronic drunkards, having inherited the desire for drink of many of their direct male progenitors added together. This is not so; indeed, the Jews, he says, are an extremely sober people, although their ancestors may centuries ago have been drunkards. Mr. Irwell does not believe in the transmission of an acquired drink habit, but yet believes in the inheritance of an alcoholic susceptibility. Whence then comes the alcoholic susceptibility? It must have either been acquired in the first instance, or the individual possessing it must have some peculiar abnormality of the brain or the nervous system generally, which drives him to seek relief in drugs or alcohol. The latter is doubtless Mr. Irwell's belief.

So far as the assertions made by Mr. Reid and Mr. Irwell are concerned, that the Jews and some other nations who have used alcohol from time immemorial are now the most temperate of races, there is no agreement on these points. Evidence that the Jews were at any time a drunken people is not forthcoming, while the Italians and South Frenchmen, mentioned by Mr. Reid as now being models of temperance, are declared by some apparently competent authorities to be quite the reverse. That Italians, Spaniards, Portuguese, and Greeks are races which have been for generations and are still on the down grade is a statement that needs little emphasis.

As Professor Cunningham said, "Mr. Reid cannot prove that the children of habitual drunkards are normally developed both mentally and physically. When drink is indulged in to excess through successive generations it results in insanity, paralysis, idiocy, or cerebral defect of some kind. "The theory that in a drinking nation the unfit are weeded out, and that among the survivors a considerable degree of immunity to alcohol is established, is plausible and probable. The craving for drink may not be directly transmitted, but the children of drunken parents or one drunken parent will in all likelihood inherit some physical or mental defect or both, which may of a certainty be put down to the drinking habits of their progenitors. To quote the opinions of Weismann and other biologists who have interested themselves in heredity and alcoholism would require pages. Suffice it to say that their views are divergent and that Galton was one of the first to propound the theory that acquired habits are not transmissible. Mr. Reid and his followers are earnest and able, and have done good by discussing and ventilating the matter, but until they bring more cogent and convincing reasoning to bear upon the subject, the mass of the medical profession will still hold to the belief that children born of drunken parents themselves inherit a certain degree of predisposition to drink.

**Death Rate of European Armies.**—The death rate in the German army is stated in *The Lancet* to be only 2.32 per 1,000; in France it is 4.58; in the United Kingdom 4.71; in Italy 4.87; and in Russia 5.32 per 1,000.

### Miners' Phthisis.

A disease to which those who work in coal mines are peculiarly liable is known as miners' phthisis. The symptoms which distinguish this malady during life are very similar to the symptoms of pulmonary tuberculosis, while the lungs are found, upon post-mortem examination, to be deeply pigmented and in a more or less solid condition.

Dr. Thomas Oliver of Newcastle-upon-Tyne, England, delivered an address on the subject at the recent meeting of the British Medical Association, which has been published in the *Medical Press* of August 19. It appears that miners' phthisis as a morbid entity has been known since 1703, when Ramazzini drew attention to it, and in 1860 Peacock proved microscopically and chemically the identity of the particles of dust found in the lungs with the dust of the atmosphere in which the patient had worked during life. The disease is one of occupation and caused by dust, also evidence goes to show that this form of phthisis bears a distinct relation to the kind of dust inhaled. Dr. Oliver says there are two ways by which the pathology of miners' phthisis can be studied: (1) Pathological inquiry in man, and (2) physiological experimentation in animals.

The point, however, of Dr. Oliver's address was as to whether pneumokoniosis is a tuberculous disease. The speaker contended that it was not, and that when tubercle was present in miners' phthisis, it was an accidental and, therefore, a secondary infection. On the other hand, Dr. Tripier of Lyons is convinced that tubercle is not a coincidence nor a secondary infection, but the principal cause of pneumokoniosis. It is a fact worthy of notice that, however foul the air of underground workings may be when the ventilation is fairly good, and especially if the dust is prevented from impregnating the air, lung disease is rare among the workers in such localities.

Dr. Oliver summarized his conclusions thus: (1) Miners' phthisis is not caused by the inhalation of any of the gases present in the mine. (2) In pneumokoniosis there may be not only excess of fibrous tissue, but even cavities and tubercle. (3) The disease, is, however, non-tuberculous. (4) Accepting this view of the pathology of the disease, there is hope that by improving ventilation and by allaying the dust with water, miners' phthisis may be still further diminished.

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### Increase of Insanity in Great Britain.

The annual report of the Lunacy Commissioners of the United Kingdom shows that insanity has increased considerably in England, Scotland, and Wales. Reference was made editorially to the increase in Scotland in the Medical Record, June 6, and in the same number the connection between drink and insanity was commented upon. According to a cable dispatch to the *Sun*, August 2, the increase in the number of insane in the United Kingdom during the year ended December 31, 1902, has been phenomenal. No less than 22,581 are reported to have become insane in 1902. The cases of lunacy are tabulated as carefully as is possible in the Lunacy Commissioner's report. Drink is one of the predominating causes, it being responsible for 23 per cent. of male and 9.6 per cent. of female cases. To heredity is ascribed 24.6 per cent. of the cases of insanity amongst women, and 18.8 per cent. of those amongst men. The figures of the report do not bear out the general belief that to the strain and stress of modern life is due much of the increase in lunacy. The Commissioners argue from the data collected by them that the increase of lunacy has its origin rather in physical than in mental causes. It is a curious and significant fact that insanity is increasing more rapidly in the country than in the cities. Dr. E. W. White, the recently elected president of the Medical Psychologico-Association, states that the most discouraging feature with regard to the increase of lunacy is the fact that in the past thirty years there has been no material advance in the rate of recovery, despite the numerous new and rational principles of treatment. Dr. White advocates as remedial measures, State regulation of marriages so that those tainted with lunacy should not be permitted to propagate their species, and Government control of the manufacture and sale of spirituous liquors. There can be now no doubt that insanity is on the increase in Great Britain, as it probably is to a greater or less extent in all nations of the civilized world. It is a pity that reliable statistics regarding insanity cannot be obtained from all parts of the United States. They would be of much scientific value for purposes of comparison.

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### The Toxicity of Methyl Alcohol in Extracts and Medicine.

Dr. R. H. Main read before the Pike County Medical Society in Pittsburgh, on April 23, a paper bearing this title. He relates the case of a man—a patient of his own—who through drinking large quantities of lemon extract died with all the typical symptoms of methyl alcohol poisoning.

The author then made a series of investigations of various culinary extracts, and was surprised to find that many of them were made from methyl alcohol in contravention of the pure food law of Illinois. Dr. Main quotes largely from the writings of well-known medical and scientific men to prove the toxicity of methyl alcohol, which has the peculiar property of rendering its victims blind.

*The Johns Hopkins Hospital Bulletin*, August and September, gives the results of a series of twenty-eight experiments made by Dr. Reid Hunt of Baltimore with methyl alcohol and ethyl alcohol. From these experiments he deduces the following: The symptoms of intoxication by wood alcohol are produced more slowly than by grain alcohol and the period of intoxication is more prolonged. The effects of a single dose of methyl alcohol are long continued, and it is an especially dangerous substance to give for any length of time. . . . The highly important discovery has been made that methyl alcohol differs markedly from ethyl alcohol, in that it is but partially oxidized in the body, and that its administration leads to the formation within the body of the highly poisonous formic acid. After its administration to an animal or a man a considerable amount of formic acid can always be found in the urine. Formic acid is excreted very slowly. This is probably the cause of blindness which so frequently follows methyl alcohol poisoning in man. Highly differentiated nerve structures are especially likely to suffer when exposed to the action of a poison for a long time. Dr. Hunt concludes that, "however pure methyl alcohol may be, it is totally unfit as a substitute for grain alcohol in any preparation which is to be taken internally, and especially in a preparation which is to be taken for any length of time."

Dr. Main asserts that methyl alcohol is used extensively in the manufacture of our culinary and medicinal extracts, spirits, essences, etc., and he further states that he has abundant evidence in support of his assertion.

In the discussion that followed the reading of Dr. Main's paper, Dr. Gehrmann proposed the following

resolution: "In view of the fact that we recognize the poisonous effects of methyl alcohol, when used internally and externally, be it resolved by Section 3, of the State Medical Society, that the State Food and Drug Commissions be urged to take action to prevent its use in all pharmaceutical and culinary preparations as a substitute for alcohol, and that where it is used in the arts special precaution be taken to protect workmen from its effect." This resolution was carried.

### The Possibility of Ridding a District of Mosquitos.

In connection with the prevention of malaria, it is agreed on all hands that if mosquitos could be extirpated that the disease would soon be extinct. Of course, no one is sanguine enough to anticipate the wholesale destruction of the malaria-bearing mosquito, but there are many who are of the opinion that rigorous measures energetically carried out will in certain districts reach this end in a very satisfactory manner. Others believe that hope in the consummation of any such plan is a Utopian idea, and that our defence against the pestilential insects must lie in denying them ingress to our dwellings, and protecting our bodies.

Drs. Stephens and Christophers, who have been studying the subject in the malaria-infested regions of West Africa, have recently made their report to the British Royal Society. The London *Times*, commenting editorially on the same, remarks that on the question of the prevention of malaria in native communities Drs. Stephens and Christophers do not speak hopefully, and even express their belief that, with the means at the disposal of the sanitary bodies of West Africa, no appreciable diminution of the disease is at present to be brought about. The destruction of anopheles larvæ was at first regarded hopefully; but this hopefulness has diminished as the magnitude of the undertaking has been realized, and as the first attempts have shown the difficulty of conducting such an operation upon a sufficiently large scale. If drainage could be efficiently carried out over a particular area it would, they think, be successful in diminishing native malaria, but the conditions surrounding each case must determine to what extent such a measure could be applied.

This is one side of the picture, but Dr. Ronald Ross, in a letter to the *Times*, presents the other side of the picture. He shows that it has been practically proved that native malaria can be driven out by destroying the offending mosquitos. Dr. Ross enclosed a communication he had received from Major Penton, principal medical officer of the Soudan, which records the successful results which have already followed the anti-malarial campaign—conducted upon the lines suggested by Ross—commenced less than a year ago by the Suez Canal Company at Ismailia. "The results," says Major Penton, "have been remarkably successful. The town is practically free from mosquitos, which only a short time ago were very abundant. Mosquito nets can almost be dispensed with. . . . The operations you recommended are in full swing. Two marshy swamps to the northeast of the town have been filled with sand, others on the south have been filled, while still others are being dealt with. . . . Coincident with the destruction of mosquitos and other larvæ, malarial fever at Ismailia this year shows a most striking improvement. Statistics show that up to the present it is the healthiest year on record."

This evidence, while by no means demonstrating that it is possible to destroy mosquitos everywhere and thus make an end to native malaria, is nevertheless the most favorable testimony to the efficacy of thorough preventive measures that has as yet been afforded. If malaria cannot be entirely extinguished, it can be so scotched that it will no longer be the dread menace it has been in former times to Europeans living in tropical countries.

### Susceptibility of Criminals to Atmospheric Changes.

Weather undoubtedly exerts a certain amount of influence upon the state of a person's mind. In fine, breezy, sunshiny weather even a dyspeptic misanthrope cannot but feel an exaltation of spirits; while on the other hand rain, fog, and a cold, irritating wind will render a Micawber depressed. It is generally agreed that weather affects individuals in a normal condition of health, but how it influences criminals until recently has not been made a subject for inquiry. Dr. W. Norwood East, Deputy Medical Officer H. M. Convict Prison, Portland, gives in *The Lancet*, July 25, the result of some investigations into the question undertaken by him among the convicts of Portland Prison. Dr. East's inquiry with the object of ascertaining if atmospheric changes influenced the criminal resulted in showing that this class is, on the whole, insusceptible to such influences. However, the conclusions reached seem worthy of being recorded briefly, as sustaining the assertion that the criminal is deficient in reactivity to external influences. For the purpose of Dr. East's investigations a period of three years was taken, during which time he noted the direction of the wind, the outlook, the temperature in the shade, and the barometric height, taken daily at 8 A.M. at the prison, and to estimate the possible effects on the criminal the number of breaches of prison discipline was compared. The investigations tended to show that the criminal did not appear to be affected to an extent worthy of mention by the outlook. Wind appeared to have some slight effect, but so small as to be hardly a matter for consideration. Barometric variations appeared to have no influence, but rapid variations of temperature were thought to be slightly antagonistic to healthy functional action in criminals. "In onclusion," says Dr. East, "it may be considered that, with a possible exception in the case of variations of temperature, the criminal is unaffected by atmospheric changes.

**Hydrotherapy in Pediatrics.**—M. Barts says that he has never derived such satisfaction in treating febrile diseases in children, especially scarlet fever and cholera infantum, as since adopting the use of the tub bath in all severe cases. As to temperature the same results can be obtained with a bath at 90° for a child that would require one at 70° for an adult. In all ordinary cases 10 to 12 minutes duration is sufficient, in some cases 5 to 8. The soothing effect of the cool bath on the child is a strong argument in its favor. The benefits of the bath are greatly increased by the free application of cold water to the head while the child is in the tub. Hot baths are indicated not in acute febrile conditions, but in the chronic stage characterized by exhaustion. Sometimes a thorough sponging or a wet pack, cold or hot, will give as good results as a tub bath. Water is also beneficial when used internally. In cholera infantum and other gastrointestinal disorders, milk diet should be stopped, and the stomach irrigated and the large intestine washed out with normal salt solution. The irrigation of the bowels should be continued two or three times daily in all severe cases of enterocolitis. The author cites ten cases in support of his views.—*The Cleveland Medical Journal.*

# News of the Week.

**The Prize Essay of the American Medical Association.**—This association offers annually a gold medal, value of $100, for the best essay on any subject relating to medicine or surgery. The recipient of this prize will be given the option of the gold medal, or a bronze replica of the medal, and the balance of the appropriation (about $90) in money; or the entire amount ($100) in money. The association annually sets apart the sum of $500 for original research, and this prize is offered to stimulate the production of a superior practical paper based upon either experimental studies or clinical investigation or both. The committee will give preference to papers having the greatest brevity consistent with thorough consideration of the subject, and recommends that the paper shall not exceed 5,000 words. The committee, while not restricting the choice of subjects, recommends as an important subject for consideration "The Therapeutic Value of the Digestive Ferments." Competing essays must be typewritten, and bear no mark revealing their authorship; but instead of the name of the author there must appear on each essay a motto, and accompanying each essay a sealed envelope containing the name of the author and bearing on its outer surface the motto of identification. No envelope will be opened by the committee until a decision has been reached as to the most deserving essay. The other essays will be returned to their respective authors. The committee reserves the right to reject all essays if none is found worthy of the association medal. Competing essays must be in the hands of the chairman of the committee not later than April 1, 1904. The committee consists of Lewis S. McMurtry, Louisville, Ky., chairman, Burnside Foster, St. Paul, Minn., and M. H. Fussell, Philadelphia, Pa.

**The Health of Cuba.**—The newspaper reports of a mysterious disease near Santiago de Cuba and the assertion of a physician formerly resident in Cuba that the disease was yellow fever, have directed attention anew to health conditions in the island. It is of interest therefore to learn from a recent report of United States Minister Squiers that the sanitary measures introduced by Colonel Gorgas are continued in Havana and that the island as a whole is now more healthful than at any time in its history. Minister Squiers says: "In the District of Havana the death rate decreased in June to 400, against 448 in the preceding thirty days and against 540 in June of last year, and is the lowest figure for the month of June ever recorded in Havana, as far back as reliable statistics can be obtained. The whole island is free from smallpox and yellow fever. In many of the provinces the death rate has been abnormally low for the time of year, owing to the improved methods o fsanitation."

**Yellow Fever in Mexico.**—In a report recently received by Dr. George R. Taber, Health Commissioner of Texas, from Linares, Mex., it is stated that the municipal authorities are taking no steps toward controlling the epidemic, and the yellow-fever cases are not quarantined. The city jail is reeking in filth, and the sick prisoners are forced to lie on the damp earth floor of the cells. The average daily number of deaths from the disease at this time is about eight. It is stated that yellow fever has spread during the past few days to Montemorelos and Teran, which are situated close to Monterey, and it now exists in every town and village between Monterey and Tampico on the Gulf Division of the Mexican Central Railroad, as well as in Monterey itself. The Texas Health Department has purchased fumigating plants which it will install at Laredo and Eagle Pass. Dr. I. P. Seisson of Rockdale, Texas, has been sent to Monterey by the State Health Department to make a further investigation of the situation at that place.

**An Expedition for the Study of Trypanosomiasis.**—The Liverpool School of Tropical Medicine has despatched a trypanosoma expedition to the Congo Free State. The objects of the expedition are to report to the school, and through it to the Congo Free State Government, on the sanitary conditions of Boma, Leopoldville, and other important centers to be visited, and to make recommendations for the improvement of existing sanitary conditions; and, further, to continue the investigation of trypanosomiasis, human and animal, commenced in the Gambia by Dr. Dutton, 1901, and continued in the Gambia and Senegal by Drs. Dutton and Todd. The special points to be studied are the occurrence and distribution of trypanosoma in the Congo, the carriers of the parasite, and the relation of trypanosoma to sleeping sickness. The commission is composed of Drs. J. E. Dutton, J. L. Todd, and C. Christy.

**The Cause of Pope Leo's Death.**—According to a despatch in *The Sun* of September 13, Drs. Lapponi and Mazzoni, the physicians of the late Pope Leo, have published a defence against the attacks made upon them by Dr. Cardarelli of Naples, who recently published a pamphlet in which he accused them of making an incorrect diagnosis of the Pope's disease, and declared that the Holy Father died of cancer instead of pleurisy. The defence shows that singular and apparently causeless intrigues were going on at the Vatican during the Pope's illness. Both physicians say that they detected the true nature of the Pope's illness, but Cardinal Rampolla, the Papal Secretary of State, objected to having it made public. When the symptoms became clearer they insisted upon being allowed to protect their reputations against easily foreseen criticism, but Cardinal Rampolla was immovable. He even refused to have it announced that a third operation of thoracentesis had been performed, although Drs. Lapponi and Mazzoni did perform such an operation. The physicians, therefore, wrote in the presence of a witness a full history of the case, giving the real nature of the disease. Copies of the statement were given to Cardinal Rampolla and the major domo of the Vatican.

**Typhoid Fever in Philadelphia.**—It is pointed out that while a considerable number of the cases of typhoid fever have occurred in residents of districts supplied with filtered water, many of the victims have been employees in the mills and have drunk canal water, through which no doubt their infection was acquired. Others, it is believed, have been infected at summer resorts and elsewhere.

**"It Is to Laugh."**—One of the provisions of the substitute Panama Canal treaty which the Colombian Congress offers in place of the Hay-Herran treaty, just rejected by that body, is that the sanitary commission of the Isthmus, both during and after the digging of the canal is "to be exclusively Colombian." There must be an undertaker lobby at work in Bogotá.

**Damages to Physicians for Railway Injuries.**—Dr. Hubbard W. Mitchell of this city recently brought suit in the Supreme Court at Jersey City against the Jersey City, Hoboken, and Paterson Street Railway Company, claiming $50,000 damages. Dr. Mitchell was riding in one of the company's cars which was derailed and he was thrown to the floor, his head striking the seat on the opposite side.

CASE XVII.—Quartan. Total count, 6,000.

| Differential count: | WOOD'S STAIN. |
|---|---|
| Small mononuclears | 6.5 per cent. |
| Large mononuclears | 24.1 " |
| Polymorphonuclear neutrophilics | 69.3 " |
| Eosinophiles | .1 " |
| | 100.0 per cent. |

From a consideration of the differential leucocyte counts present in these cases of malaria, it is at once seen that in many instances of this disease the differential count so closely simulates that present in many cases of typhoid during the first week that a separation is impossible. Certain of these cases of malaria (eight out of seventeen) show a marked relative increase in the polymorphonuclear neutrophilics, and hence could be easily differentiated from typhoid. By looking over them it will be seen that, as a rule, they show a much less relative number of eosinophiles than do the typhoid cases. These cases of malaria were all febrile cases, and the smears were made at the time they appeared for diagnosis. In them the relative number of eosinophiles was almost always below 1.5 per cent. and usually below 1 per cent., while the reverse holds true for the typhoid counts. Just how important a point this is in separating the differential counts of these diseases, I do not know. This point can only be determined by increased observations.

*Conclusions.*—1. Many cases of typhoid fever, contrary to general supposition, show the characteristic differential leucocyte count within the first week of the disease.

2. The definite value of the differential leucocyte count in the early diagnosis of typhoid fever is as yet problematical; but it seems certain that when used in addition to the total leucocyte count, more information may be obtained than by employing the total count alone.

In conclusion, it gives me pleasure to acknowledge my indebtedness to Prof. T. Mitchell Prudden and Dr. Francis C. Wood for valuable suggestions during this work.

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**The Relation of the Islands of Langerhans to Diabetes Mellitus.**—Albert Ernest Finney concludes that (1) Diabetes may occur in the absence of any demonstrable lesion in the islands of Langerhans, and the glycosuria in such cases may be of nervous origin, or may correspond to the type described as "alimentary glycosuria." (2) Diabetes may occur accompanied by lesions of the islands, which, however, are not of sufficient extent to be in accordance with the results of Mehring's and Minkowski's experiments on extirpation of the pancreas. In such cases it is possible that the islands which present no anatomical lesion may have become functionally inactive. (3) Diminution in number of the islands in diabetes may occur in various proportions, even to total disappearance, and where such diminution is slight, its only importance is the inert, or retrogressive, condition of the islands which it implies. (4) Lesions of the islands may occur in the absence of diabetes, being in such cases of slight extent, and never of primary nature. (5) Diabetes may, lastly, be associated with lesions of the islands apparently primary, and even confined to the islands themselves. These consist in hyaine transformation, and specific necrobiosis.—*The Medical Chronicle.*

## A CASE OF LEUCOSARCOMA OF THE CHOROID.*

BY THOMAS R. POOLEY, M.D.
NEW YORK.

THIS case is reported because of the comparative rarity of non-pigmented sarcoma of the choroid, as well as on account of some points of interest in its clinical history and anatomical findings.

The patient, a man aged thirty-five years, came under my care on December 12, 1902, in my clinical practice. He was possessed of very limited intelligence and could give but little account of his symptoms. About three weeks before I saw him he thought he had gotten something in his left eye, and as his eye continued irritable, and he found that he could not see with it, he applied for treatment. He did not complain of severe pain in the eye at any time, and is sure that before the time referred to he saw very well with it.

When I examined him, this eye showed the typical features of absolute glaucoma: Circumcorneal injection of a venous character, hazy cornea, wide immovable pupil, shallow anterior chamber, anæsthesia of the cornea, T 3; entire absence of reflex with ophthalmoscope, and no perception of light. I made the diagnosis of absolute glaucoma, probably caused by tumor of the choroid, and thought enucleation should be done forthwith. Yielding, however, to the opinion of several of my colleagues, that it might be primary acute glaucoma, or due to a hemorrhage, I consented first to try iridectomy, which operation I did the same day. The operation, with the patient under ether, was successfully accomplished and resulted in a large coloboma; the anterior chamber, however, immediately filled with blood.

On December 14 there was some diminution in the tension of the eye, but hardly any absorption of the blood. By December 17, however, the blood in the anterior chamber was diminished, when, on the 18th, a fresh hemorrhage took place, nearly filling the anterior chamber and accompanied by pain and increase of tension. There was again an attempt by nature to absorb the blood, but fresh hemorrhage always took place, and, on January 3, 1903, I got the patient to consent to enucleation of the eye, which was done without any mishap, and, because of my belief that there was a tumor, I divided the optic nerve as far back in the orbit as I could. The healing was uneventful and the patient was discharged a few days later.

After being hardened in 10 per cent. formalin for a week, the eye was examined by Dr. Edward B. Coburn, pathologist of the New Amsterdam Eye and Ear Hospital, whose report is as follows:

From a photograph by Dr. Edward B. Coburn; dotted line (x) showing connection of the parts of the tumor by a narrow band.

"*Macroscopically.*—Shallow anterior chamber. Iris atrophic, with coloboma (from iridectomy) upward and adherent to the lens capsule. Lens appears swollen as though forced into the space

*Read before the American Ophthalmological Society at Washington.

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

THE WEATHER AND PUBLIC HEALTH—ARE WE DEGENERATING? ROYAL COMMISSION AND OTHER REPORTS ON NATIONAL PHYSIQUE—THE WAR ON MOSQUITOS IN EGYPT—DEATH CERTIFICATION—THE LATE DR. CORFIELD.

LONDON, August 28, 1903.

MANY persons are returning prematurely from their holidays, driven home by stress of weather. Even those who content themselves with week-ends have been bitterly disappointed this year. Some of us manage to reverse this plan and come to town once a week to clear up important matters in hospital or private practice. But these, too, have found the arrangement almost as bad as those who went off to some favorite place for a month or six weeks' change. Those, too, who went to the continent are hurrying back in disgust. This August, the holiday month for most doctors, is the worst for about fifty years, according to the records, and about as bad as last year, according to my recollection. I need not describe it—the cable and the newspapers will have done that for you, and from the same sources I gather you have no stones to throw at our climate. Of course the few who postpone their outing for the shooting season are hoping that the floods and gales and other conditions will have given place to something more enjoyable by the end of the month. I have once or twice spoken of the possible "Indian summer" approaching, but without giving or feeling much encouragement. And now a French professor is pretending to forecast the British weather for all September, and he gives as dismal a prediction as if he were an enemy determined to destroy the *entente cordiale*. I comfort myself with the conviction that anyone assuming in the present state of our knowledge to forecast the weather for a month is only a quack. Let him keep his evil prognostications to himself.

In spite of all the adverse conditions the public health has not suffered. Last week's mortality returns are favorable. The deaths were 542 below the average of the corresponding week. There were no deaths from typhoid fever or smallpox. But the deaths from diarrhœa, which had been 83, 95, and 139 in the preceding three weeks, rose to 184. But even this figure is 128 below the corrected average.

Are we degenerating? is a question that is frequently put in the course of conversation, with more or less earnestness. The educationists—as they call themselves—are quite sure we are, and have managed to sound the alarm in Parliament. Having crammed the children with all sorts of useless knowledge and interested the easier classes in their need of better houses, better clothing, and better food, the cry is now raised that degeneration is proceeding so rapidly that the next generation will be very inferior, and after that—. Sir John Gorst's opinion is being quoted as if he were infallible, since he told the House of Commons that if its members "could realize the true condition of children who go to primary schools they would be appalled at the degeneracy which is coming upon the people," and went on to declare that unless something be done to arrest it "this country will degenerate in physique." Those who accept this observation and conclusion say that the legislature must be moved to avert the approaching catastrophe at all cost, which would appear to mean that the children must be fed at the cost of the ratepayers. But it hardly seems feasible to convert all primary schools into boarding houses and pauperize the majority of the community. There seems a want of perspective in the views of these extreme alarmists. If they would make an investigation into the condition of the peasantry a generation or two ago they would find it much more "appalling" than at present, and probably become convinced that diet is not the only factor of the physique of a nation. The cry of alarm has been reinforced by reference to the inferior diet of the schools of the upper and middle classes. In these also there has certainly been a great advance. I have had the opportunity of comparing dietaries of the present day with those of forty and fifty years ago, and can testify to the improvement. Certainly parents who take the trouble to inquire can find plenty of schools in which the diet is abundant. So if this is the only factor of strength, England may yet remain a great nation.

The report of the Royal Commission on Physical Training in Scotland has now been published, and may be noticed in connection with the subject. The statements made by the medical examiners for the commission are certainly not reassuring, and are supported by the report of the Inspector-General of Recruiting. The medical examiners in question examined 1,200 children in board schools in Aberdeen and Edinburgh, 600 of all ages and both sexes between the ages of six and fifteen in each city, noting the height, weight, nutrition, mental condition, disease, deformity, and other personal points, as well as the state of clothing, housing, food, and cleanliness. You will not be surprised to learn that the examiners found a large number of these children the subjects of unrecognized phthisis, cardiac and other diseases, while lesser ailments abounded among them. The importance of the facts is obvious, and it is most desirable that they should be known. But whether they justify the alarmists is another question. Any doctor who took a stroll through the poorer quarters of great cities might observe a number of ill-fed children in a condition to call for medical care, but whose parents had not felt any anxiety about them. Can we suppose that this is a state new to the present generation and sure to make the next a mass of degenerates? The report of the anthropometric committee scarcely supports the pessimism of the commissioners, who seem to have begun their work with a conviction that rapid deterioration has set in. This committee showed that so far as measurements of stature and weight go the population is not deteriorating. The report of the Inspector of Reformatory and Industrial Schools also shows that "the slum population of the country has not deteriorated during the past twenty years, but has, if anything, improved." I put these statements against those of the Royal Commission, and take hope for the country. It is not necessary to dispute some of the conclusions of the commission. For instance, we are told that "there exists in Scotland an undeniable degeneration of individuals of the classes where food and environment are defective." I am afraid that in New York and, indeed, other cities the same statement might be made as to "individuals whose food and environment are defective." As to the remedy, the commission recommend "a well-regulated system of physical training," surely a very questionable prescription for insufficiently fed children.

Ismailia is a low lying town on the Suez Canal, and is, moreover, surrounded by swamps. Malaria was, from its foundation, endemic there, and considered to be due to its position. It is now an object lesson of the truth of the mosquito theory. The authorities have for nearly a year been carrying out preventive measures under skilled advice. The marshy pools have been filled up, the water drained off, and the small channels connected with the canal cleared. The effect is that the present year is the healthiest that Ismailia has known. From January 1 to June 30 there were only three cases of malarial fever in the hospital as against fifty-two for the same period of 1902. Throughout the town there were last year from January 1 to May 30 no less than 569 cases. This year for the same time the number was seventy-two, and the medical men think a considerable proportion of these were relapses. Thus Ismailia may look forward to the complete suppression of the plague of malaria. Major Ronald Ross has communicated these results to the *Times*, and he is confident that other tropical towns have only to act as thoroughly as Ismailia has done to attain the same result. Major Penton, Principal Medical Officer of the Soudan, says that when the men began the work they were greatly worried with the mosquitos. Now they hardly see any, and mosquito nets are becoming almost unnecessary, and on a recent visit he slept without one and was not bitten. It has been suggested that we should discard the misnomer malaria for a more correct appellation.

Reform of our methods of death registration has often been urged by the profession for the protection of the public. It seems time to demand it in our own interests. In illustration of this I may mention a case at the late Glamorgan assizes when the judge blamed a medical man for having given a certificate of death which had been used in order to defraud an insurance company. A child was brought to the doctor in such a state from measles and chest complications that he was not at all surprised to be told next day that it was dead. In accordance with the common custom he gave the certificate, as he had no reason to suspect deception. But the child was not dead, and the judge thought more caution should have been exercised, and told the doctor he could have held his hand and left the case to the coronor. But so long as the law requires a certificate but does not require inspection of the body it is not to be expected that the present custom will cease, for the doctor who made a rule to refer to the coroner or to inspect the corpse of every patient would run great risk of having no patients left.

Dr. W. H. Corfield, Professor of Public Health at University College, and Medical Officer of Health for St. George's, Hanover Square, died on Wednesday at Marstrand, in Sweden, to which he had gone in search of health. He has been an invalid for the last three years, though some months ago he rallied to a promising extent. His career has practically been devoted to sanitary work and teaching, and he wrote several books on the subject, all of them well received. He was sanitary adviser to the office of works. He took a first class in natural science at Oxford, where he graduated. He was in the sixtieth year of his age.

## OUR BERLIN LETTER.

(From Our Special Correspondent.)

HUMAN AND BOVINE TUBERCULOSIS—SURGERY OF THE LUNGS—MALARIA—BLACKWATER FEVER—PROPHYLAXIS OF MALARIA—A NEW REMEDY AGAINST SEASICKNESS—OBITUARY—HEIDELBERG'S CENTENARY.

BERLIN, July 31, 1903.

Two years have elapsed since Prof. Robert Koch expressed at the London St. James's Hall his opinion that human and bovine tuberculosis were not identical; experiments have been made since and there is yet discussion in certain quarters whether Koch's opinion is right or whether the old opinion that there is a unity between human and bovine tuberculosis is correct. The question was again discussed at a recent meeting of the Berlin Medical Society. Professor Lassar demonstrated several cases of dermatitis verrucosa in persons who had been dealing with cows affected with tuberculosis. He expressed his opinion that this disease was caused through the tuberculosis of the cow. Lassar examined during the last ten years 108,000 persons affected with skin diseases, of whom 34 only were suffering from vaccinal tuberculosis—"notorische Impftuberculose." He also examined 365 workers in the slaughter-house, whom he found affected with tuberculosis verrucosa cutis. From these facts Lassar deducts the conclusion that his experiments once more prove the unity of human and bovine tuberculosis.

Dr. Kossel of the German Imperial Board of Health gave the results of experiments which he had made together with Dr. Weber. He made injections from 39 different cultures of bacillus tuberculosis, 23 of which were taken from adults, 16 from infants; 19 cows gave no symptoms whatever; 9 cows showed, four months later, a slight inflammation of the glands, which remained local; 4 only gave the well-known symptoms of a general tuberculosis. Yet these cultures were not taken from the most virulent kind of tuberculosis, but from infantile tuberculosis of the intestine.

Dr. Kossel concludes that the opinion that only bovine tubercle bacilli can cause bovine tuberculosis is justified, and that notwithstanding two children died of bovine tuberculosis, the general fear which exists of an infection from bovine tuberculosis is by no means justified. In the discussion Dr. Max Wolff said he had been able to cause human tuberculosis in cows. Dr. von Hansemann and Professor Orth supported this view. Dr. Schuetz spoke against it. The question, Dr. Lassar admitted, is yet an open one. Of course sanitary measures in feeding the cows cannot be given up, and the existing law preventing tuberculous meat to be sold ought still to be enforced. Further experiments have still to be made.

Dr. Karewski read a paper at the Verein für innere Medizin on the surgical treatment of abscesses of the lung. An abscess is caused by pneumonia, by foreign bodies which have penetrated into the lungs, or by embolism of a septic nature. Spontaneous perforation and evacuation do sometimes happen, yet it always remains unknown whether the abscess has totally disappeared. The necessity of an operation arises from the danger of general sepsis. Abscesses in the inferior lobe give the best results; those in the upper lobe are less amenable to treatment.

Dr. Plehn read a paper on "Malaria and Blackwater Fever." The latter is always due to malaria. The nearer the equator, the more frequent is blackwater fever. In the Roman Campagna it is rare, in Camerun it is frequent. It is caused through the destruction of the erythrocytes. Quinine is not the cause of blackwater fever, as an outbreak may take place in cases in which no quinine has been used. In 168 cases of blackwater fever, twenty-four of the patients had received no quinine. It occurs only after a certain sojourn in the tropics for not less than three months, but there are few colonists who in their third year do not suffer from it. The more the erythrocytes have been affected through the parasites or through quinine, the sooner blackwater fever occurs, and it is wrong to give quinine when the attack is taking place. Patients generally recover soon and no signs of the disease remain.

New remedies against sea-sickness come out every year. They are all good in the inventor's hand, but after a time no one hears more of them. The newest theory is that of Dr. Cornelius, medical officer of the German army. Dr Cornelius, who had seen good results with his theory of special "points douloureux" in nervous and hysteric cases, tried his theory also on sea-sickness. On a steamer bound to New York he experimented on several passengers. His results were that several "points douloureux" exist close to the sternum between the ribs in persons suffering from sea-sickness. Massage of these points caused the symptoms to disappear. But whenever massage was omitted the symptoms reappeared. Dr. Cornelius constructed, therefore, an apparatus having the form of a belt with several knobs which pressed on these painful points. One was applied in the region of the occipital nerve, the second one round the thorax, the third one round the abdomen. The symptoms disappeared and patients who made use of this apparatus suffered no more.

The Central Committee for First Aid to the Injured—a Berlin institute created to extend first aid in cases of accident—will send a delegate to the St. Louis World's Fair and take part at the Exhibition.

On July 31 the physiologist Professor Immanuel Munk died, aged fifty-two. He is known through several important studies on the resorption of albuminoids and through his standard work on the physiology of man and the other mammals.

Dr. Ewald has returned from America and has published a report of his journey and his experiences made in the United States. He speaks in praise of the American hospitals and especially of the operating rooms, and the asepsis which is strictly enforced. Of special interest to him were the American gymnasiums and the numerous athletic clubs which he thinks of high importance for the public's health.

The old center of medicine, the University of Heidelberg, is celebrating its centenary. Professor Czerny is at present rector of the university.

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## EXPERIMENTS WITH THE McGRAW ELASTIC LIGATURE.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: With reference to Dr. Kakel's report on the elastic ligature, I will say that when I first experimented on dogs I operated on a large number with unvarying success in producing a good anastomosis. Of late I have seen two specimens of this work on canines, in which there were partial failures. I attribute my success, in the first instance, to the quality of my rubber cord. It had been made for operations on piles, was two millimeters in diameter, very elastic, and absolutely unbreakable.

After ten years in my office it was found to retain all of its elasticity and tenacity. I have never been able since to find quite so good an article.

Notwithstanding the fact that my own experiments were made on dogs, I regard it unfortunate that that animal should be always chosen for this kind of experimental work. The dog's intestine is so much thicker, tougher, and more contractile than the human that it is no criterion by which we may judge of the effects of operations on the thin and comparatively weak human bowel.

I do not think that there is a case on record in which a post-mortem examination four days after the application of the elastic ligature in the human subject has failed to reveal a perfect anastomosis. If any surgeon has had such an experience I should like to know it. I have, once on the living subject and three times post mortem, had occasion to examine intestines which had been subjected to the ligature operation, after that lapse of time, and in every instance the result was all that could be desired. Yesterday I examined the stomach and jejunum of a physician upon whom I had made a gastroenterostomy, sixty-six hours before his death. It was a case in which the patient had refused all operative relief until a continuous black vomit indicated the disintegration of the mucous membrane. I had refused to operate, but changed my mind when he showed some signs of improvement.

In this case, one of cicatricial stenosis of the pylorus with an enormous dilatation of the stomach, I used a small ligature, very strong and elastic. On examining the place of operation, I found that the ligature had made a minute opening at one end. The mucous membrane and peritoneal coats of both stomach and jejunum had been cut through and only exceedingly thin sheets of the middle coats still held the ligature. In another six hours the anastomosis would have been completed. In this case there was no sepsis, and the patient died of exhaustion consequent on starvation.

It was interesting to note the condition of the tissues around the ligature. All the surfaces included in the line of Lembert sutures were adherent. Outside of that line there was no adhesion nor appearance of congestion. The adhesions were strong enough to protect, but not strong enough to prevent that expansion of the bowels which can occur only after the ligature has cut through. After the ligature has done its work it leaves a small slit connecting both bowels; on the edges of this slit, which, though apparently short, has a length equal to that originally included in the ligatures, the muscles pull until the intestine unfolds to its original length.

As regards the character of the ligature, it should be hard, round, elastic, and strong. I do not know that any advantage would accrue from increasing its size. If, however, the surgeon chooses to do so, he could get the

greater size by doubling the small ligature. I have known a surgeon to use successfully a small elastic catheter, but I should not recommend it, as it has neither the desired hardness nor the elasticity.

THEO. A. MCGRAW, M.D.

DETROIT, September 4, 1903.

## REPORTS OF PLAGUE IN PERU AND CHILE.

(From Our Special Correspondent.)

AREQUIPA, PERU, July 28, 1903.

SINCE last month Peru and Chile have been in a state of excitement and uncertainty as to the existence of bubonic plague in their territories. Even now it is difficult to get hold of facts—some among the medical profession maintaining that there is plague, others denying its presence. The alarm began in Callao, the port of Lima. It was said that a vessel had arrived from India bringing wheat and the plague. This had not the appearance of truth, seeing that wheat is never brought from india to this country. Rice is occasionally brought, though it has to pay considerable duty on entering, as Peru is a rice-producing country; so we are all made to pay for the benefit of a few native rice-producers. Later on the story was that grain had been brought from Mazatlan by steamer. Then a certain mill in which had occurred two deaths among the employees, and several deaths among the rats, was looked upon as the holder of this grain, now turned into flour. At once there was a general cry that the mill (I understand, without the inhabitants) should be burned. It is said that some of the flour was taken out and the gamins amused themselves throwing it at people, calling out "Take the plague." Strange to say, one now hears no more of plague in Callao, but there come telegrams from Iquique, Chile, saying that it exists there and that there are daily several deaths. The Chilean government has declared Iquique infected. Can it be that mistakes have been made both in Peru and Chile? Perhaps so. If, as Dr. Kinyoun said at the meeting of the American Medical Association, May 7, "Plague might resemble anthrax, tonsillitis, mumps, diphtheria, erysipelas, pneumonia, acute pleurisy, malignant pericarditis, endocarditis, typhoid, typhus, relapsing and malarial fevers, acute dysentery, miliary tubercle, septicæmia, pyæmia, and syphilis," then it is no wonder that there are doubts about its diagnosis in a population which has no experience of it; and I suppose it takes a somewhat skilled observer to make the microscopical diagnosis with certainty.

The alarm has caused the Board of Health and the municipality here to make some spasmodic efforts as to hygiene, chiefly taking the form of excellent (paper) resolutions and recommendations. Unfortunately the word "quarantine" has come to the front and soothed us to sleep again. That is one of the worst effects of quarantine, viz., that it paralyzes reform as to sanitary measures. What, say the people, is the use of bothering if the disease cannot gain an entry into the country? That quarantine can be made effective in Peru is impossible. Peru has a seaboard of about 1,000 miles, the greater part uninhabited. Landward its confines, with other countries, are much more than a thousand miles, and even more sparsely inhabited than the coast. To think that, if plague exists in any of the neighboring countries, some of their panic-stricken inhabitants cannot and will not effect an entrance into Peru is absurd.

**Appendicitis without Symptoms.**—Richard Jones reports the case of a girl of thirteen who walked into his office complaining of a pain and vomiting after eating a large green apple the previous evening. Her face was expressive of pain, she was slightly bent forward and inclined to the right; her right leg and hip were in advance of the left as she crossed the room. An enema of opium, asefœtida, turpentine, and warm oil was ordered, and gave some relief, but the following day the symptoms plainly pointed to general peritonitis. Operation was performed, but the patient died the day after. The appendix had thickened and hard walls; the interior being covered with ulceration throughout its whole extent, and showing concretions of a dark slate color covered with mucopus. There was a gangrenous patch with a perforation in its center. The appendix must have been undergoing these changes since a previous slight attack the year before, without a single symptom of any kind until the moment when the peritoneum was attacked.—*The Australasian Medical Gazette.*

## Progress of Medical Science.

*The Boston Medical and Surgical Journal, Sept.* 10, 1903.

**The Relations Existing between Respiratory and Intrapelvic Diseases.**—Daniel H. Craig says that his attention was first directed to the relations existing between respiratory and intrapelvic lesions by the fact that patients with pelvic lesions, especially those with ovarian prolapse, were invariably made worse and their favorable progress under treatment arrested by the intercurrence of any cough-accompanied lesion. Attention was paid to the question of antecedent respiratory lesions in all cases in which ovarian prolapse existed. Positive histories were obtained too often to allow of its being considered merely coincidental. The writer thinks that at least a part of the so-called congenital ovarian prolapse cases may be due to the congestion and pressure effects of respiratory diseases—for example, whooping-cough—during childhood, no symptoms manifesting themselves until after the maturation of the organs. The following prophylactic suggestions are offered: The congestion of menstruation acting in conjunction with that of cough is always harmful, and even the nulliparous should be guarded against it. As corsets lessen decidedly the normal abdominal resiliency and go far toward destroying the so-called retentive power of the abdominal mechanism, they would better be proscribed during any severe and long persisting cough-accompanied lesion, especially during the catamenia. By assuming the prone position for a few minutes after a violent coughing spell, disengorgement of the pelvic vessels is favored and gravity assists the ovarian supports. Pelvic respiratory massage may be very beneficial in ovarian or pelvic involvement. This consists in having the patient assume the genupectoral or knee-elbow position and aspirate the pelvic vessels by slow force-expiration about fourteen times a minute.

**Theory and Application of Mechanical Vibration in the Treatment of Disease.**—Maurice F. Pilgrim states that, in its broadest sense vibration is the most abounding, the commonest force in the universe with which we are familiar. For example, hearing and sight are scientifically recognized as the result of the rapid vibrations in the universal ether. In the vibratory stroke mechanically produced we may get (1) stimulation, (2) sedation, and (3) inhibition, depending upon its length, force, and the duration of its application. Whether the stroke should be long or short depends upon the depth of the location of the nerve to which the vibrating stimulus is sought to be applied. The deeper the nerve or nerve center, the greater the intensity of the physical abnormality and the more remote its location from the spinal center, the longer, proportionately, should be the stroke. The treatment should be localized. Treatment should usually be applied between the transverse processes of the spinal vertebræ which are immediately over the posterior division of the spinal nerves that control directly or reflexly the nutrition of the diseased viscera or area. By this treatment, nutritive processes are improved as well as secretion and excretion; elimination is also increased. Muscular and general systemic metabolism is enhanced with greater oxidation and the production of more animal heat. The respiratory function is also improved. Its sedative effects are marked in cases of general nervous irritability, excitability, fatigue, and very markedly in insomnia. The inhibitory power is shown in the prompt relief of pain and in the dispersion of congestions or engorgements. The writer knows of no other single physical agent that will accomplish so many good results, as the one under present discussion.

*Journal of the American Medical Association, Sept.* 12, 1903.

**Should the Tuberculous Patient Know the Truth Regarding His Condition?**—C. P. Ambler believes that it is the duty of the physician to explain to the patient the dangers to himself and to others and to appeal to him to make an effort to protect his friends. Unless we tell him the truth it will be impossible to secure from him the cooperation necessary to effect a cure. We should discuss with him, not merely the tuberculous features of his case, but go fully into the details of the whole question of hygienic living.

**Cramp of the Ciliary Muscle Due to Eyestrain.**—J. W. Wright notes two causes of ciliary cramp. (1) An emmetropic eye may have cramp of its ciliary muscle. Too much near-work leads to it. Impairment of the general health will augment it, but the cramp may exist in an emmetropic eye when there is good health from too much near-work. (2) The ametropia conduces to it, especially hyperopia and astigmatism, whether hyperopic or myopic. In mixed astigmatism there is great predisposition to the cramp with a tendency to headaches and eye pains. This

may be attributed to the unequal contraction of the sphincter fibers in order to obtain a clear retinal image. The cramp is not constant. One of its first symptoms aside from headache and pain in the eye itself is that vision for distance varies. Distant vision may be good, but the cramp returns on the least exertion at near work. For treatment the author advises instillation each night of one drop of a combination of equal portions of one per cent. homatropine solution and 2 per cent. cocaine solution. He also gives the following internally: ℞. Morphia sulph. gr. i; liquor potassi arsenitis tinct. gelsemium (green root), āā 3i; Elixir simp. q. s. ad. ℥iv. M. Sig.: One tablespoonful every six hours until headache ceases.

**The Influence of Consanguinity on the Organs of Special Sense.**—Several cases are described by L. W Dean, the eye being the organ specially considered. Out of 181 institution patients who were blind, he found that excluding from the list those children who were blind because of blennorrhea neonatorum, sympathetic ophthalmia, trachoma, etc., and considering only those who suffered because of congenital conditions 14 per cent. were the result of consanguineous marriage of the first degree. Two factors he says may enter into the production of many of these conditions: (1) The eye is really an outgrowth from the brain, and is consequently subjected to the same conditions as the central nervous system during its development. (2) The eye is changing, and an organ that is adapting itself to new conditions is more liable to malformation than one with a constant condition. The socket is becoming less deep and the superciliary ridges less marked. His figures suggest one or two interesting conclusion: (1) The relation of the inheritability of a condition to its production by consanguineous marriages. I would judge from these cases that the greater the inheritability of a condition the more liable is it to be the result of consanguineous marriages. Theoretically this would also be the case. Retinitis pigmentosa is a disease of great inheritability. (2) Note is made of the fact that where there is an arrest in development as in the cases of microphthalmos coloboma of the iris, congenital cataract, and anophthalmos, the eyes are in an opposite state to those of eyeless fishes and worms where they have been lost by disuse. (3) There is a resistance of the eye tissues after operation. While there is an arrest of development, nutrition is apparently normal.

*Medical News, September 12, 1903.*

**Infantile Scorbutus.**—Thomas Morgan Rotch reports two interesting cases which illustrate the care that should be taken to differentiate between an advanced bone lesion of scorbutus and the bone lesions which arise in osteomyelitis and osteosarcoma. The first patient was a boy of ten months who had been fed on cereal milk and had seemed perfectly well till the present illness. The right lower leg became tender and swelling developed. Acute osteomyelitis was diagnosed. The skin was pale. There was a marked rosary and enlarged epiphyses of both wrists and ankles. There were two lower middle incisors. The gums were slightly reddened about the base of the teeth, but there was no distinct stomatitis ulcerosa. The prominent feature was the swelling of the right leg from the knee to the ankle, especially marked above the outer malleolus. Within about three weeks three operations were performed. By this time the left leg was in a condition similar to that of the right when first seen. There was little or no benefit from the operations, and the child grew steadily worse till seen by the writer. Orange juice was ordered, and the little patient's condition has improved steadily up to the present time.

**A Proposed Apparatus for the Treatment of Empyema.**—Francis M. C. Usher describes this apparatus: It consists of a metallic or glass box (1) of about 300 c.c. capacity, with top and bottom screw-threaded perforations, a perforated nipple screw-top (2), a perforated screw body flange (3), and a section of pure bandage rubber of suitable size (4). The application of the instrument to the body is effected by fitting the hole in the center of the rubber, the screw of the body flange, and then screwing the flange to the drainage box, making an air-tight junction between the rubber and the instrument. The under surface of the rubber is then cleaned and roughened with emery cloth, and a coat of rubber cement is applied and allowed to dry, the corresponding surface of the body over which the rubber is to be applied is also cleaned, coated with cement, and allowed to dry. On application of the rubber to the body it will be found to adhere very tightly, making an air-tight junction between the instrument and the body. If now the top is screwed on and connected with an exhaust pump by means of a rubber tube fitted over the perforated nipple, the air partly exhausted and the rubber tube tied, the instrument can be worn with comfort and will maintain a partial vacuum for an indefinite period. The apparatus would, of course, be useless if the pleural abscess communicated with a bronchus. Its use would best be suited to early cases, and by its preventing the collapse of the lung the usual hesitancy about making an opening into the pleural cavity would be overcome.

*New York Medical Journal, September 12, 1903.*

**Surgical Shock, with Special Reference to the Solar Plexus as a Factor.**—The clinical picture of the familiar surgical shock is described by J. J. Dandmant, who gives in full the anatomical relations of the solar plexus. Direct injuries in the region of the latter produce a paralyzing effect, which is communicated to the auxillary plexuses with the usual result of vasomotor paralysis of the abdominal vessels, rapid and irregular heart action, and finally a cardiac dilatation which may be fatal. In addition there is the added effect of paralysis of the inhibitory nerves of the heart. The same result follows, though more slowly and less violently, when organs are involved at some distance from the plexus; so also the plexus may become benumbed by the absorption of septic material. The author refers to the case of President McKinley, disputing the truth of the official statement that gangrene was the cause of death. The special feature to which he would call attention is the absence from the official bulletins of all mention of symptoms suggesting a grave condition, except the pulse rate, which was rapid throughout. A heart which beat for six or seven days at a rate of from 120 to 140 would certainly become exhausted and fail to respond (as did the President's heart) to stimulation.

**The Value of Confirmatory Cultures in Diphtheria.**—From an extensive experience in the New York City Health Department, J. P. Billings, Jr., offers the following conclusions: (1) A certain small percentage of cases of true diphtheria fail to show diphtheria bacilli on first culture, this failure being due in many instances to a conjoined infection with the septic micrococci. With the exception of these cases, the statement that a case is probably not diphtheria can be made on one negative culture up to the tenth day of the disease. (2) Valid reasons for requesting a confirmatory culture in negative cases are: (*a*) Cases showing no growth whatever on the culture medium; (*b*) complete contamination and liquefaction of the culture medium, in cases which are clinically diphtheria; (*c*) cases showing the presence of suspicious or diphtheria-like bacilli; and (*d*) croup cases in infants or children, when the membrane is limited to the larynx, and the duration of the disease is less than five days. (3) Dryness of culture medium, scanty growth on culture medium, and recent use of antiseptics with satisfactory growth of other organisms than diphtheria bacilli, do not alone furnish sufficient grounds on which to request a confirmatory culture. He further states that in view of this experience it has been decided to report as "non-diphtheritic" every negative culture in cases lasting ten days or less, except that a confirmatory culture will be asked for. (*a*) When there is no growth on the culture medium; (*b*) when the culture medium is completely contaminated and liquified, and when the clinical diagnosis is diphtheria; (*c*) when suspicious or diphtheria-like bacilli are present; (*d*) when the membrane is limited to the larynx, the duration of the disease is five days or less, and the clinical diagnosis is croup or laryngeal diphtheria.

*American Medicine, September 12, 1903.*

**Condition of the Blood in Rheumatoid Arthritis and Osteoarthritis.**—William G. Erving gives an interesting review of work done on this subject in forty selected cases. In both sets of cases the figures show a red blood-corpuscle count ranging slightly above normal, while the hæmoglobin percentage is close to the 100 mark. This is surprising when it is noted that the condition occurs not only in robust, healthy men with acute osteoarthritic symptoms of but a few weeks' standing, but also in the pale, sallow, listless, and poorly nourished sufferers from a more or less general rheumatoid arthritic involvement. The slight leucocytosis noted in most of the cases seems to bear no relation to the severity of the symptoms or to the duration of the disease. The differential leucocyte counts, though showing some slight variation from normal, particularly in the decrease in the per cent. of polymorphonuclear and increase in the mononuclear elements, as seen in the rheumatoid arthritic group, is certainly not striking. The condition of the blood is not what would be expected in disease of such a general wasting nature. No abnormal elements, such as microcytes, macrocytes, nucleated red corpuscles, nor other signs of hæmic degeneration, were found, and, to all appearances, in the acute stages of the disease, the formed elements of the blood are practically unaffected. Further observation can alone determine the reason of this apparent disagreement between clinical appearances and microscopical findings.

**Splanchnoptosis Caused by Omental Adhesions.**—Daniel H. Craig, in speaking of splanchnoptosis, states as a well-known fact that elocutionists, singers, and actresses, who in learning correct articulation first learn correct breathing with a certain amount of use of the abdominal muscles. These individuals are much less prone to unsightly abdominal enlargement than are women not so trained. The inference from the foregoing is that if direct downward pushing by improper corsets and other clothing, and muscular atony with its attendant downward tendency of the viscera could be avoided, splanchnoptosis could be avoided instead of being on trial for cure. The prophylactic measures are then the proper adjustment of clothing and the strengthening of the general muscular system with very especial attention to the musculature of the abdominal parietes. The writer then reports three cases in which operation was performed. These three patients presented the common factors of pelvic peritonitis and marked constipation, although the peritonitis was far from a prominent factor in the history of the last case. The writer thinks this a strong warning against undertaking the operative correction of gastroptosis in cases in which any history of pelvic peritonitis can be obtained without making the first step of the operation a thorough exploration of the condition of the great omentum. The omentum contains large vessels and is very easily torn, and very decided upward traction is exerted on tightening the sutures in the gastrohepatic omentum. Even though these sutures are tightened easily, the stomach and colon coming easily up into position, there is no guarantee unless the omentum is explored that the operation will be successful or even safe when the patient assumes the upright position. The writer urges that care be exercised in early operations lest these excellent operations, which are entirely rational, and in properly selected cases most successful, be unjustly condemned because improperly used in improperly selected cases.

*Münchener medicinische Wochenschrift, August 25. 1903.*

**Sepsis with a Complicating Miliary Tuberculosis.**—Robert Schlüter reports a case which is of interest in that a miliary tuberculosis was ingrafted upon a general sepsis instead of the reverse, which is usually the case. The early symptoms were all septic and responded in certain measure to appropriate treatment. After several weeks pulmonary physical signs appeared which gave rise to the suspicion that the lung lesions were tuberculous in nature. At this time a slight reaction followed the injection of Koch's tuberculin. At autopsy tuberculous lesions were found in the lungs, spleen, liver, larynx, and meninges. It is of course, possible that the case may have been one of tuberculosis or mixed infection from its inception, but the early symptomatology and results of treatment render this improbable.

**Treatment of Hæmatocele.**—P. Zweifel advocates the immediate operation with the removal of all the blood in the peritoneal cavity in all cases except when the hæmatocele is incapsulated. While the immediate operation in acute cases is recommended by the majority of authors, many advise against the complete removal of the blood and confine the operation to measures directed toward controlling the hemorrhage, maintaining that the blood in the peritoneal cavity will be readily absorbed. In the majority of cases acute hæmatocele is due to a ruptured tubal pregnancy, and when we consider the abundant changes for inflection under such conditions it certainly seems unsafe to leave the mass within the peritoneal cavity. Experience shows that the operation with complete removal of blood gives excellent results, for of fourteen cases operated on by the author since 1890 all recovered. Incapsulated hæmatoceles should only be operated upon when acute symptoms arise.

*Berliner klinische Wochenschrift, August 24, 1903.*

**Action of Dead Tubercle Bacilli and the Toxins of Tubercle Bacilli.**—Victor Klingmüller claims that the toxins of tubercle bacilli and the dead organisms when introduced into tissue produce pathological lesions which cannot be distinguished from those produced by the living bacilli. This is proven by the microscopical examination and inoculation of the tuberculins obtained from various sources. The old tuberculin regularly contains tubercle bacilli which are dead, while the new tuberculin contains none, yet the lesions produced in the reaction following their inoculation are identical and entirely similar to those produced by the living bacilli.

**The Omentum as an Organ of Protection.**—E. de Renzi and G. Boeri by a series of experiments upon dogs have shown that the omentum is a protective organ of great value to the animal economy. If the circulation of the spleen or kidney is cut off so that the organ becomes necrotic, infection does not occur, as the mass is incapsulated by the omentum and undergoes gradual absorption. If, however, previous to such an operation the omentum has been removed, the necrotic tissue of the ligatured organ rapidly produces death by general infection. A similar incapsulation with protection occurs when foreign bodies are placed within the peritoneal cavity. If we add to this protective property the ability of the omentum to supply an abundant collateral circulation in cases of ligature of the portal system as takes place in Talma's operation for cirrhosis of the liver we see that this portion of the peritoneum must not be disregarded in its usefulness to the body, and that it may be utilized in the future for therapeutical measures which are as yet unheard of.

*Deutsche medicinische Wochenschrift, August 20, 1903.*

**A Case of Thrush General Infection.**—O. Heubner reports a case of general infection with the thrush fungus in a child one and one-quarter years of age. The clinical picture closely resembled that of diphtheria, although the throat appearances were, perhaps, a trifle more scarlatinal in character, and there was a well-developed pustular eruption over the chest and back. Death took place on the fifth day under the picture of advanced sepsis. At autopsy the oidium albicans was isolated from the tonsils, kidneys, and lungs. In the necrotic portions of the tissue the mycelia were most abundant, but abundant spores were found in the underlying tissue. The fungus was cultivated in pure culture, which upon inoculation into rabbits gave positive results.

**Biochemistry of Pregnancy.**—Erich Opitz gives the results of his initial experiments looking toward the production of an anti-eclamptic serum. By inoculating animals with the placental tissue devoid so far as possible of blood he has evolved a serum which causes the precipitation of certain substances in the serum of eclamptic patients, but is without any such action when mixed with the serum of healthy pregnant or non-pregnant women. It is therefore more than probable that there has been thus produced a syncytiolysin or antitoxin against the syncytio-toxin which arises in the blood of pregnant women from the breaking down of placental tissue, and which when in excess and not neutralized by the maternal organism gives rise to the clinical picture which we know as eclampsia. Much work will have to be completed before such an antitoxin serum can be made available for therapeutical purposes, but of such ultimate use there can be but little doubt, as the biological basis of the work thus far completed is to be considered as entirely sound.

*French and Italian Journals.*

**Apomorphine in the Treatment of Alcoholism.**—Antonio Vaccari has for ten years or more administered hypodermics of apomorphine to quiet violent attacks of drunkenness. About 1 centigram given in one-per-cent solution induces vomiting in from five to ten minutes and the patient quiets down and falls asleep. No untoward effects have been observed as a result of the treatment.—*Annali di Medicina Navale*, June, 1903.

**Hepatic Insufficiency in Malaria.**—Jean Carrive describes a case in which the stages of disease were the following: (1) Malaria characterized by the presence of hemotozoa in the blood. (2) Hepatic insufficiency almost to the point of non-function. The symptoms of this condition are hyponitrogenization, alimentary glycosuria, intermittent elimination of methylene blue, hypocholia. Decided diminution of hepatic dulness. Delirium. (3) Diabetes with marked polyuria and polydipsia.—*Archives Générales de Médecine*, August 11, 1903.

**Complete Recovery After Grave Purulent Pleurisy.**—A. Besson reports a case from which he deduces the following conclusions: In purulent pleurisy, with streptococci, or with associated microbes, and in putrid purulent pleurisy, pleurotomy should be performed. Thoracentesis is of value only in pleurisy with pneumococci; in children it will usually bring about a complete cure, whereas in adults, absolute recovery occurs in a few cases only. If two or three operations do not bring about the desired result, pleurotomy must be at once resorted to.—*Journal des Sciences Médicales de Lille*, August 15, 1903.

**Treatment of Abdominal Contusions.**—M. M. states that when a patient has received a contusion of the abdomen, indications for treatment should be sought at once, even before the condition of shock has passed off. Contraction of the abdominal walls, or signs of effusion or gas call for immediate operation. Should no physical sign be found, the patient must be questioned as to the accident. If the blow was a violent one striking the umbilical region perpendicularly to its surface, the patient's muscles being in a relaxed condition at the time, it will be almost certain that one or more of the abdominal viscera have been injured. Intervention in such a case should not be delayed.—*La Tribune Médicale*, August 15, 1903.

**The Action of Quinine on the Virus of Rabies.**—Adriano Valenti instituted a number of researches on rabbits and in the laboratory, and concludes from the results obtained that the virus of rabies *in vitro* completely loses its virulence when in contact with the alkaloids of cinchona, especially quinine. As quinine is known to have an elective action on the protozoa, this would seem to sustain the theory of Negri that the pathogenic microorganism of rabies is a protozoon. It is impossible as yet to say whether this action of quinine has any clinical value; the author intends to make further researches in this line.—*Gazetta Medica Lombarda*, July 12, 1903.

**Rapid Cure of Burns Due to Incandescent Wires.**—S. Szczypiorski says that burns of this nature involve skin muscles, tendons, nerves, vessels, and even bone. The section is linear and never bleeds. If we make topical applications we have to wait for slow healing by granulation with the formation of an irregular cicatrix and sometimes impaired function of muscles, tendons, and nerves. The author prefers to disinfect the wound and excise all the cauterized tissue. If the bone is involved the mortified parts are gouged out. A raw wound is obtained which can be at once sutured, thus shortening the period of recovery, restoring the functions of the tissues and producing a simple cicatrix. Three cases are reported.—*Gazette des Hôpitaux*, August 18, 1903.

**Non-articular Tuberculous Rheumatism.**—M. Revillet quotes Poncet in defining this variety of affection as one in which the rheumatic attacks are not confined to the joints, but are expended as well on the organs, muscles, nerves, etc. It is as much a clinical entity as articular rheumatism, and is useful in giving the clue to the nature of certain symptoms which appear either before or after the onset of pulmonary tuberculosis. It indicates the form of treatment to be followed. Sodium salicylate and its derivatives are contraindicated. They are of no value in this pseudo-rheumatism, and usually impair the gastric functions. A milk diet is weakening, and, indeed, what these patients need is an excess of alimentation. Phenacetin seems to calm the pains, and exposure of the affected parts to the sun's rays has given excellent results.—*Journal des Praticiens*, August 15, 1903.

**Death from Chorea.**—M. Vicq says that death may occur in uncomplicated or in complicated chorea. In the first case it may be due to exhaustion, the ending of grave, intense generalized chorea; it may also occur abruptly in choreas of medium severity. In the second class of cases it may be due to some *cardiac* complication—endocarditis, pericarditis, asystole; to *nervous* trouble—acute mania, apoplexy, coma; *digestion* complication, acute dilatation of the stomach; *respiratory*—pneumonia, pleurisy, asphyxia; or it may be occasioned by some *infection* developed from cutaneous excoriations—abscess and phlegmon of the limbs, gangrene, septicmia, or from the general choreic conditions, as tuberculosis, scarlatina, diphtheria, typhoid fever. It is evident that even in cases of apparently benign chorea, the prognosis must be somewhat guarded, as it is impossible to predict whether some grave disorder may not occur as a complication, or whether the disease itself may not become aggravated and lead to a fatal issue.—*Gazette des Hôpitaux*, August 13, 1903.

**Experimental Intrahepatic Infections.**—Giuseppe Javi coli draws the following conclusions from his experimental researches: The injection of a sterile liquid into the hepatic parenchyma does not cause any appreciable symptoms of intolerance. Virulent cultures of malignant pustule, diphtheria, and of the pneumococcus are more likely to be lethal when injected directly into the liver than when injected subcutaneously. The diphtheria bacilli when inoculated into the liver remain localized in this organ without spreading into other tissues. Bacteria do increase in virulence by being injected into the liver. Infection by the liver is always more grave than by the subcutaneous tissues. The macroscopical and microscopical changes in the organs, especially in the liver, are more marked in infections determined through the liver than through the subcutaneous tissues. The microchemical reactions of glycogen has always been positive in animals which have died as a result of intrahepatic injections of bacteria.—*Giornale della Associasione Napoletana*, March and April, 1903.

**Nephritis of the New-born and of Nursing Infants.**—Enrico Mensi from his study of the subject comes to the following conclusions: That bronchopneumonia is a frequent cause of nephritis in nursing infants. The anatomicopathological lesions involve the epithelium, especially of the cortical substance, rarely affecting the vascular apparatus or the glomeruli. The lesions are usually tubular, whether microorganisms are found in the kidneys or not. The clinical symptoms, especially those connected with the vascular and nervous apparatus, are not constantly in direct relation to the renal function. This fact must be due to urinary intoxication and to individual susceptibility. Hereditary influence is evident in some cases. There is no proof that the liver plays any part in the causation of uræmic symptoms. The prognosis of nephritis in nursing infants depends upon that of the causative disease.—*Rivista de Clinica Pediatrica*, August, 1903.

**The Therapeutic Value of the Cold Sitz-bath.**—M. Caulet and M. Macrez state that it is impossible to say at exactly what temperature a bath should be given, for what to one patient seems a tepid bath, to another seems cold. Sensation is the only guide. A *cold* bath is characterized by an initial chilly feeling, rapid contraction of the capillaries, and maintenance of the central temperature, which is *not* lowered. A cold sitz-bath is preferable to a cold douche, because after the first chill and quick breathing there is no gasping, no suffocation, no rapid heart action with filiform pulse. Reaction is gently and gradually accomplished, causing a sensation of warmth and comfort. With the douche, subsequent exercise must be taken and persevered in, that reaction may be complete, but with the sitz-bath this is not necessary. It is therefore to be preferred to the douche in the case of enfeebled, sensitive patients, and whenever there is occasion for great care in regard to the organic or functional condition of the cardiovascular apparatus.—*Bulletin Général de Thérapeutique*, August 15, 1903.

*American Journal of the Medical Sciences, August*, 1903.

**Rheumatism vs. Muscular and Joint Pains.**—James J. Walsh says that many cases with the diagnosis of rheumatism are examples of muscular and joint pains due to quite other causes. Among the most prominent causes are: flat-foot, occupation brachyalgias and shoulder pains of various kinds due to the excessive or faulty use of muscles. In neurotic conditions pain is a very relative affair. In highly excited neurotic states even a little discomfort may seem almost unbearable pain. A case of tabes came under the notice of the writer in which the lightning pains took the form of sciatica and were treated as sciatica rheumatism. A very interesting set of cases of pseudo-rheumatism were noted as occurring in connection with scoliosis. In one case joint symptoms occurred in an arthritic neurosis of the knee consequent upon the pinching of a loose cartilage in the joint. Hysterical joints are sometimes mistaken for cases of obstinate subacute rheumatism. In pulmonary tuberculosis pains at the bases of the lungs are sometimes spoken of as rheumatic. Wherever there is pain for which no simple explanation is forthcoming the word rheumatic is at once used.

**Sublingual Growth in Infants.**—Samuel Amberg reports a case of this kind in a seven-months'-old boy. The structure of the growth hardly permits of any doubt that it is a product of an inflammatory process. The affection occurs most frequently in Southern Italy. The diagnosis presents no difficulties. The etiology remains obscure. The bacteriological examination thus far has not given satisfactory results. The theory of heredity is not sufficiently proven, neither is the congenital origin. Bad hygienic conditions of the mouth may be of importance. To the mechanical irritation produced by the lower incisions or by the hardening gum an important rôle is attributed. The idea that the sublingual ingrowth is an integral part of a definite serious disease does not seem to be well founded. The age at which the affection occurs seems to be confined to the first two years of life, starting from about the third month. It has been seen in a four-year-old child. The affection may disappear completely without any particular treatment, but the shortest and simplest way to accomplish a cure seems to be the excision. The prognosis is favorable.

**Concerning a Possible Etiological Factor in Tobacco-Alcohol Amblyopia Revealed by an Analysis of the Urine of Cases of This Character.**—G. E. de Schweinitz and David L. Edsall state that in recent times the pathogenesis of the toxic amblyopias in general, and particularly the alterations which are produced in the ganglion cells of the retina and in the optic nerve by the action of quinine, methyl alcohol, and filix mas, has attracted much attention. The writers present several cases of toxic amblyopia. In these cases there were evidence of a marked disturbance of digestion or metabolism, or of both. This disturbance may persist for a long time after the use of alcohol or tobacco has been stopped. Apparently treatment of this secondary nutritive disturbance will cause improvement in a persistent amblyopia. Undoubtedly toxic substances produced in the digestive tract, or in the course of metabolic processes, have, at least, a certain part in the production of the amblyopia in most of these cases and at times they are probably the direct cause of the

continuance of the symptoms when the latter do not disappear after alcohol and tobacco have been stopped. This view is entirely in consonance with the results of investigations concerning the manner in which other toxic effects of alcoholism are produced, and it also accords with our knowledge of the effects of some other chronic poisonings. The results in general in the cases studied show that there was an excessive secretion of enterogenous decomposition products in the urine; and in all there was a more or less marked mobilinuria.

**Sitophobia and Inanition, with Their Treatment.**—Max Einhorn says that by the term sitophobia we understand a condition in which too little food is taken on account of fear. This fear relates to pains or disagreeable sensations in the digestive apparatus arising after meals. To avoid these, patients prefer not to eat, or rather to eat as little as possible. Sitophobia is most common in chronic affections of the digestive system, accompanied by pains (gastralgia and enteralgia). Sometimes sitophobia arises in consequence of an abnormal sensibility of the gastric mucous membrane. It is advisable in some cases at the beginning of the treatment to diminish the sensitiveness of the digestive apparatus by bromides or similar drugs. These medicines are not essential, but rather bridge over the first few days by facilitating the carrying out of the directions in regard to rating. Another point of great importance is to improve the nutrition of the patient. The first change in diet must not be too great. If the patient has lived for a long time on fluid food only it is best to begin with liquid or semisolid food, as milk, beef-tea, raw eggs beaten up in milk, or broths, strained barley or oatmeal soups, gruels, and jellies. A sufficient quantity of nourishment must be taken. This diet should be increased daily by soft boiled eggs, zwieback, tender meat, mashed potatoes, white bread, butter, later, light vegetables, boiled fruits, etc., are added. As soon as the patient partakes of the usual articles of food, he should eat about as much as his neighbors at table, only taking more butter, and taking a glassful of milk and a slice of buttered bread between meals. With a diet like this we nearly always obtain an increase in weight.

**Chronic Cyanosis, with Polycythæmia and Enlarged Spleen: A New Clinical Entity.**—William Osler presents a group of cases, the condition of which is characterized by chronic cyanosis, polycythæmia, and moderate enlargement of the spleen. The chief symptoms have been weakness, prostration, constipation, headache, and vertigo. Six of the patients were males and three were females. All were in the middle period of life, the youngest thirty-five years and the oldest fifty-three years. There was nothing in the occupation or in the station of life of any moment. The viscidity of the blood is greatly increased. It is unusually dark. An extraordinary polycythæmia is a special feature of the affection. The percentage of hæmoglobin has been high, ranging to 165. In seven of the nine cases the spleen was enlarged. In four of these the enlargement reached nearly to the navel. In seven of the cases a trace of albumin was noticed, with hyaline, sometimes granular, casts. The specific gravity was usually low. The skin was pigmented in several of the cases. Our knowledge of the physiology of polycythæmia is still imperfect. To perfect this knowledge we need a careful study of all forms of chronic cyanosis with polycythæmia, particularly those associated with heart disease and emphysema; and a more accurate study of the blood in this class of cases. As increased viscosity of the blood, with resulting difficulty of flow, seems the most plausible explanation of cyanosis, it is especially important to test the viscosity by accurate physical methods, and to determine the relation of the number of corpuscles to the viscosity of the blood. The relation of the splenomegaly to the cyanosis and polyglobulism should be carefully observed. It may not be anything more than the effect of the chronic passive congestion Further investigation will determine whether this disease herein described is really a new one.

**An Aspect of Modern Pathology.**—Simon Flexner declares that the manner of action of bacterial agents upon red corpuscles, and our recently acquired knowledge of agglutination of cells in general, could not fail to suggest that certain kinds of thrombi are produced by a form of coalescence of corpuscles. The writer thinks it highly probable that agglutinative thrombosis will, in the near future, be recognized as an important pathological condition in man, and that a large number of the thrombi that arise in the course of infectious diseases and, doubtless, diseases of uncertain etiology will be discovered to have originated in agglutination. The experimental study of agglutination seems capable of shedding much needed light upon the subject of intravascular clotting in general. The writer has shown that the so-called coagula which appear in the heart in experimental ether and alien serum poisoning are not clots in a true sense, but merely masses of fused red corpuscles. That relation exists between extensive blood destruction and agglutinative thrombosis, the mode of action of ether and alien serum injections in producing rapid death quickly proves; and the essential identity of the agglutination produced *in vitro* and in the body by agglutinating and hæmolytic substances can easily be shown. The light which the study of agglutinins has shed upon the general subject of thrombosis has served also to add to the knowledge of certain forms of hemorrhage. That no necessary relation exists between thrombosis and hemorrhage can be shown experimentally by removing from rattlesnake venom its agglutinins for red corpuscles. When the hemorrhagic principle is left unaffected, and that no relation exists between hæmolysis and hemorrhage can be inferred from the action of cobra venom, which, while an active agent of blood destruction, causes but little hemorrhage. The existence of a substance having an especial affinity for vascular endothelium may be considered as proven for snake venom and ricin. For this principle, if it be a principle, the writer proposes the name of hemorrhagin, and looks upon it as a cytolysin for endothelial cells of blood vessels, the injury and destruction of which is the direct cause of the escape of blood into the surrounding tissues. Venoms which cause much hemorrhage exert a very destructive local effect upon the tissues. For this reason very little success has attended the efforts to produce an antitoxin for riper venom. Looked upon broadly, the corner-stone of modern pathology is toxicology. In many pathological conditions the leucocyte is the essential agent in bringing about absorption; and what is required to accomplish this end is not living leucocytes so much as large numbers of these cells, since autolysis proceeds independently of the vitality, as such, of the cells. The fate of pathological formations is dependent in large part on the numbers of leucocytes present within them.

*American Journal of the Medical Sciences, September,* 1903.

**Arguments in Favor of the Existence of a Separate Center for Writing.**—Hermon C. Gordinier reports a case of brain tumor in which voluntary speech was perfect, but complete agraphia was present throughout the entire course of illness. At the autopsy a new growth was found occupying the foot of the second left frontal convolution. On section it was seen to extend downward and inward in the centrum semiovale as far as the roof of the anterior cornu of the lateral ventricle, and forward to near the apex of the frontal lobe, involving almost exclusively the white matter of the second frontal gyrus. This case, the author says, seems to prove the existence of a separate and distinct cortical center for writing, having the same relation to writing movements as the motor speech center has to speech movements. This center is located at the base of the second left frontal convolution for the right-handed, and probably in the same location in the right hemisphere for the left-handed. Destruction of this center produces pure motor agraphia without aphasia or paralysis of either arm.

**Acute Myelogenic Leukæmia.**—Frank Billings and Joseph A. Capps report a case of this rare condition, occurring in a man sixty-eight years old, and have collected seven other cases from the literature, all the clear cases that they were able to find recorded. Most of the eight clear cases began abruptly in the manner of an infection; four of the patients had a throat inflammation, and in three there was a necrosis of the jaw or palate. With two exceptions, the glands were slightly or moderately enlarged, the cervical group being usually affected. The spleen was always large enough to feel. In only two instances, however, was the edge more than one finger's breadth below the costal margin. Hemorrhages occurred in every case in which the history was obtained. Fever was present in most cases, of an irregular, low-grade type. The anæmia was always severe and rapid, yet poikilocytosis was usually less marked than in a pernicious anæmia correspondingly severe. The white cells varied from 16,000 to 540,000, but the average count was much lower than is ordinarily noted in chronic myelogenic leukæmia. The blood picture, using these eight published cases as a basis, may be summed up as follows: (1) Anæmia, progressive and severe. (2) A large increase of white blood corpuscles (16,000 to 540,000). (3) A large proportion of the white cells (25 to 96 per cent.) made up of myelocytes, large mononuclear cells of the same size, and faintly granular large mononuclear cells (transitional cells). (4) Eosinophiles, mast-cells, and nucleated red corpuscles may be absent or present in varying numbers.

**Syphilis as a Cause of Chorea.**—L. Harrison Mettler reports a case of chorea in a boy the subject of inherited syphilis which led him to study the causative relation between syphilis and chorea. As a result of this study he

formulates the following conclusions: (1) Syphilis in rare instances is the cause of chorea, and should always be thought of as a possibility in the examination of every case. (2) Chorea may be the result of acquired or hereditary syphilis. (3) Most of the cases of syphilitic chorea are unilateral; belong to the prehemiplegic or posthemiplegic type of the disease; may or may not be associated with other signs of an irritative lesion · are not infrequently developed in hereditary syphilitics, and are to be attributed probably to a functional disturbance of an irritative sort in the cortical and ganglionic motor cells. (4) The existence and recognition of these two forms of syphilitic chorea—the focal and the generalized—support the inference that all forms of chorea are but the expression of one or more of a multiplicity of possible factors which may disturb the functional activity of the upper motor neurons, these factors being all the way from a gross lesion down to a molecular or chemical change not demonstrable with our present means of investigation. This conclusion leads to the further conclusion that chorea is not a disease but a mere symptom. (5) Syphilis, when determined as the cause of a case of chorea, should lead to the prompt and thorough treatment of the case as one of syphilis and not chorea.

**The Relation of Certain Adenocarcinomata to Atrophic Scirrhus of the Breast.**—J. Clark Stewart discusses first the question of the existence of a distinctive neoplasm of the breast which merits the title of atrophic or atrophying scirrhus, and comes to the conclusion that there is such an entity. These tumors, he says, resemble other forms of breast cancer in their early manifestations, but proceed slowly until the skin is involved, after which they seem to cease to grow and the ulcer shrinks and becomes hard and highly colored, giving origin to the lay name of "rose cancer." In this condition, either as an ulcer with slight discharge or as a dry, scaling depression, this form of cancer may persist for many years with little annoyance to the patient and practically no interference with her general health. Most of the older authors recognize this form of growth, and mention its comparative benignancy and the long periods which may elapse without other than local symptoms. The later authors, however, are inclined to ignore it, perhaps because modern surgical methods have tended to the removal of all breast tumors before reaching the stage at which the atrophic tendency would manifest itself. Regarding the advisability of operative measures for the removal of these tumors, he is decidedly of the opinion that they should not be interfered with, his argument being that experience has shown that such an operation quite uniformly fails to prevent recurrence and thus shortens life, as recurrences are much more malignant than the original growth. He believes that a more general histological study of these new growths would show that they are morphologically distinguishable from other malignant tumors of the breast, and that the presence of an adenomatous element would be found to justify their comparative benignancy.

**The Idiopathic or Essential Dropsies of Childhood.**—Arthur Willard Fairbanks reports nine cases of an unexplained œdema in children coming under his notice in the summer of 1902 He also gives notes of 72 cases reported in the literature, and says he has found mention of 96 additional cases. The characteristic feature of this condition is the appearance of œdema, in one or more parts of the body, without albuminuria or sedimentary evidence of organic disease of the kidneys; without clinical or post-mortem evidence of organic disease of the heart or kidneys. It occurs in children who previous to and during its presence are otherwise well; or it occurs, accompanied by symptoms more or less peculiar to it, in children previously and subsequently well, or, finally, it occurs immediately preceding, accompanying, or immediately succeeding some disease other than the organic conditions above mentioned. It may be acute, subacute, or chronic in its onset or course. The nine cases reported by the writer were apparently secondary in that they all occurred in the course of, or following some other pathological condition. In the nine cases reported by the writer, anæmia was present in four; but in half of these it did not appear until after the œdema. The temperature was subnormal in six of these cases at some time during the affection, but in only two cases persistently so. There was diarrhœa in seven. Of all the abnormal features that may be found associated with "essential œdema," the author says, far the most common is some disturbance of the gastrointestinal tract. This may, in a small percentage of cases of the very acute form, be due to a coincident affection of the mucous membrane, similar to that of the skin, but in the great majority of the cases it is probably an antecedent affection, often of great importance in the etiology of those cases of œdema in which it is present. Cyanosis is not a characteristic feature of the affection. The mortality of the affection is much greater in infants than in older children, being 34 per cent. in the former, but only 4 per cent. in children of two years and upward.

**Ulcerative Angina and Stomatitis Associated with the Fusiform Bacillus and Spirillum of Vincent.**—Jessie Weston Fisher reports two cases of this affection, one in a young man of twenty years, the other in a woman of thirty-six, and gives a résumé of the bacteriology of this affection, following Niclot and Marotte, as follows: The bacteriological characteristics of this affection of the mouth and throat is the almost constant combination of the fusiform bacillus and spirillum of Vincent. The fusiform bacillus is swollen at the center, with pointed extremities. It is generally straight, but is sometimes curved or bent upon itself and measures 6$\mu$ to 12$\mu$. It is encountered in irregular masses, often as a diplobacillus, and sometimes two are seen lying at an angle to each other. The motility has been questioned by a few, but is maintained by Niclot and Marotte. The bacilli stain readily with the basic stains, but are generally decolorized by Gram's method. The involution forms sometimes resist the decolorizing agent, and occasionally show a vacuolation or granulation, but never a demonstrable spore formation. The dimensions of the spirilla vary, but they are very long and of equal width throughout. They are observed singly, in groups, and are sometimes seen in an inextricable mass. Their motility may be retained for many hours, but diminishes rapidly on exposure to air or cold. The staining reaction differs from that of the bacilli only by the fact that the spirilla are invariably decolorized by Gram's method. When the disease process is superficial the spirillum may be absent, but in the deeper lesions the combination of bacillus and spirillum is invariable. In the superficial parts of the ulceration one finds Vincent's bacillus and spirillum associated with the streptococcus, pneumococcus, colon, and Klebs-Löffler bacillus, but in the deeper parts only the bacillus and spirillum in their characteristic combination are found.

## Surgical Suggestions.

**Chronic Specific Ulcer.**—In addition to general treatment, thorough scrubbing with brush, and soap and water, followed by bichloride solution, and a wet bichloride dressing held in place by an elastic woven bandage. After the wet dressing has been on a few days a mercurial ointment may be substituted for it.—H. W. CHENEY.

**In Traumatic Ulcer** the patient must be sent to bed and kept there for a considerable time. If the edges of the wound are sphacelous, the necrotic tissue must be trimmed away and the ulcer thoroughly but gently cleansed with hot saline solution. A large gauze dressing is to be changed three times a day and kept constantly wet with saline solution. After the suppurative process is stopped and the granulations look healthy, the patient, if a laboring man, is shown how to apply a large gauze dressing, which is wet twice a day with saline solution, this dressing being covered with protective, and a rubber bandage carefully applied over the whole dressing.—J. O. COBB.

In **Indolent Ulcer** wet bichloride compresses, applied after thorough scrubbing or cleaning, followed by application of the woven, elastic bandage. The wet dressing should be changed twice a day for three or four days, and then, after cleansing with hydrogen peroxide, an ointment composed as follows:

| | |
|---|---|
| Ichthyol..... | |
| Balsam of Peru.....āā | gr. xxiv |
| Vaselin..... | ʒi |

Operation is usually required in eczematous and varicose ulcers—in the latter, tying of the saphena.

—CHENEY.

**Puerperal Fever.**—In conclusion I wish to state emphatically that "puerperal fevers" will practically disappear when doctors, nurses, and midwives learn that the woman in labor and immediately after should be treated upon the same rules of antisepsis as govern the surgeon in the most extensive operation.—EMORY LANPHEAR.

# Book Reviews.

A Manual of Surgical Treatment. By W. Watson Cheyne, C.B., M.B., F.R.C.S., F.R.S., Professor of Surgery in King's College, London, Surgeon to King's College Hospital, etc., etc., and F. F. Burghard, M.D., and M.S. (Lond.), F.R.C.S., Teacher of Practical Surgery in King's College, London, etc. In seven volumes. Volume VII. The Treatment of the Surgical Affections of the Rectum, the Liver, Pancreas and Spleen, the Genito-urinary Organs, the Breast and the Thorax. Philadelphia and New York: Lea Brothers & Co., 1903.

The present volume brings finally to completion a work which fulfils its avowed purpose better than any in the English language with which we are familiar. As in previous volumes, the authors have sought a certain amount of condensation in order to bring their enormous subject within bounds, and they have endeavored to select for full discussion only those methods and ideas which seem to them most desirable. The title page tells to what departments of surgery the present volume is devoted. The chapter upon diseases of the rectum is practical and sound, and that on the surgery of the biliary passages noteworthy as drawing considerably from American sources, but it is perhaps almost too much condensed. We agree with the authors in their advocacy of a more or less expectant plan of treatment during the acute symptoms of gonorrhœa, especially as regards the urethral canal itself. The chapter on tumors and other diseases of the breast indicates that the authors are believers in radical surgery in this department, and they express themselves as satisfied with their experiences when other methods are considered. It is unnecessary to enumerate specially all the features of this concluding volume, but we are grateful to its authors for having placed in our possession such a comprehensive and convenient work.

Die Pathologie und Therapie der Unfruchtbarkeit des Weibes. Von Dr. Ferdinand Schenk, Assistant der k. k. Deutschen Universitäts-Frauenklinik, Prag. Berlin: Verlag von S. Karger, 1903.

This is a pathological and therapeutic treatise on the conditions which cause sterility in women. After a preliminary review of the anatomy and physiology of the female generative organ, the author divides the causes of sterility into three groups—developmental defects, new growths, and inflammatory processes—which he proceeds to discuss. Therapeusis is reviewed in the same systematic way, and a few pages are filled with references to the literature of the subject.

On Siphonage and Hydraulic Pressure in the Large Intestine, with Their Bearing upon the Treatment of Constipation, Appendicitis, etc. By Ralph W. Leftwich, M.D., late Assistant Physician to the East London Children's Hospital, etc. New York: William Wood & Company, 1903.

This is an interesting little monograph in which the author seeks to prove that the human colon acts to a great extent like a siphon in emptying itself of its contents. The arguments are clear and reasonable enough to make us agree with the conclusions. Some space is devoted to the bearing of this siphon action upon pathological conditions.

A Textbook of Surgery for Students and Practitioners. By George E. Brewer, A.M., M.D., Lecturer on Clinical Surgery at the College of Physicians and Surgeons, Columbia University, etc., etc. Illustrated with 280 Engravings in the Text and Seven Plates in Colors and Monochrome. New York and Philadelphia: Lea Brothers & Co., 1903.

This volume is one of a class already large and rapidly increasing. It contains little with which to find fault, and little to praise except as it represents great industry on the part of its writer, who has clearly taken much trouble to make his book meet the requirements of the class of readers for whom it is intended. It seems to be unavoidable at present for the man who has reached even moderate prominence in the work of instructing students in any department of medicine to write a textbook, and it follows from this, that almost all modern textbooks are mere compilations, have no particular features of superiority over others of their class, and can appeal only to the necessarily limited number of readers attracted by more or less personal reasons. This is not necessarily a specially undesirable state of affairs, but it lowers the average value of the books, which in the nature of the case cannot embody any matter of importance to the science of medicine. The present volume is systematically arranged, it contains all that the student of medicine need become familiar with, and it is presented in attractive form, with good illustrations. We cannot say that it makes a niche for itself, or that any predecessor is likely to lose ground in the presence of a new competitor.

Success in Dental Practice: A Few Suggestions Relative to the Most Approved Methods of Conducting a Practice. By C. N. Johnson, M.A., L.D.S., D.D.S., etc., etc. Philadelphia and London: J. B. Lippincott Company, 1903.

This little volume contains a plea for the introduction of business-like and systematic methods into the practice of dentistry, and much that is said in it applies to the practice of medicine. It is intended chiefly for young men, and the advice in it is, as a rule, good, though sometimes awkwardly put, and interspersed with unnecessary anecdotes.

Protozoa and Disease. By J. Jackson Clarke, M.B.; Author of "Surgical Pathology and Principles," etc. New York: William Wood & Co., 1903.

In this book of 175 pages the author gives an excellent presentation of the subject, the text being illustrated by numerous pertinent figures. Starting with a necessary preliminary chapter on cytology (describing the essential intracellular structures, the mechanism of cell division, etc.), the author gives a detailed sketch of the several groups of the sporozoa, and their share in the production of disease. In each case the whole life cycle is followed and illustrated, thus bringing before the student and general practitioner data that were not long since to be found only in "the literature." Any one who wishes to take up this line of work will find here directions as to where the various microscopical forms are to be found, usually with illustrations of their hosts, which is, of course, an aid in obtaining specimens. A chapter is devoted to the diseases to which the protozoa themselves are liable, and another describes the various processes of technique which have yielded the best results in this field. The question of the *modus operandi* of infection is also kept in view, and the infection circle is brought out. On the whole this little work furnishes an exceedingly useful introduction to the subject.

Tumors, Innocent and Malignant, Their Clinical Characters and Appropriate Treatment. By J. Bland-Sutton, Surgeon to the Chelsea Hospital for Women, Assistant Surgeon to the Middlesex Hospital, London. Third edition. Chicago: W. T. Keener & Co., 1903.

This volume bears the same relation to the general subject of pathological growths that Treve's book holds to anatomy. Perhaps the most radical step forward in this new edition is the entire elimination of the term "Epithelioma." Throughout the book it is replaced by the phrase "squamous-celled cancer." One cannot but regret that a further exaction has not forced aside the generic "cancer" and placed in its stead the more precise and technical word "carcinoma."

Of the arrangement of this volume we have nothing but praise. More than ever before, Mr. Sutton has shown the important and dominating pertinence of comparative pathology. As he well says, "there is a material basis for these significant lines." "The softest dimple in a baby's smile springs from the whole of past eternity, tasked all the sum of things to bring it there." "The grandest discovery ever made by man about himself is the doctrine of evolution." It is, therefore, not surprising that the most interesting part of the book is that which deals with congenital malformations.

Further improvements to be commended are the restoration of the section on echinococcus colonies, and the introduction of a chapter on the deadly deciduomata.

It is to be regretted that an attempt should have been made in this work to outline the "appropriate treatment" of tumors. From our standpoint such outlines are often crude and incomplete. On page 281 the discussion of the treatment of gastric carcinoma is weak—in no way up to the standard of the general matter. On page 303 the treatment of prostatic obstruction is not modern, nor is any prominence given to the successful transplantation of the ureters while considering the treatment of malignant tumors of the bladder.

If all suggestions as to treatment were eliminated from this work and the space given to that descriptive text of which the author is so great a master, the change would be very welcome.

Vorlesungen über Magen und Darmkrankheiten. Von Dr. Friedrich Crämer, I. Heft. Magenerweiterung. München: J. F. Lehmann, 1903.

This chapter on dilatation of the stomach, which forms a portion of the work on Digestive Diseases of Dr. Crämer, is very well written. The author mentions a case of ischochymia which was caused by cherry pits occluding the pylorus. He also describes another case of ischochymia in which the symptoms were caused by chronic appendicitis. Removal of the appendix resulted in a perfect cure of the gastric symptoms. With regard to the diet in dilatation of the stomach caused by obstruction

of the pylorus, Crämer recommends solid foods and restriction of the quantity of fluids. This view does not correspond with that held by Einhorn, Boas, and others, who recommend the strictly liquid régime at the beginning of the treatment. As a whole the present monograph can be highly recommended.

Disease of the Pancreas. By Eugene L. Opie, M.D. Philadelphia and London: J. B. Lippincott Co., 1903.

The diseases of the pancreas are still difficult of recognition during life. Any additional knowledge serving to clear this obscure field of internal medicine must be heartily received. In the present work Opie, well-known for his researches on pancreatic diseases, has succeeded in giving to the medical profession a clear and concise treatise on the pathology of the pancreas. The association of pancreatic disease with alterations of the bile passages has been noted by a number of clinicians, but especially by Opie himself. This association is frequently found in hemorrhagic inflammation of the pancreas. The common bile duct and the duct of Wirsung uniting to form the diverticulum of Vater before they reach the duodenum, changes in the one will be easily transmitted to the other, thus producing secondary lesions of the liver or pancreas. A small calculus only partially filling the ampulla of Vater can convert the two ducts into a continuous channel, while a larger stone might simultaneously obstruct the duodenal orifice of the diverticulum and the orifices of the two ducts which enter it, thus damming back bile and pancreatic juice upon their respective glands. The author has experimentally shown that bile entering the pancreatic duct is liable to cause deleterious effects of this gland. The injection of five cubic centimeters of bile into the pancreatic duct caused hemorrhagic inflammation of the gland in four dogs, two of which died within twenty-four hours after the operation. In these experiments death did not follow the use of smaller amounts, and the changes produced in the organ were less widespread and severe. In every case necrosis of the adjacent fat accompanied the lesion of the pancreas, and in two instances in which death occurred spontaneously foci of the necrosis were abundant and disseminated. As a whole, the book can be recommended as an excellent guide on the diseases of the pancreas.

The Diagnosis of Diseases of Women. By Palmer Findley, M.D., Instructor in Obstetrics and Gynecology, Rush Medical College; Assistant Attending Gynecologist, Presbyterian Hospital, Chicago. Philadelphia and New York: Lea Brothers & Co., 1903.

This treatise is well adapted to the needs of both the student and practitioner, for in it the former can readily find the essential facts, while the latter will not be disappointed if he looks for detailed information on any special topic. It should be remembered that this is not a textbook of the diseases of women, but, as the title indicates, deals only with diagnosis of such diseases; nevertheless the mode of obtaining this all-important and fundamental knowledge is presented so vividly that the therapeutic indications become obvious, and the reader often fails to notice the omission of the treatment. The specia' feature of the work, and one which gives it a peculiar place in English medical literature, is the thorough discussion of the morbid anatomy, and the great prominence given to the microscope as an aid in clinical diagnosis. This was done because the author believes that the recognition of the pathology of the pelvic organs constitutes, in large measure, a diagnosis. An entire chapter is devoted to the consideration of the microscopical examination of scrapings and excised pieces, and the text throughout is embellished by over 250 illustrations, many of them colored representations of microscopical specimens. The book is divided into three parts, the first dealing with general diagnosis, the second with special diagnosis, and the third with the diagnosis of diseases of the urethra, bladder, ureters, and kidneys.

Recherches Anthropométriques sur La Croissance des Diverses Parties du Corps. Détermination de l'Adolescent type aux différents âges pubertaires d'après 36,000 mensurations sur 100 sujets suivis individuellement de 13 à 18 ans. Ouvrage couronné par la Société d'anthropologie de Paris, 1902. (Prix Broca.) Par Docteur Paul Godin, Médecin-Major de 1re Classe: Médecin-Chef de l'Hopital (Salles Militaires) de la Fère; Lauréat de l'Académie de Médecine. Préface par M. le Dr. L. Manouvrier, Professeur à l'Ecole d'anthropologie de Paris. Paris: A. Maloine, 1903.

Godin presents in this superb piece of work, the results of his very careful and painstaking researches. He speaks of the medico-military value of such work. He then discusses mensuration and anthropometric technique. The subject of anatomical correspondences of various parts of the body is taken up—for example, correspondence of the elbow, of the umbilicus, and of the upper border of the iliac crest in the axillo-trochanteric line. The various parts of the body are studied in detail, and the different diameters, circumferences, and weights are compared. The signs of the appearance of puberty, with the value of each, are considered. Various tables are presented, showing the numerous measures that have been taken, and a valuable bibliographical index is appended.

Ambulance Work and Nursing. A Handbook on First Aid to the Injured, with a Section on Nursing, etc. Chicago: W. T. Keener & Co., 1903.

Perhaps no subject has been of more popular interest of late years than that of first aid to the injured. The author presents first a chapter on the skeleton. This is followed by a brief description of the muscles, tendons, nervous system, the eye, ear, skin, the principal organs of the body, the blood, arteries, and veins. Hemorrhage is then considered, and clear and concise descriptions are given for the control of bleeding in various parts of the body. The different kinds of wounds are then described, and an excellent chapter follows on bandaging. The text is so profuse'y illustrated that the veriest tyro would have no trouble in following the directions. The treatment of special and common fractures concludes this part of the work. Next, the author reviews respiration or breathing, insensibility, burns, scalds, poisoning, foreign bodies in the eyes, ears, and nose, and the means of transportation of the injured; ncluding stretcher exercises. In the last part of the book, nurses and nursing, the choice of a sickroom, beds and bedding, the metric system, enemata, poultices, cooling drinks, and massage are all included. Taken all in all, this book is a happy addition to this part of medical literature.

Surgical Diseases of the Abdomen, with Special Reference to Diagnosis. By Richard Douglas, M.D., formerly Professor of Gynecology and Abdominal Surgery, Medical Department Vanderbilt University, Nashville; Ex-President of the Southern Surgical and Gynecological Association; Fellow of American Association of Obstetricians and Gynecologists; Member of the British Gynecological Association, etc. Philadelphia: P. Blakiston's Son & Co., 1903.

This is a valuable addition to surgical literature, which will no doubt be welcomed by a wide circle of readers. The section on Typhoid Perforation furnishes an excellent example of how such subjects should be treated. The chapter, while generously conservative, is as up to date and as concise as the best journal monographs of the day. Indeed, in the entire work the author has gathered and bound together the best of the entire literature of the surgery of the abdomen for the last ten years, and given us a panoramic display, colored in the light of his ripe judgment and experience.

It is not to be expected that such a work could come fresh from the press without presenting a number of statements and views which in the second edition may call for reconsideration. On page 104 is found the following opinion: "Absence of hydrochloric acid in cancer of the stomach has no especial significance. . . ." On page 107 we read, "Examination of the stomach-contents, showing the presence of lactic acid and the absence of hydrochloric, is practically conclusive of cancer. Exceptions to this rule are quite rare." Such statements weaken an otherwise strong chapter. Enough credence is not shown in the growing and widespread opinion that ulcer is the most important etiological factor in gastric carcinomatosis. It may properly also be suggested that the classification of gastric carcinomata, given on page 94, is not as up to date as the standard of the book demands. A further criticism might be that too much attention is given to the diagnostic value of McBurney's point, which, on page 268, is erroneously described as a "subjection symptom."

But these are slight errors which do not seriously affect the value of the book.

The Praxis of Urinary Analysis. A Guide to the Chemical Analysis of Urine. With directions for Preparing Artificial Pathological Urines for Practising the Various Tests and an Appendix on the Analysis of Stomach Contents. By Dr. Lassar-Cohn, Professor in the University of Koenigsberg. Authorized Translation from the Author's Enlarged and Revised Second Edition, by H. W. T. Lorenz, A.M., Ph.D. (Berlin), Late Instructor of Organic Chemistry in the University of Pennsylvania. First Thousand. New York: John Wiley & Sons; London: Chapman & Hall, Limited, 1903.

The fact that a second edition of this book has been issued within six months after its first appearance, is proof of its cordial reception by the profession. Urinary analysis is considered in three sections: Qualitative tests, quantitative methods, afid normal urine. Analysis of stomach contents is then taken up. The subject matter is presented in a very concise but practical manner, making the book very helpful to the busy practitioner.

# Society Reports.

## THE AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.

*Seventeenth Annual Meeting, Held at Washington, D. C., May 12, 13, and 14, 1903.*

**Special Report to the Medical Record.**

(Continued from page 438.)

*Friday, May 14, 1903—Third Day,*

**The Use of the Cystoscope in the Study of Prostatic Hypertrophy.**—Dr. HUGH H. YOUNG of Baltimore presented this communication. He said that the use of this instrument in the study of prostatic hypertrophies had been doubted by many, many declaring it valueless. With the cystoscope he had had manufactured one was enabled to study the prostate from every side. The ordinary cystoscope had a right-angled prism. The instrument he had devised enabled one to look backward. In order to get a view of the entire prostatic orifice it required six different pictures, each picture representing one-sixth of the circle, or 60 degrees. Instead of a compound prism he used a four-sided prism, which enabled him to look backward and view the prostatic lobes. The object of his paper was not to demonstrate his instrument, but to show how it was possible to make an ordinary cystoscopic examination tell us the condition of the prostate in ordinary cases of prostatic hypertrophy. He exhibited a series of charts showing the pictures given by the six different turns of the cystoscope, and demonstrated how one could tell the kind of enlargement from a study of these pictures. He had a series of pictures taken of 120 cases which were of great value to him in his work in this connection. On account of imperfections in the instrument due to poor instrument-makers in this country his results had not been entirely satisfactory.

Dr. W. K. OTIS of New York said that one of the principal objects in a cystoscope was to have sufficient room for light, and, therefore, his instruments were larger than those usually employed, about 30 F. He believed that a careful and methodical examination of the prostate still required more practical experience in order that an idea might be formed of the conditions presented.

**Report of a Case of Filariasis.**—Dr. F. TILDEN BROWN of New York reported this case. He said that a mistake in clinical diagnosis had been made in this case, but he was fortunate enough, in the microscopical examination which followed the operation, to find numerous embryos in different developmental stages of what he took to be Filaria bancrofti. The patient's blood failed to show the embryo, and he thought this might, in part, be explained by the supposition that the orchidectomy had removed all the female worms, if, in fact, more than one had originally been present. The patient was a German, thirty-four years old, in the United States Marine Hospital Service, and he had been stationed at Porto Rico for the past two years and had had no fever or illness of any kind. During the past two months he noticed an enlargement and slight tenderness of the left testis. The possibility of its being a barrier to re-enlistment led him to enter Bellevue Hospital, New York City, for operation. Examination showed a moderate enlargement of the left testis, and it was difficult to determine whether the slight but tense effusion in the tunica vaginalis was responsible for the increase in size or not. A small nodule the size of a marble, slightly tender, was felt where the midbody of the epididymis was apposed to the testis. Which of the two organs it involved could not be determined. The spermatic cord was found to be larger than its fellow. The vas was thicker, but not beaded. He had had no gonorrhœa for ten years and never a swollen testicle from this cause or from traumatism. A diagnosis was made of tuberculous epididymitis and the patient requested that the testis be removed. At the operation fully an ounce of straw-colored fluid was found occupying the tunica vaginalis. This sac, together with the testicle, the lower one-third of the cord, and a considerable more of the vas was removed. Palpation of the specimen now showed a small nodule occupying not the epididymis but the rete testis just underlying it. In cutting into the lesion a compact fibrous periphery was noted and, in its center, a yellowish-white semifluid material, somewhat resembling tuberculous débris. A small amount of the adherent material was placed upon a slide and, when examined microscopically for tubercle bacilli, small worm-like forms were seen. Another slide treated with eosin glycerin showed a number of field clusters of lumbricoids having the characteristics of the filaria sanguinous hominis. The larvæ were granular and surrounded by a loose fitting hyaline membrane. Immature forms were of oval shape, and the intermediate forms showed the embryos coiled and doubled in a larger oval sac. Dr. Brown concluded that when cutting into the nodule he may have opened a dilated lymph vessel or space, the abiding place for the adult female filaria; the knife had probably severed this worm in several places, and in scraping it the uterine canals had been compressed and more or less emptied of their contents, and this might account for the great number of embryos found in the different developmental stages.

**Remarks on Surgical Treatment of Chronic Bright's Disease by Renal Decapsulation.**—Dr. RAMÓN GUITÉRAS read this paper. He said that through the efforts of Dr. George Edebohls an operation for the treatment of chronic Bright's disease had been launched, and had caused general interest among surgeons in both America and Europe. This operation consisted either in partially decapsulating one or both kidneys and fastening the denuded surfaces to the posterior abdominal wall, or of fully decapsulating these organs and replacing them in their fatty capsule. The former of these procedures had been in a great measure superseded by the latter, although in his mind there was still a question as to which was the better. At a meeting of the American Genito-urinary Association, held in Atlantic City last year, he had presented a paper entitled, "The Operative Treatment of Chronic Bright's Disease," in which he had reviewed the literature of total decapsulation and had reported two cases of his own, one of total decapsulation, the other of partial stripping of the capsule, together with fixation of the organ to the abdominal wall. He had begun work last year as a skeptic, and had refused to operate upon many cases referred to his hospital wards, which he would now consider deserving of operative interference. His experience and the growing favor with which this operation was regarded by many of the leading surgeons led him to send a circular letter to the leading surgeons in order to ascertain their experience in this line of renal work. From the answers that he received from about 150 of these letters it appeared surgeons were about equally divided pro and con on the operation. The theory as to the benefit to be derived from this operation was that the circulation of the kidney was increased by forming an anastomosis with the tissues of the abdominal wall, or the fatty capsule, and thus functional activity was materially aided. Some went so far as to argue that the kidney after this operation could be compared with the lungs, as in these latter organs the bronchial arteries and the pulmonary anastomose, and some of the return venous blood from the bronchial vein emptied into the pulmonary veins. Whether or not a corresponding result was obtained in the kidney would be considered later in concluding. The conditions which were considered favorable for the operation were movable kidney with casts and albumin, movable kidney associated with nephritis, chronic interstitial nephritis, and diffuse nephritis. Over 100 of these cases had been reported, 16 per cent. of which had been spoken of as cured, 40 per cent. as improved, 11 per cent. unimproved, and 33

per cent. died. The cases which were most favorable for this procedure were those of chronic diffuse nephritis, of which there was a mortality of 75 per cent. Many of these patients were operated upon in extremis, when they were suffering from general anasarca. Nearly all of them had been suffering from uræmic symptoms, while 75 per cent. of them were œdematous. Many cases of albuminuria and cylindruria were not, properly speaking, Bright's disease; although if the causes that produce them were kept up long enough chronic nephritis might occur. Movable kidney was often associated with this condition, as there was a congestion present due to the tension on the renal vessels. This might be absolutely cured by nephropexy. In order to have a true nephritis we must have an inflammation or degeneration of the blood vessels, interstitial tissue, the glomeruli or the linings of the tubules of the kidney. Such changes always occurred in both kidneys, although they might vary in degree in different organs. This was a generally acknowledged fact by pathologists, and had been proved by Kümmel and Strauss in their investigations by means of urethral catheterization. He had looked over the records of 500 autopsies ascribing deaths to chronic Bright's disease, and in not one instance could it be said that the nephritis was unilateral, and in only 14 had the reports indicated that one organ was more involved than the other.

Nephritis in both kidneys might often be found existing in connection with movable kidney on one side. In this case nephropexy might improve the patient's condition by arresting the process, although it might not cure the disease when pathological changes had taken place to the same degree that a patient was cured of typhoid fever, pneumonia, or some other disease of this nature when resolution had taken place. Pousson believed that there was a sympathy between kidneys as between eyes, and an operation on one would frequently relieve the condition existing in the other. This idea was applicable to cases of nephritis that had come under his observation, in which he found by ureteral catheterization all the evidences of nephritis of both kidneys, and yet some time after nephropexy of one organ the common urine coming from both organs showed no evidence of Bright's disease, although the percentage of urea did not come up to the normal in the twenty-four-hour specimen. In chronic nephritis tension was relieved by splitting the capsule. He did not believe that it was necessary to decapsulate the organ entirely in order to afford relief. Those who had split the capsule of the kidney over its convexity would remember the gap which developed at this point when this covering had been holding the organ tightly and this gland had been congested. M. Mongour was of the opinion that diminishing the renal venous tension would increase the arterial tension and thus favor the flow of urine. Splitting the capsule and, to a certain degree, decapsulation would also, by diminishing the blood tension, take the strain off the heart by necessitating a diminished flow on its part. It was still a question with the author whether it was better to decapsulate the kidneys partially and to make them fast to the abdominal wall, or fully to decapsulate and return them to the fatty capsule. From the firm adhesions which he had seen between the kidney and the posterior abdominal wall and the scant vascularity, he had observed in the fatty capsule he felt that the former method might later be the one of choice. Again, it was not well known just how much of the blood supply could be obtained from the fatty capsule, and he had not noticed reports of the estimate of the amount of additional circulation derived in this way from autopsy records. Experiments on dogs, according to Dr. Johnson of San Francisco, tended to show that the blood supply obtained from the fatty capsule was very meagre. Dr. Johnson said that the renal capsule consisted of two layers, the outer of which is thicker. In decapsulation the outer always came away, leaving the inner lacerated, but adherent. After decapsulation a thin exudate appeared on the surface, which, with the remains of the inner layer of the old capsule, became a fibrous investment, resembling macroscopically the normal capsule of the gland in that it stripped readily and became more and more fibrous. In some cases it was thicker and in some cases thinner than the original. Generally it was thicker, after two months, according to Albarran and Bernard. Up to three and one-half months it was simply a fibrous mass, when it could be differentiated into two layers. In no case was there a considerable anastomosis between the renal and the perineal blood channels. Even if the relation of a dog's kidney to the surrounding tissues was not the same as those in man, it was still probable that the reconstruction of the capsule was the same, and this reconstruction in three and a half months would probably indicate the renewal of tension in the kidney, and consequently the recurrence of the symptoms. It might also account for the many deaths that occurred after this period. It seemed to him that as long as the patient with chronic Bright's disease was comfortable and ridding himself of sufficient solids we should treat him in a conservative way by means of diet, waters, and medicines. But if the process was advancing rapidly, and there was fear of the heart becoming overtaxed, the time had arrived for operative interference. In cases of interstitial nephritis operated upon the albumin and casts might disappear, but the amount of solids given out in the urine might still remain the same. In almost all cases reported there had been some uræmic symptoms and varying degrees of œdema, while in a number of cases there had been general anasarca. In the first group of patients, those having some uræmic symptoms or chronic œdema an operation could be resorted to in case medical treatment was of no avail. In cases of anasarca, especially if the heart was very bad, it was a question whether one should operate or not. Some have said that this was the time that operation was imperative, but the histories give a mortality of 50 per cent. in these cases, 25 per cent. were unimproved and finally died, and but 25 per cent. were cured or improved. He had never had the courage to operate in these cases. After all operations the patient must be kept quiet for some time and treated medically. In chronic nephritis when the patient was passing little or no urine, operation was imperative. Drs. Marx and Whitacre had operated in such cases with marked success. On the other hand Rocky operated upon a case for suppression and lost the patient in twenty-four hours. Freeman operated upon a patient who was passing a fair amount of urine and in good condition and the patient died in eighteen hours of suppression. In order to understand these cases better the separate urine from each kidney should be obtained by urethral catheterization and examined. It must be remembered that operation for chronic nephritis by decapsulation was as yet a new procedure and might require many modifications. We could remember when hysterectomy, prostatectomy, intestinal anastomosis, and even hernia were considered difficult and dangerous operations. Therefore we might hope that sometime these hopeless cases might be cured radically and without danger by the surgeon's knife

Dr. GEORGE M. EDEBOHLS of New York said that he had not yet reached any definite conclusions regarding the value of this operation, and certainly not as definite as those reached by Dr. Guitéras. It would be from two to five years before it would be known exactly just what the operation, or its modification, would do for these patients suffering from Bright's disease. He said he would not go into the subject fully because his views had already been published in the MEDICAL RECORD, March 28, 1903. Out of fifty-nine patients operated on eleven could safely be considered in the ranks of permanent cures. Before a patient should be placed upon the list of cures he said

he should be free from albumin and casts for a period of six months at least, and continuously. The improvement that had followed this operation had been so uniform that it offered encouragement to continue the work. As one absolute result, he mentioned the increased excretion of urea; where the output before operation may be below 100 grains per day it would be increased to 500 grains per day within four or five weeks. In his published articles he had tried to subdue his enthusiasm, but his results had been better than pictured; every patient had been relieved of their headaches, backaches, the circulation had been improved, the heart's action improved, and some patients seemed to pass from an apparently hopeless condition to one of comfort. The operation itself he considered to be a very simple one. If Bright's disease affected a movable kidney he would not anchor that kidney unless it presented symptoms that were due to that condition; if such symptoms did exist he then anchored it. When such kidneys are returned to their fatty beds often they become more or less fixed, due to the infiltration about them. Two weeks ago he was able to examine the kidneys removed from a patient on whom he had performed this operation four months prior. This death was independent of any kidney operation. Serial sections were made, and enormously dilated and enlarged blood vessels were shown which penetrated from the fatty capsule through the capsule proper into the kidney substance. The capsule proper was shown to be reproduced. Further findings in this examination will be published later.

Dr. EUGENE FULLER of New York reported two cases he had operated upon; in one there was a marked amelioration of the symptoms; in the other no report could be made because the patient passed from his view.

Dr. ARTHUR T. CABOT of Boston reported favorably regarding the operation. He thought we should discriminate more in regard to the selection of cases for operation.

**Subparietal Injuries of the Kidney.**—Dr. FRANCIS M. WATSON of Boston read this paper. He said that a personal experience of five cases of subparietal injury to the kidney had recently led him to make a thorough study of the subject, in the course of which he had collected, formulated, and analyzed clinical data of 660 cases, which included all previously published cases of importance. This investigation brought to his notice a number of points which had hitherto received little or no attention.

The kidney might be ruptured by muscular action alone. This occurred in ten instances. Sometimes the accident was produced by what seemed to be a very inadequate force. He referred to an instance of a woman whose kidney was torn by the forcible grip of her husband's arm around her waist while waltzing with her. Blows or falls upon the front of the abdomen not infrequently cause rupture of the kidney as the sole result of the trauma. There were reported twenty such instances in which the violence was reported to have fallen upon the anterior wall of the abdomen; this did not include the numerous other cases in which a crushing force passed over the abdomen while the patient was lying upon his back, etc. When there was but one intraperitoneal organ injured, in addition to the kidney, it was always upon the same side as the latter. The rarity of associated lesions of the small intestines, or its mesentery, or the transverse colon, the omentum, and the non-occurrence of injury to the stomach, in these cases of subparietal rupture of the kidney, was striking.

In quite a number of the cases of lacerated kidney peritoneal irritation, as shown by vomiting, abdominal distension, tympanites, muscular rigidity, loss of peristalsis, etc., was not present. This was shown in 18 cases.

He referred to the interesting points regarding hæmaturia. In several instances there was a delay of from one to eleven days before the occurrence of this symptom. The absence of this symptom was noted in 7 out of 340 cases, and this might be referable to any of the following causes: Tearing across of the pelvis, ureter, or renal vessels, complete disintegration of the kidney, thrombosis of the blood vessels, and obstruction to the ureter by blood clot and renal débris. That hæmaturia could persist for a long time without fatal results was shown by 6 cases in which it persisted for 56–46–42–28–21–18 days respectively, the patients all recovering. Tumor in the loin was noted in 103 out of 486 cases that were uncomplicated. In 41 it represented a traumatic hæmatoma. In 26, traumatic hydronephrosis. In 32 perinephritic abscess. In 4, treated expectantly, the tumor was in all probability a retroperitoneal hæmatoma. The average time of appearance in the cases of hydronephrosis was 24 days after the receipt of the injury, as compared with 15 days in the cases of the perinephritic abscess. In 25 of the cases in which the tumor was retroperitoneal hæmatoma, it developed within a couple of hours after the injury. Another point of interest with regard to the tumor of the loin, when it represented a perirenal hæmatoma, was that increase in size during the first twenty-four hours, or even forty-eight hours, after its appearance, if it took place gradually, was not necessarily a dangerous indication. Another feature was the length of time the tumor could be present and not become infected; in 7 cases of perirenal hæmatoma, without infection, the duration varied from two weeks to one month, and the same was true in 4 of hydronephrosis, in two of them, two months and the other two, three months. Hemorrhage was responsible for the largest number of deaths which occurred in connection with subparietal injuries of the kidney. Out of the 486 uncomplicated cases of the series collected by him there were but ten of the total number of 112 deaths which were due to retroperitoneal, or intrarenal hemorrhage alone, or a little less than 5 per cent.—23 per cent. being the general mortality from all causes of the whole number of uncomplicated cases.

There were altogether 594 cases in which the nature of the treatment was described. Of these 108 had associated injuries connected with them, and 486 were uncomplicated. The results of treatment of these 594 cases were as follows; Treated expectantly, 329; deaths, 127, or 38 per cent. Operations other than nephrectomy, 105; deaths, 12, or 11 per cent. Cases treated by nephrectomy, 160; deaths, 44, or 27 per cent. Bearing in mind both the statistical showing made with respect to different methods of treatment and the various data of other sorts already mentioned, he said the following tentative inferences seemed justifiable, and that all cases should be treated operatively in which one or more of the following conditions were presented: (1) Hæmaturia sufficiently abundant and persistent to produce the signs of serious hemorrhage. (2) The presence of a rapidly increasing tumor or area of dulness in the loin. (3) The development of a tumor in the loin ten days or more after the receipt of the injury. (4) Immediate operation, when the presence of free fluid in the abdominal cavity, or symptoms pointing to peritonitis, or other intraperitoneal lesion, occur. He believed the operation of choice in all cases in which there was good ground for believing that intraperitoneal hemorrhage or other grave condition existed, was that of exposing the kidney in the loin by a lumbar incision.

Dr. EUGENE FULLER of New York reported an interesting case. A butcher's helper had one-quarter of a beef fall on his shoulders, from which he experienced considerable pain on one side and increased frequency in micturition, and blood in the urine shortly after the injury. He had been around to different places and cystoscopic examinations revealed nothing. Dr. Fuller cut down upon a tumefied mass and found an immense cold abscess holding over a pint of thick pus. The walls of the abscess cavity were three-quarters of an inch in thickness and very dense and fibrous. No kidney could be found. He thought that, at the time of injury, a rupture of the kid-

ney occurred with extraperitoneal clots of blood, which gradually broke down into pus; the back pressure probably destroyed the kidney.

**Observations on the Effect of Catheter Drainage on the Function of the Kidneys in Interstitial Nephritis and Pyelonephritis.**—Dr. ARTHUR TRACY CABOT of Boston read this paper. He termed his paper a study in pathological physiology. He urged operating surgeons to observe more closely the behavior of organs under the varying conditions which they themselves imposed. By such observations many important contributions to pathological physiology have been made, and doubtless many others were under our eyes waiting to be noted. The kidneys offered an especially favorable field for this sort of study, and he offered some observations on their functions as relieved by pressure. An increase of internal pressure in the kidneys was usually brought about by some obstructive lesion in the outer urinary passages. When this obstruction came about gradually, the kidneys adapted themselves to the increasing pressure. The urine gradually drops in specific gravity, but, at the same time, increased proportionately in quantity. The elimination of solids diminished slowly, but a point was reached where the dilute urine did not succeed in carrying off the waste products in sufficient amount, and characteristic symptoms of systemic poisoning manifested themselves. This series of events was mainly due to a gradually developing interstitial nephritis Some thought that this interstitial change in the kidney was part of a general sclerotic change in the organs and blood vessels of the body, the enlargement of the prostate was only another manifestation of the general condition. He thought that the condition of the kidney was secondary to the enlargement of the prostate, and due directly to the obstruction to the flow of urine. When the bladder was tensely filled there was an increase of tension in the kidney. Experimental investigation of the influence of the obstruction in the prostate upon the kidney was not easy on account of the difficulty of reproducing in an animal the gradually forming obstruction which educates the kidney little by little to perform its functions under increased tension. He had treated a certain proportion of these cases by the installment of an in-lying catheter. This method gave an unusual opportunity for studying the effect of the simple relief of tension. The introduction of drainage by a catheter inflicted no trauma and produced no decided change in the condition beyond that incident to emptying the bladder. Once empty, the viscus is kept drained, and the ureters and pelves of the kidneys emptied themselves, and afterward remained empty. If the relief of tension in the urinary passages was followed by a resumption or great improvement of function on the part of the kidneys we were justified in supposing that the previous interference with the function of these organs was in large part due to the tension, and so due to the obstruction which caused it. Hence he believed the prostatic condition was in a large degree responsible for changes in the kidneys. The pyelonephritis, which was almost invariably found in the post-mortem examination of patients, who have died of uræmia, was consequent upon obstructive conditions in the prostate. The microorganisms that caused this inflammation were usually introduced by the use of instruments employed for the relief of retention. Nearly every bladder habitually emptied by a catheter was sooner or later infected. The valvular opening of the ureter prevented the extension of the inflammation backward to the kidney in the majority of cases. His method was to put a soft catheter into the bladder, and to so arrange it that it drew the urine steadily without irritating the vesical walls. It was fastened so that it stayed in place, and was watched closely so that it should never stop running more than a few minutes at a time. He took for granted that a patient with obstructive disease of the prostate and dilated bladder might be regarded as having some degree of interstitial nephritis if the urine was abundant and of low specific gravity. If such a patient suffered from anorexia, nausea and dry mouth, with or without psychical disturbance, these were looked upon as symptoms of uræmia due to this interstitial nephritis. If the patient had high fever and the urine contained pus, it might be regarded as probable that he had pyelonephritis. This supposition was strengthened if one or both kidney were found to be tender or enlarged. In such cases efficient drainage resulted in very great amelioration or even total disappearance of febrile and uræmic symptoms. He favored diuresis by the administration of large quantities of water. In some cases the change from constant drainage to intermittent catheterization was accompanied by a return of inflammatory symptoms. In such cases continuous drainage must be persisted in until a time had been reached when it could be safely dispensed with. The most reasonable explanation of this acquired safety for kidneys that had shown a tendency to retroinfection was that the ureters gradually contracted somewhat, and the bladder being no longer stretched recovers its muscular tone and restores valvular condition at the ureteric orifices. The first effect on the urinary secretion produced by drainage was a considerable increase in the amount of urine. This increase was shown by the fact that the specific gravity did not diminish in proportion as the amount of urine increased, and, also, by the improvement in the patient's condition. After this first accession of polyuria the quantity of urine gradually diminished, while the specific gravity rose. He had continued catheter drainage until all symptoms disappeared and the urine had returned to a tolerably normal condition. If on attempting to dispense with the drainage there was any return of fever and diminution of quantity of urine the drainage was at once restored and continued not only until all symptoms of trouble subsided, but for a considerable time longer. The change might be made very gradually by stopping the flow through the catheter for a gradually lengthening period of time each day; then it might be left out for two or three hours in the morning, and reintroduced and fastened. As safety permitted, the intervals might be gradually lengthened until a return was finally made to catheter life. He did not wish to be understood as regarding this method of treating prostatic cases as in any way superseding other operative procedures. It was applicable to very old or very broken patients who were not fit subjects for operation, or for those who would not consent to surgical operation. It was also of great use in preparing patients for more serious operation.

Dr. EUGENE FULLER of New York referred to the element of back pressure of infected urine causing a bacterial nephritis, which could be relieved by this method of drainage.

**Officers Elected.**—*President*, Dr. Edwin C. Burnett of St. Louis, Mo.; *First Vice-President*, Dr. F. Tilden Brown of New York; *Secretary*, Dr. John Van der Poel of New York. Next place of meeting, St. Louis, Mo.

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## AMERICAN DERMATOLOGICAL ASSOCIATION.

*Twenty-seventh Annual Meeting, Held at Washington, D. C., May 12, 13, and 14, 1903.*

**Special Report to the Medical Record.**

*Tuesday, May 12—First Day.*

DR. JOHN T. BOWEN OF BOSTON, PRESIDENT.

**Methods of Teaching Dermatology.**—This was the titie of the President's address. He stated that the didactic lecture, the clinical demonstration and the recitation all had their place in the teaching of dermatology. How much time should be accorded to each was a question about which there might be much difference of opinion, and it would often have to be decided according to the resources of the department. He laid the most stress, however, upon the advantage of the method of teaching

small sections of students from the patient or model, and he believed that in the further development of that system lay most hope of improvement. The method required a large amount of material and a large force of instructors. With the development of section work instruction naturally became more complicated, and more time was demanded of the instructors, so that the best teachers of the future would be obliged, perhaps, to sacrifice some of their private work. In the ideal dermatological department of the future it was to be hoped that the endowment would be sufficient to attract men of ability and enthusiasm to the chair, who would consider research and the teaching of their specialty their chief ends, and who would be willing and able to subordinate their private practice to their vocation as teachers.

**A Case of Unkown Infection of the Skin: Possibly Glanders.**—Dr. J. A. FORDYCE of New York presented this communication. The patient was a man fifty-two years old, a native of Holland. His occupation was that of a cigarmaker. He was a very moderate drinker, but smoked heavily. Denied all venereal diseases. Five years ago he suffered from malaria, and three years later from grippe and pneumonia; since then he had a slight cough at times, and had lost some weight. He did not own a horse, nor had he handled horses recently, but he sometimes waited in a stable near the cigar factory if he arrived before the factory opened. He was admitted to the hospital March 11, 1903. Three weeks previous to that date, while removing ashes from the stove, he received a small scratch on the ring-finger of the right hand. The wound became very painful, and within a few days developed into a running sore. A few days later lesions developed on the upper lip, the right side of the mouth, and on the head. When he entered the hospital he complained of weakness, chilly sensations, nervousness, headache, and anorexia. The initial lesion on the ring-finger appeared as a deep, circular, fairly clean-cut ulcer, about the size of a cherry, without reddening of the surrounding skin or any evidence of cellulitis. It discharged a moderate amount of yellowish purulent material. There was a raised, irregular, confluent erosion of the skin of the upper lip, extending to the angle of the mouth and outward to the cheek for a distance of one inch. In the parietal and occipital regions of the scalp there were four large circular patches, one inch in diameter, with raised flat bases of dark brown color. Subsequently similar lesions appeared in the nose, mouth and throat, as well as on the scrotum and thigh, and death occurred on March 19, four weeks after the original infection. The autopsy, which was made by a coroner's physician, did not reveal any definite lesion to account for the man's death. The bacteriological findings were unsatisfactory, a growth of staphylococcus aureus only being obtained on the various media employed. Inoculations of guinea-pigs failed to give the characteristic reaction which was met with in glanders. Sections of the skin from the primary lesion and from secondary vesicopustules showed the presence of an acute exudative inflammation, with evidence of hæmolysis. Enormous numbers of staphylococci were present in the tissues. The infection undoubtedly occurred on the finger, and rapidly spread by autoinoculation to other parts of the skin and the mucous membranes. It differed in its type from all the forms of infection produced by the staphylococcus or streptococcus. The negative results of the histological and bacteriological investigations left the cause of the process in doubt.

Dr. HENRY W. STELWAGON of Philadelphia said the case appeared to him to be an example of one of those infections following vaccination or inoculation from an animal source.

The President, Dr. BOWEN, thought the case bore a great resemblance to the acute form of pemphigus described by the French, occurring particularly in butchers and those who had to do with animal products.

Dr. FORDYCE, in closing, said the case did not suggest a vaccination eruption. The lesions were very rapidly autoinoculable.

**Recent Contributions to Our Knowledge of the Hysterical Neuroses of the Skin.**—Dr. A. VAN HARLINGEN of Philadelphia said that in a former paper, read before this association in 1897, he reported several cases of erythematous eruptions in hysterical persons, which led to excoriations, or perhaps what might be called superficial gangrene. In a subsequent paper he attempted to collect and classify the various skin affections which had been reported as connected in some intimate manner with the pathology of hysteria. Although most of the hysterical neuroses of the skin were related to each other in their nature, yet it seemed more convenient to regard them as distinct, and record them in connection with their dominant feature. Most hysterical skin affections appeared, at least at first, to be vasomotor in character. This fact had been noted by Bettmann, Perrin, and other writers on the subject. Cases of hysterical gangrene showed certain characteristics common to all. The great majority—in fact, nearly all of the cases—occurred in young females showing signs of hysteria, usually of a mild type. The affection frequently developed after some slight accident, a burn or some injury from a corrosive substance, a cut or a puncture. The first eruption commonly occurred at or in the immediate neighborhood of the injury, with considerable sensory irritation. A similar irritation usually introduced subsequent outbreaks. Sometimes the prodromata of gangrene were entirely absent; at other times the gangrene developed from an urticaria or erythema, or more frequently from pemphigoid blebs. Occasionally, a zosteriform eruption was the first symptom. When gangrene was established, the separation of the eschar often left an intractable ulcer terminating in a keloidal scar. While the extremities were the favorite sites of hysterical gangrene, the face and mammary region and other localities were sometimes involved, such as the external aural cavity and the mucous membranes. The question of self-infliction was of great importance in the study of these cases. In a few instances this had been verified and was traced to the usual causes of a desire to excite sympathy, to escape disagreeable tasks, etc., but a careful investigation into other causes failed to show the use of external applications.

**Recurrent Bullous Dermatitis in an Hysterical Subject.**—By Dr. CHARLES J. WHITE of Boston. The patient was an American woman, twenty-three years old. She was distinctly hysterical and of a markedly neurotic and tuberculous parentage. During the past three years she had been the subject of a left-sided, recurrent, grouped, bullous dermatitis, which each year had attacked one part of the body, and had, by repeated outbreaks, gradually advanced its position, each attack lasting about a week and leaving no mark behind. Dr. White said he regarded the case as an example of a rather extraordinary hysterical dermatosis. He did not see how that diagnosis could be avoided, for it seemed to him impossible to regard these one-sided, periodical, long-continued, progressive bullous outbreaks as due to the ingestion of drugs or to the infliction of self injuries, and he knew of no cutaneous disease with such characteristics, outside of the mysterious dermatoses which he had learned to associate with hysteria. We could not place such an unusual group of symptoms under any of the well-recognized forms of disease, but must remain content to style it simply a cutaneous manifestation of hysteria.

Dr. E. B. BRONSON of New York said that in studying these cases we should always bear in mind that in many hysterical patients there was a peculiar vulnerability or sensitiveness of the skin which was absent in the normal individual. There was no doubt that in many of these cases of dermatitis in hysterical subjects an element of deceit was present, but at the same time it took very slight provocation to produce very surprising effects.

Dr. THOMAS C. GILCRIST of Baltimore said we were too apt to apply the term "neurotic" to an eruption that we could not classify or the cause of which we could not recognize.

Dr. F. J. SHEPHERD of Montreal said he had so frequently detected the practice of self-infliction in these cases that he was skeptical about the spontaneous origin of these gangrenous or bullous lesions. He agreed with Dr. Bronson, however, that there was a peculiar vulnerability of the skin of these patients.

Dr. WILLIAM A. PUSEY of Chicago said he was quite convinced that in certain cases of so-called hysteria we might get dermatoses that were not due to external irritation, but were dependent upon the hysterical condition.

Dr. JAMES C. WHITE of Boston said he thought there was no doubt that even these deep-seated lesions of the skin, which we were prone to look upon as evidences of malingering, might occur spontaneously.

Dr. VAN HARLINGEN said he had arrived at the conclusion that there were certain cases in which the eruption was the result of some internal cause and was not produced by the patient. All these cases belonged to the class of vasomotor disturbances, which embraced dermographism, erythema, urticaria, bullous eruptions, and hemorrhages from the skin.

**Sarcomatosis Cutis.**—Dr. G. W. WENDE of Buffalo reported this case. The patient was a colored woman, thirty-eight years old. The disease, resulting from an injury, made its appearance two years before her death, in the form of tubercles accompanied by marked pigmentation, and creating violent and persistent pain. One year later, when the lesions had attained a certain size, they broke down, and this was followed by suppuration, exuberant granulations and free discharges. Microscopically, the skin tumors consisted of a round-cell infiltration, with scanty intercellular stroma. These formed nodules, chiefly in the hypoderm. The cells varied considerably in size. The disease hardly fell among those described as sarcomata, but should rather be classified, as Fuldt had suggested, among the granulomata.

**Fragilitas Crinium.**—Dr. GEORGE T. JACKSON of New York reported two such cases. The first was in a young man of twenty-six, a clerk. The hair was thinned over the whole top of the head, and was dry and lustreless. There was no sign of dandruff. The peculiar feature of the case was that there was a patch on the left side of the head, another on the right side and a third over the forehead where the hair was short and curled up close to the scalp. These patches were sharply defined, like those of ringworm. There was no sign of inflammation. Under appropriate treatment the patches disappeared within six months and the hair became normal in appearance. The second case was that of a lawyer, fifty-five years old, whose general health was good. His hair had been growing thin for some years. Four or five weeks ago he noticed, on combing his hair, that it was matted on the back of the head. Examination showed that on the top of the head there were two well-marked, rounded, sharply defined patches, about the size of a silver dollar, in which the hair was short and apparently broken off. On the back of the head there was another patch in which the hair was broken off and curled close to the scalp, presenting an appearance similar to the curly hair of the Negro. There were no signs of inflammation. The microscopical examination, made by Drs. E. Wende of Buffalo, and Mewborn of New York, disclosed no parasites, but showed many hair with evidences of tricorrhexis nodosa.

**An Unusual Case of Tuberculosis Cutis.**—By Drs. T. C. GILCRIST and W. R. STOKES of Baltimore. The case was that of a colored girl who was first seen in 1894. She had cutaneous ulcerative lesions on the face, near the eye, and on the nose. Sections from these lesions showed a fairly large number of apparently organized bodies, *i. e.* they had a definite form, and in some instances showed budding varieties. Most of them were situated in giant cells, but some were not. Tubercle bacilli could not be found in the tissue. Enlarged glands in the neck of the patient were removed, and large numbers of similar bodies were found in them; the majority of these had undergone definite calcareous degeneration. A guinea-pig was first inoculated intraperitoneally, and it died in a month. Small nodules were found in the liver. These nodules contained a large number of bodies similar to those found in the glands and skin lesion of the patient. The bodies were present in necrotic areas in the liver, and there were many commencing pathogenic areas in which no bodies could be found. No tuberculosis was present in the guinea-pig. This experiment showed definitely that these bodies were not inanimate objects; otherwise, we would not get necrotic areas and such multiplication of these bodies. The death of the animal was apparently due to the presence and growth of these bodies. Further extended experiments with glands which were excised from the patient two years later did not lead to entirely definite results. Pathogenic lesions were produced in a dog and a number of guinea-pigs. In the dog, which was killed, bodies similar to those found in the patient were present in the enlarged cervical glands. A mold grew in another case, and on potato a pathogenic streptococci was obtained. Nothing could be grown on any media direct from the lesions. The relapsed lesions five years later were undoubtedly tuberculous, as shown by inoculation into a guinea-pig.

Dr. M. B. HARTZELL of Philadelphia said the case was interesting, but he failed to see how Dr. GILCRIST had proved that it was one of tuberculosis Dr. STELWAGON agreed with Dr. Hartzell.

The President, Dr. BOWEN, said that tissue which could not be differentiated histologically from that of tuberculosis had been shown to exist in so many different conditions that it was possible we had to deal here with a class of bodies which were perhaps degenerated elastic fibers or calcareous deposits.

(To be continued.)

## Therapeutic Hints.

**Milk Flour.**—A process for the manufacture of milk flour has recently been devised by a Swede. The product in its dry form is practically imperishable, and when dissolved in water may be used, it is said, for any purpose for which ordinary milk may be used. The cost of reduction to powder is nominal. —*Medical Times.*

**Diet in Neurasthenia.**—The diet must be regulated with particular attention to the blood-pressure. For high tension, a milk diet is given with massage, warm vapor baths and liquids at meals are prohibited. For low tension, good food, meat, regulated exercise, baths, rest, deep massage, saline injections, and oxygen inhalations are prescribed. —R. ROME.

**Gout in America.**—True gout is only one third-more prevalent in England than in this country. The condition here is very rarely hereditary, as most of the sufferers are afflicted with lead poisoning, or are alcoholics.
—OSLER.

**Incontinence of Urine.—**

℞ Tincture of rhus aromatica.....gtts. xx
S. Three times daily. —*Medical Summary.*

**Chronic Interstitial Nephritis.**—A warm bath twice or thrice a week, followed by alcoholic friction, but not with cold ablutions, then rest in bed for one or two hours. A hot air bath or a sweat bath at 40° C., followed by a dry pack with rest in bed, but not by cold effusions. When there is œdema with no complication of the heart this method is especially useful. Winternitz recommends the sweat-bath for the lower part of the body with the heart covered by an ice-bag. —O. LERCH.

# Medical Items.

**Race Suicide in Turkey.**—Turkey has, says the New York *Tribune*, a race suicide question, despite the provisions which the prophet Mahomet made against that contingency. Fifty years ago the rule among Turks was to marry young and to espouse several wives, and, as a rule, families were correspondingly large. Now all this is changed. Marriages are late, and in the enormous majority of cases are monogamous, while families are becoming small to a degree which has alarmed the government. The Sultan has recently promulgated an iradé on the subject, abolishing much of the expensive display connected with Turkish marriages and condemning present tendencies as threatening to depopulate the empire.

**Surgery in Germany and America.**—*World's Work* for August contains an article by a young American surgeon who has been studying in Germany for the past four years. He describes the difference in the methods of the American and German medical man. The first-named, he says, aims at practical and profitable results from his knowledge, while the other regards the matter almost solely from the standpoint of science. The writer says that in the hospitals, or even in general meeting places, in Germany, they talk nothing but shop, and he has known a group of German doctors to leave their dinner half eaten to visit a case under discussion. They are the worst possible practitioners, for they are interested only in technique. He knew a man who went to a German physician with a pain in his leg. That doctor spent an hour each day for five days studying it, and after that time he knew all there was to know about that pain, but he didn't stop it. In this country we would have treated it and thought no more about it except to congratulate the patient in a few days on getting well. They do not care for the patient. He is only a specimen. The writer heard a doctor say perfectly mechanically that he hoped the patient would die so that he might learn some facts from the autopsy. They call American surgeons copyists. Wherever that charge is true, the writer concludes, it is merely that Americans turn to practical service the theories they study.

**Health Report.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U S. Marine Hospital Service, during the week ended September 5, 1903:

SMALLPOX—UNITED STATES.

| | | | CASES. | DEATHS. |
|---|---|---|---|---|
| California, Sacramento | Aug. | 6–23 | 2 | .. |
| San Francisco | Aug. | 16–23 | 1 | .. |
| Colorado, Denver | July | 25–Aug. 15 | 6 | .. |
| Illinois, Chicago | Aug. | 22–29 | 4 | 2 |
| Indiana, South Bend | Aug. | 22–29 | 1 | .. |
| Massachusetts, Fall River | Aug. | 22–29 | 1 | .. |
| Michigan, Marquette | Aug. | 22–29 | 1 | .. |
| Port Huron | Aug. | 22–29 | 1 | .. |
| Mississippi, Natchez | Aug. | 22–29 | 1 | .. |
| New Jersey, Camden | Aug. | 22–29 | 1 | .. |
| Ohio, Dayton | Aug. | 22–29 | 3 | .. |
| Pennsylvania, Erie | Aug. | 15–22 | 1 | .. |
| Pittsburgh | Aug. | 23–30 | 95 (1 Imported) | 13 |
| Texas, San Antonio | July | 1–31 | 14 | .. |
| Utah, Salt Lake City | Aug. | 15–22 | 1 (Imported from Idaho) | .. |
| Virginia, Pocahontas | Aug. | 22–29 | 1 | .. |
| Wisconsin, Milwaukee | Aug. | 22–29 | 2 | .. |

SMALLPOX—INSULAR.

| | | | | |
|---|---|---|---|---|
| Philippine Islands, Manila | July | 11–18 | 1 | 1 |

SMALLPOX—FOREIGN.

| | | | | |
|---|---|---|---|---|
| Belgium, Brussels | Aug. | 8–15 | .. | 3 |
| China, Shanghai | July | 11–18 | .. | 1 |
| Colombia, Barranquilla | Aug. | 8–16 | .. | 3 |
| France, Paris | Aug. | 1–8 | .. | 1 |
| Great Britain, London | Aug. | 8–15 | 9 | .. |
| Manchester | Aug. | 8–15 | 1 | .. |
| Newcastle-on-Tyne | Aug. | 8–15 | 10 | 1 |
| South Shields | Aug. | 8–15 | 1 | .. |
| West Hartlepool | Aug. | 8–15 | 2 | .. |
| India, Bombay | July | 28–Aug. 4 | .. | 5 |
| Mexico, Mexico | Aug. | 16–23 | 9 | 5 |
| Russia, Moscow | Aug. | 1–8 | 2 | 1 |
| Odessa | Aug. | 8–15 | 1 | .. |

YELLOW FEVER—UNITED STATES.

| | | | | |
|---|---|---|---|---|
| Mississippi, Gulf Quarantine | Sept. | 1 | .. | 1 |
| (From schooner *Henrietta G. Powell* from Vera Cruz) | | | | |

YELLOW FEVER—FOREIGN.

| | | | | |
|---|---|---|---|---|
| Colombia, Panama | Aug. | 17–24 | 3 | 1 |
| Costa Rica, Limon | Aug. | 13–30 | 4 | 2 |
| San Jose | Aug. | 13–30 | 2 | .. |
| Zent | Aug. | 13–30 | .. | 4 |
| Mexico, Mexico | Aug. | 16–23 | .. | 1 |
| Linares | Aug. | 24 | .. | 14 |
| Merida | Aug. | 9–15 | 10 | 5 |
| Progreso | Aug. | 15–22 | 2 | .. |
| Monterey | Aug. | 26 | 1 | .. |
| Tampico | Aug. | 16–22 | .. | 19 |
| Tehauntepec | Aug. | 9–15 | 4 | 3 |
| Teran | Aug. | 27 | Present. | |
| Salina Cruz | Aug. | 9–15 | 3 | 2 |
| Valladolia | Aug. | 9–15 | 1 | .. |
| Vera Cruz | Aug. | 8–15 | 53 | 15 |
| Vera Cruz | Aug. | 15–22 | 59 | 29 |

CHOLERA—INSULAR.

| | | | | |
|---|---|---|---|---|
| Philippine Islands, Manila | July | 11–18 | 7 | 7 |
| Provinces | July | 11–18 | 1,369 | 825 |

CHOLERA—FOREIGN.

| | | | | |
|---|---|---|---|---|
| China, Hongkong | July | 15–22 | .. | 1 |
| India, Calcutta | July | 25–Aug. 1 | .. | 12 |
| Turkey, Damascus | July | 21–Aug. 4 | .. | 21 |
| Damascus | Aug. | 4–18 | .. | 30 |
| Damascus Province | July | 21–Aug. 18 | .. | 312 |
| Tripoli | July | 25 | Present. | |

PLAGUE—INSULAR.

| | | | | |
|---|---|---|---|---|
| Hawaii, Honolulu | Aug. | 18 | .. | 1 |
| Philippine Islands, Manila | July | 11–18 | 1 | .. |

PLAGUE—FOREIGN.

| | | | | |
|---|---|---|---|---|
| China, Hongkong | July | 15–22 | 18 | 9 |
| India, Bombay | July | 28–Aug. 4 | .. | 100 |
| Calcutta | July | 25–Aug. 1 | .. | 12 |
| Karachi | July | 26–Aug. 2 | 2 | 2 |

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**Health Report.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended September 12, 1903:

SMALLPOX—UNITED STATES.

| | | | CASES. | DEATHS. |
|---|---|---|---|---|
| California, Los Angeles | Aug. | 22–29 | 2 | .. |
| Illinois, Chicago | Aug. | 30–Sept 5 | 2 | .. |
| Massachusetts, Fall River | Aug. | 30–Sept. 3 | 6 | .. |
| Ohio, Cincinnati | Aug. | 29–Sept. 4 | 2 | .. |
| Dayton | Aug. | 30–Sept. 5 | 1 | .. |
| Toledo | Aug. | 30–Sept. 5 | 1 | .. |
| Pennsylvania, Pittsburg | Aug. | 8–15 | 46 | 15 |
| South Carolina, Charleston | Aug. | 30–Sept. 5 | 1 | .. |

SMALLPOX—FOREIGN.

| | | | | |
|---|---|---|---|---|
| Belgium, Antwerp | Aug. | 6–12 | .. | 3 |
| Brazil, Rio de Janeiro | July | 26–Aug. 9 | .. | 22 |
| British Guiana, Demerara | July | 4–18 | .. | 3 |
| Canada, Vancouver | Aug. | 1–31 | 1 | .. |
| Colombia, Barranquilla | Aug. | 16–23 | .. | 3 |
| Bocas del Toro | Aug. | 18–25 | 1 | .. |
| Great Britain, Dundee | Aug. | 15–22 | 1 | .. |
| Leeds | Aug. | 8–29 | 24 | .. |
| Liverpool | Aug. | 15–22 | 10 | .. |
| London | Aug. | 15–22 | 13 | .. |
| New Castle-on-Tyne | Aug. | 15–22 | 5 | 1 |
| South Shields | Aug. | 15–22 | 2 | .. |
| West Hartlepool | Aug. | 15–22 | 1 | .. |
| India, Bombay | Aug. | 4–11 | .. | 8 |
| Calcutta | Aug. | 1–8 | .. | 1 |
| Italy, Catania | Aug. | 20–27 | .. | 1 |
| Mexico, Vera Cruz | Aug. | 22–29 | 2 | .. |
| Russia, Moscow | Aug. | 8–15 | .. | 1 |
| Odessa | Aug. | 15–22 | 3 | .. |
| St. Petersburg | Aug. | 8–15 | 3 | .. |
| Straits Settlements, Singapore | July | 11–18 | .. | 1 |
| Turkey, Constantinople | Aug. | 16–23 | .. | 1 |
| Smyrna | July | 19–Aug. 9 | .. | 60 |
| Venezuela, Maturin | Aug. | 17 | Present. | |

YELLOW FEVER.

| | | | | |
|---|---|---|---|---|
| Brazil, Rio de Janeiro | July | 25–Aug. 9 | .. | 5 |
| Colombia, Bocas del Toro | Aug. | 24–31 | 2 | 1 |
| Costa Rica, Limon | Aug. | 20–27 | 2 | 1 |
| Mexico, Citas | Aug. | 23–30 | 45 | 7 |
| Coatzacoalcos | Aug. | 22–29 | 1 | 1 |
| Merida | Aug. | 16–29 | .. | 21 |
| Progreso | Aug. | 16–22 | 2 | 1 |
| Tampico | Aug. | 16–29 | 30 | 26 |
| Tehuantepec | Aug. | 16–29 | .. | 8 |
| Salina Cruz | Aug. | 16–29 | 10 | 6 |
| Vera Cruz | Aug. | 22–29 | 61 | 15 |

CHOLERA.

| | | | | |
|---|---|---|---|---|
| China, Amoy | July | 18–Aug. 1 | .. | 650 |
| India, Bombay | Aug. | 4–11 | .. | 3 |
| Calcutta | Aug. | 1–8 | 9 | .. |
| Straits Settlements, Singapore | July | 4–11 | .. | 2 |

PLAGUE—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Cebu | Sept. | 3 | Present. |

PLAGUE—FOREIGN.

| | | | | |
|---|---|---|---|---|
| Bolivia, La Paz | Aug. | 13 | Present. | |
| Brazil, Rio de Janeiro | July | 25–Aug. 9 | .. | 8 |
| China, Amoy | July | 18–Aug. 1 | .. | 100 |
| Hongkong | July | 18–25 | 13 | 11 |
| India, Bombay | Aug. | 4–11 | .. | 96 |
| Calcutta | Aug. | 1–8 | .. | 9 |
| Peru, Arequipa | Aug. | 13 | Present. | |
| Molendo | Aug. | 13 | Present. | |

CHOLERA—FOREIGN.

| | | | | |
|---|---|---|---|---|
| Peru, Pacasmayo | Aug. | 13 | Present. | |
| Straits Settlements, Singapore | July | 4–11 | .. | 13 |

# Medical Record

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## Original Articles.

### SOME ASPECTS OF THE OLD AND THE NEW: A PLEA FOR CONSERVATISM IN MEDICINE AND SURGERY.*

BY BEVERLEY ROBINSON, M.D.,
NEW YORK.

I TAKE it that as one grows older and more experienced his views about many things change almost of necessity. In youth most things appear rosy-tinted, and almost every new endeavor brings fresh zest and energy and hopeful trustfulness in the outcome. When time and opportunity have shown that much that seemed fair and promising in the beginning is of much diminished value—or, indeed, no value at all—we gradually lose that abiding faith which welcomes every fresh departure as though it were far superior to what already existed. This scepticism which makes one a little slow to approve and accept is good, and we should all recognize it, provided it doesn't make us so much of a doubting Thomas as to be unwilling to admit new things or await the trial of anything until the proof of its unexceptional or great relative value, is distinctly manifest.

The foregoing is a prelude to much of what I would say. I have no intention to go back far in the history of medicine or surgery to illustrate some thoughts I deem of present interest and moment. I do require to refer to some facts which I and others of my time have observed and noted, and if I find myself in accord with the latter, whose thought, character, and sober judgment I most admire, I shall be well content to have written this article.

During winter before last a prominent practitioner of a neighboring city, Dr. Reginald H. Fitz of Boston, brought to our attention[1] the fact, after careful analysis of numerous surgical operations in a large and well-conducted hospital during a period of ten years, from 1890 to 1900, that many of them could not be justified if either the immediate or remote results were fairly considered. In this category were operations for malignant disease of internal organs, especially of the intestines, stomach, and rectum; operations by anastomosis or excision, where mere experimentation or performance was not justified by that rule of action which would have us only do to others what we should be willing to have done to ourselves, if our reasoning were sound. In this connection Dr. Fitz writes, in my judgment most wisely and forcibly: "Operations are undertaken which are followed by the immediate death of the patient; others prove to be wholly unnecessary; and still others leave the patient in a condition of helpless invalidism, often making life worse than death. Any operation which does not better the condition of the patient must be regarded as a therapeutic error, since the knowledge thus obtained shows that the operation should not have been performed" (p. 699).

Within a brief period, say a few years only, there have been considerably over one hundred recorded operations for cirrhosis of the liver,[2] to make a collateral circulation through new-formed adhesions, and thus obtained benefits denied, perhaps, to medical treatment. A few of these have seemed to be favorable for many months, but it remains to be proven what the precise underlying conditions were which permitted success to this degree.

The surgical mind, until very lately, with scarcely a halt being called by anyone in such position as to lay absolute claim to a hearing, has viewed appendicitis as almost invariably a surgical disease, only marked out for surgical intervention. To Sir Frederic Treves, notably by reason of his conservative conduct in the care of King Edward of England and subsequently, when he announced only a short time since, in a public address, what nature was telling us not to do by putting up barriers to prevent undue interference, belongs the signal honor of showing the many erring ones where true knowledge lies.

Referring to his recent Cavendish lecture, Dr. A. H. Hare[3] writes as follows: "Treves ventures the opinion that the pathology of the disease and its general mortality does not sanction the practice of opening the abdomen in every case of appendicitis as soon as the diagnosis has been established. He does think, however, that immediate operation is demanded in all ultra-acute cases, and he does not think, in spite of all expressions to the contrary, that these cases are difficult to recognize. Operation is required in every case in which there is a reasonable suspicion that suppuration has taken place, but in Treves' opinion the question of operation in other cases may be kept in abeyance for the first few days of the attack, and may usually be left open for decision until the fifth day or after." . . . Further, Dr. Treves lays "stress upon the fact that the great majority of cases of appendicitis recover spontaneously without either an operation or the formation of an abscess; that the ultra-acute cases are actually rare, and that relatively to the whole mass of examples of all degrees suppuration may be said to be uncommon." "These views, as we understand them," writes Dr. Hare, "coincide with those expressed by Dr. Maurice Richardson of Boston, in a paper which he read during the past winter in Philadelphia, and as Dr. Richardson's experience has been exceedingly rich, the fact that his views and those of Treves agree is particularly interesting."

In a most valuable treatise, lately published, on "Diseases of the Intestines," Hemmeter devotes considerable space to the presentation of the pros and cons of operative intervention in appendicitis. He "speaks in unmistakable terms in support of the clinician's (*i. e.* the conservative) view. He appears to favor operation *only* when signs and symptoms indicate suppuration, and disagreeable clinical phenomena are increasing."[4]

In this same conservative England last winter a very distinguished laryngologist, Sir Felix Semon, pointed out in his special department what a lust for operation existed as regards the throat and nose.[5] The gynecologist of former years is, happily, less

*Read at a meeting of the Practitioners' Society, May 1, 1903.

prone to excise ovaries and appendages when uterine drainage and gauze packing will amply suffice to promote a cure in many instances without risk to life or future health, as shown by a distinguished New York surgeon, viz., Dr. Wm. M. Polk.[6] No longer do we hear much of excision of drum and ossicles in ears irremediably deaf, so far as mere surgical interference is concerned. I mean the cases of chronic dry proliferative catarrh. To those who believe, Beatsons' operation may still be a means of curing incurable cancer by mere surgical methods; to those who excise the prostate where old vesical catarrh defies all known medical methods —in these and a few other extreme instances, mere experimentation, if no very great ultimate success should follow, would seemingly be justified, at least for a time. Not so, however, operations for brain tumors imperfectly located or deep seated, so that the probabilities are that fatal results will follow local interference, and in any event, no good result could follow from it. Not so, instances in which compression of the spinal cord existed in such a way or for such a length of time, that death may immediately follow from a surgical operation and spinal paralysis will probably remain unchanged. When, indeed, the lust for operation extends even to the purely medical man, and when Sir Lauder Brunton descends from his high rôle of scientist and practitioner to advocate excision of thickened valve and orifice in mitral stenosis, the result of chronic endocarditis, where, alas! does the common sense of man seem to be aiming? In a minor degree, for the man with just medical appreciations, the judgment and action of those who would find a cure in decapsulation of the kidney in certain cases of chronic Bright's disease, seem scarcely commendable.

Other examples might be given which would go to prove what to some seems advancement in surgery of our day, is in reality only proof of too great hardiness or of ignorance of the great purposes of this noble art. Let me rather point, even in a very limited measure, to what surgery is doing that is glorious and sure to endure. Wherever deep-seated pus is present in any cavity—abdomen, pelvis, pleura, pericardium, joint, brain—in the vast majority of such cases we turn to the surgeon for help, and usually we have no reason to regret when he considers it right to interfere. So it is, of course, wherever pus is believed or known to be present in muscle, cellular tissue, or bone. Therefore, we wish and ask for surgical doing in abscess of liver, in localized abscess following appendicitis, in perinephritic abscess, in sub-diaphragmatic abscess, in suppuration following pelvic cellulitis or inflamed, degenerated tubes or ovaries. A suppurated joint should be opened and drained, likewise an empyæmic cavity, a purulent pericarditis, a brain abscess, empyæma of the gall-bladder, an acute osteomyelitis with immediate risk of general infection. So should an appendicitis be operated upon, and none too soon when the general symptoms are grave and threatening, and general peritonitis following acute perforation seems very imminent. An immediate operation for a perforating ulcer of the stomach or the intestine, seems equally called for, and will, at times, bring great and rightful renown. No doubt many cases of impacted gallstones should be operated upon very soon and halting, expectant medicine not long endured. Intraabdominal tumors of the nature of cysts or benignant solid tumors should frequently be removed, and often the result to the patient and to the surgeon will be all their sanguine hopes may desire. All this and much more that is brilliant and beneficial and immeasurably good, we assign properly and rightfully to modern surgery. Why then allow it to go into most hazardous ways, and especially where the chances are very great against any real or lasting success being returned. We are prepared to grant the immense triumphs of modern surgery, thanks to asepticism and perfect drainage. We only become sceptical and inclined to criticise and upraid when through the very impunity which skill and opportunity afford, it shows a subservience to these factors, when, with a wider knowledge and appreciation of general laws which govern disease, surgeons would abandon operations which are useless or dangerous, or, perhaps, while involving only slight risk, may be followed sooner or later by consequences more lamentable than the original disturbance of organ or of health from which the patient primarily suffered.

Where does modern practice tend in medicine? She has her great and noble achievements also; likewise she has many drawbacks. The vast armamentarium of new drugs foisted upon us at every turn seems to be a great ill. Amongst them only a limited few are really useful and relatively innocuous. The powerful ones, and especially those so much used amongst the coal-tar derivatives, do great harm unless used with rare good judgment and in small or moderate doses at all times. So often used to control pain, to diminish fever, to abort ailments which may be but the forerunner of mild or severe infection—can't we see and judge how injudicious and wrong may be such use? Why abandon for them, in any event, the use of preparations that have long been known and used, whose power for good is often considerable, whose harmful action, when properly employed, is practically none. In this category, I would include such anti-febricitants, diuretics, and diaphoretics as spirits of Mindererus, sweet spirits of niter and aconite.

Of course, the question may arise, and often does in a given case—should the fever be treated? The answer to this query is different according to circumstances. Long ago, when fever was regarded as an entity, as a very important disease *per se*, it was invariably treated and very actively. Now, that our ideas have changed and we regard fever as a symptom, of very distinct or various causation, the rational answer must be determined by previous and present conditions. It is admitted theoretically, if we could know, reach and suppress the cause of fever, this would be the best way to treat it. But, in the first place, the cause is often obscure or unknown; again, although we know what it is, we cannot eliminate it and forcibly we are led to treat the mere symptom. The fever may be very mild in type, a part of the natural course of the disease, simply indicative that a disturbance of the organism is present. This disturbance will disappear in due time and in the best possible way, ofttimes, if practically we do nothing—at most insist upon a few hygienic rules, and otherwise leave it alone. On other occasions the fever reaches a relatively high degree, and is more or less continuous. To allow it to follow its course without interference, is this wisdom? Usually, we should reply no. Mild antipyretics should be used in moderate doses, and this is done because of the known possible bad effects produced upon living structures by prolonged rise of temperature, either of a functional or organic nature. Whenever the temperature reaches a very high degree, then the indication becomes imperative to treat it, and to treat it vigorously; for in the latter case death itself may be the immediate or remote result of a conduct of pure expectancy. And even though death may not follow, very serious impairment of the functions of nerves and muscles may be

the outcome, which is not only painful and threatening for a while, but may be lasting as to its expression. Finally, we know high and prolonged temperatures are almost inseparably connected with parenchymatous changes both of muscles and nerves, and which lead to, or occasion directly, disability of organs which much time only can remove, and which in the graver instances give rise to permanent morbid changes of organs and tissues. The method of treating the febrile condition, of course, depends largely upon causation. It may be by hydrotherapy, coal tar antipyretics, refrigerants, or cardiac depressants—and that, as Rudyard Kipling says, "is another thing" and one which I shall touch upon only so far as the former means is concerned.

Fever, I have stated, as we now understand it, is occasionally a symptom so threatening, so indicative of imminent danger, that it should be actively combated. And when this is true, no doubt the judicious use of cold water externally applied saves life, and saves it when no other agent familiar to us will. Witness the effects from cold bathing or affusions in thermic fever. But when in an exaggerated way we attempt to use it to control or throttle, as it were, the march of a pronounced pneumonic or typhoid infection, we have gone too far, and we have lost sight of great principles of medicine, long recognized, and of later knowledge which has come to us from the accurate findings of laboratory research. My views about the disadvantages of the cold bath at times in the treatment of typhoid fever are supported, I am pleased to write, by Dr. H. A. Hare.[1] This distinguished writer, in summing up "our treatment of typhoid fever," says wisely, as I believe, "Woe to him that uses drugs or measures when they are not needed, and woe to him that does not use them properly when they are indicated." Empiricism has first made known to us the great utility of cinchona, of arsenic, of coca. As a remedy for the poison of malaria, no one can doubt the efficacy of the former drug; arsenic as a respiratory stimulant and blood restorer at times, and as an important modifier of numerous cutaneous disorders, is unquestionably beneficial; coca, like tea and coffee, stimulates the circulation notably and beneficially in numerous run-down and adynamic conditions, and unquestionably prevents tissue waste when the store house of material we possess should be garnered and saved as far as possible. With the great developments in the field of pharmacy, quinine and cocaine are frequently made to take the place of the extractive virtues of the whole bark or leaf, and many times, as I believe, with serious disadvantages to the patient. Arsenic is used in so many diseases and in such doses continuously that its power for harm clinically has become very great. Opium, that one great remedy of my earlier days in medicine, is now little used comparatively, and in its place morphine has come boldly to the front upon innumerable occasions. Convenient and most useful, no doubt, is the ever ready hypodermic injection; still, it has its woeful drawbacks in habits acquired, almost impossible to control, and in the deterioration of the digestive organs, so essential to wellbeing when they remain active and in good working order. We have fortunately gotten rid of much polypharmacy of former days which was radically bad, but we have also lost sight of many old formulæ which were of very great value. We have added a few drugs to our daily use which were unknown only a short while ago, and which are of decided value, like nitroglycerin and the nitrites, salicylic acid and the salicylates; but we also make use of innumerable others which probably have only a temporary success and will be shown later to be useless or powerful for harm.

Alas! that many physicians have forgotten in practice the wise counsels of the "Hippocratic Oath." Alas! that many pharmacists fail to adhere to an apothecary's oath of the fourteenth century, which is as follows: "I swear not to malign any of my former masters, physicians, pharmacists or others, whoever they may be; to uphold, as far as in me lies, the honor, glory, ornament, and majesty of medicine; not to disclose to idiots and ingrates their secrets and mysteries; to do nothing rashly, without the counsel of physicians or in the hope of gain; to disown and to avoid like the plague the disreputable and entirely pernicious methods of practice now followed by charlatans, empirics, and dabblers in alchemy, to the great disgrace of the magistrates who tolerate them. May the Lord prosper me as I observe these conditions." (*New York Medical Journal*, November 22, 1902, p. 924.)

It was formerly a well-established dictum—in fact, it is an aphorism almost as old as medicine itself—to keep the bowels sweet and fluent. No doubt the useful effects were shown in aborting inflammation, arresting and diminishing fever or destroying intestinal fermentation. The old-timed castor-oil plant did this, as no other plant has ever done, in my judgment, before or since.

Nowadays, we recur constantly to all known antiseptics, such as salol, naphthalin, bichloride of mercury, carbolic acid, etc., and frequently with small or poor results. It is true that a few so-called disinfectant agents are useful in some instances, and these viz., creosote, salts of bismuth, and the mineral acids, I have mentioned elsewhere. When they are beneficial, I believe their utility is probably to be attributed more to other action than that of a pure antiseptic. Creosote quiets and soothes catarrhal conditions of mucous membrane through elimination, bismuth coats the bowels with a non-irritating, styptic, insoluble powder. The mineral acids supplement frequently an insufficient supply in the stomach, owing to impaired action or diseased changes of gastric tubules. As Goodhart[2] says, however, we fail to understand the facts brought to our attention, when we accuse stomach or bowels too readily of becoming morbidly susceptible to their own products. If it were so, how is it we are not more inimical to high-flavored game and mity cheese? If it were so, would not the course of many on earth be much shortened? Even the most favored colon, as Goodhart states, cannot be prevailed upon to distil eau de cologne. Again the nervous element may not be ignored, especially amongst worried, care-worn, impoverished ones. And without due consideration for, and attention to this factor in so many enlargements, displacements, functional and organic changes of stomach, bowels, and other abdominal viscera—we may have little hope from purgatives or antiseptics—not to speak of the broad domain of modern operative surgery.

Antitoxin in diphtheria; getting rid of anopheles as a prophylaxis of malaria; suppression of the variety of mosquito (stegomyia), which is the carrier of the contagium of yellow fever: these are great additions to our knowledge, the results of which are only partly realized as yet, and the ultimate outcome of which will be of inestimable value to the race. Therefore, it is that we are sanguine, very much so indeed, when and where we have to do with the solid workers, the keen and laborious searchers after truth. But where we become and are of a doubting, chagrined frame of mind, is upon the many occasions, where we run up against shallow ideas and small work, which

characterize those who are in the field for ephemeral praise and mere pecuniary success, and whose "borrowing dulls the edge of husbandry" in the biggest, broadest sense.

The work done by those faithful and true men who are trying to ameliorate in every rational way the care and treatment of patients suffering from pulmonary tuberculosis, is surely much to be commended, for it is praiseworthy and beneficent. No one can doubt, by building properly, sanatoria in suitable country localities, that great good shall be accomplished. No one can fail to see that by insistence upon the importance of limiting the number of consumptives, by giving to them and to all a healthy supply of food, whether as milk or meat, beneficent results will be effected. In the same way, we cordially endorse proper rules governing expectoration in all places of public or private resort; we support heartily the improvement in our tenements by giving more air, more sunlight, improved plumbing, less crowding, inasmuch as all of these reforms tend to lessen the number of the tuberculous, and make for the cure of those already affected. Further, to insist upon proper precautions in the home to prevent the well ones from taking the seeds of this disease, is work which properly belongs to the sanitarian, to the physician, to every man who wishes to benefit and uplift the race. As to purely medical care, in the sense of prescribing proper régime and suitable remedies for those threatened or already diseased, that too is good work and worth accomplishing in a thoroughly scientific and honest way. Let us not be unmindful, however, of commendable work done in the past and by men who stood deservedly high amongst us not very long ago. The late Prof. Austin Flint, a most distinguished observer, showed conclusively by the analysis of six hundred and seventy cases of pulmonary tuberculosis, done in a very careful, judicious, and erudite manner, that a proportion of one to fifteen of these cases are self-limited as to the duration of their disease, and will surely recover, if only a very moderate attention is paid to ordinary rules of living, and even amongst the impoverished and scarcely well-to-do of our land, in very numerous instances. Professor Flint also showed that a nearly similar proportion of cases would secure in like conditions a suppression of all symptoms for periods of time, of longer or shorter duration. Thus, the disease itself, even though the physical condition might remain, became absolutely quiescent, so far as outward manifestations went—such as cough, sweats, loss of flesh and strength, expectoration, fever. To those, therefore, who would claim for every new drug and every new treatment advantages and an efficacy which appear at first as brilliant in their curative action, we would turn to Flint to have his wisdom guide and direct us, rather than to restricted knowledge which accounts for too much with agents imperfectly known and understood. Self-limitation exists also in many other diseases, especially those of acute and infectious type—and just as frequently to-day as hundreds of years ago, the eruptive fevers go through well-determined stages of incubation, development, march, and termination without being influenced very materially, or shortened appreciably, or at all, as to their duration by any specific or known treatment. The law governing in many particulars, the self-limitation of disease goes back to Jacob Bigelow, who first insisted upon it in 1835.[10] It was to the elder Flint,[11] however, that belongs properly, in my judgment, the extension of this law with special emphasis to cases of phthisis. Flint writes as follows, and it is to these wise remarks we now would direct especial attention: "A host of diseases have been shown to be self-limited. All the essential fevers, inclusive of pneumonia, and many acute inflammations, are, as the term has been defined, self-limited diseases. . . . If the term be used in a sense embracing different degrees of that attribute of disease which renders it independent of treatment, as regards course and termination, most diseases are more or less self-limited; and it is of interest to inquire, in different cases of the same disease, how far the course and termination may be due to self-limitation."

On the other hand, we believe and we think we know to-day that by good ventilation, rest, liquid diet, good nursing, and good hygiene, as regards cleanliness and surroundings and proper disinfection, we neutralize, perhaps, in a measure the virulence of disease in many instances, and prevent complications which are the inevitable result of lack of attention and ignorance. As to climate, and its influence as a curative agent in the treatment of phthisis, a few words here may not be amiss. Flint writes that more or less power for good is due to it, and while self-limitation doubtless played a part in the result, it certainly cannot account for it to the exclusion of climatic effect. This result relates to different climates taken collectively. "If it be sought to determine the comparative advantages of particular climates, we have to deal with a complex problem." . . . "Let it suffice to say that the selection of a place of resort is to be governed by the circumstances proper to each case, and not by any rule applicable alike to all cases. My object in alluding to climate has been simply to illustrate the bearing of self-limitation on the conclusions drawn from clinical studies respecting climatic treatment; and the remarks which have been made are applicable to other hygienic measures, and to different kinds of medication. An important point in clinical studies with reference to all these should be to take cognizance of the relative agency of self-limitation as a factor or co-worker in determining the favorable course of the disease." . . . "Bigelow, when he distinguished certain diseases as self-limited, probably had but a faint apprehension of the scope of this well-chosen term. The boundaries of its fullest extension are yet to be ascertained. Much knowledge of the natural history of diseases still remains to be acquired."

Thanks to the great advances made in nursing in our day, we physicians can usually have our intelligent advice and treatment of patients carried out faithfully and appreciatively, if we have constantly the courage to insist upon what is best for the well-being of our patients and for our own moral self-respect. Whilst, however, we find a very great improvement in mere knowledge of duties on the part of our nurses to those of a decade or two since, I am not quite sure that their realization of the doctrine of self-sacrifice and devotion has continuously improved. I am also firmly convinced that more than one subject they are taught at some length in the schools had better be let alone. This acquired smattering of anatomy, physiology, and therapeutics is often a practical detriment in their rôle of good nurse. They are tempted with their imperfect knowledge to give counsel or direct at times, when they should seek only to comfort and serve.

The germ theory of disease and its enormous and fruitful outcome have been most useful in the promotion of human health and longevity. On the other hand, it is proven that all germs are not destroyers; some are protectors, some are inoffensive. The mere discovery of a germ doesn't prove necessarily of great value, even if it be proven to be the

cause of disease, unless with its life history we reach the means of destroying it or neutralizing any power for evil it may possess. If it be merely a consequence of certain evils; if, in a sense, it be the formed scavenger in disease, its discovery should merely mean that we should endeavor to find out why it is there; if for bad, to get at and root out primary bad conditions; if for good, then hail its advent with satisfaction until we discover the means of avoiding its almost necessary presence, when without, things might go from bad to worse. Moreover, whilst very many acute and some chronic diseases are now recognized to be of microbic origin, others there are about which the microbic origin is still unproven; and in this category we are still forced to place two of those which have threatened and still threaten the human race, viz., smallpox[13] and syphilis (Virchow). Against one of these, fortunately, we have in Jenner's great discovery, vaccination, when generally and successfully used, an almost sure means to combat its growth and extension. Against the other, wiser, and improved legislation can alone lead to its complete suppression, whilst medicine, even the so-called specific, mercury, can but be greatly helpful in numerous instances in which it is present, without being invariably an absolutely curative agent in every instance.

In the doctrine of immunity as it is now being investigated by the great scientists of our own and foreign countries, we discover a hopeful outlook and wider scope for increasing and more accurate knowledge to penetrate the hidden mysteries of many things, the ultimate outcome of which, striving and research, will be enormously valuable to future generations.

To many who speak of immunity, I fear sometimes that what is understood by it is not clearly apprehended. No doubt, it suggests to different minds different ideas. There is immunity by taking a disease such as smallpox, measles, scarlet fever, etc., and there is another form of immunity that might be termed natural immunity from the fact that a person has inherited a resistance against special diseases. Certain people do not take certain diseases under any circumstances. They are born with a constitution which resists it. Again, there are cases in which immunity is a variable quantity, in which it is dependent upon the condition of the body relative to vigor, etc. All the curious manifestations suggest a changeable condition of the molecules which make up the vital structures. Immunity certainly is nothing but a molecular condition of the living material out of which our bodies are constructed. When immunity is acquired from having had a disease, the poisons which the system is bathed in during the progress of the disease set up some molecular disturbances which renders the body resistant to further intoxication.[13]

In the question of immunity there are two recognized ideas at present—first, immunity against bacteria; second, immunity against their poisons or toxins.

There are also two theories which prevail in regard to immunity—first, the phagocytic theory; second, the old humoral theory.

Metchnikoff,[14] the great advocate of the former theory, states: "Under conditions in which the cells retain their vitality, it is phagocytosis which is eminent; when they suffer widespread destruction, the serum becomes bactericidal, and the microbes are disposed of not intracellularly but extracellularly. Herein we see some light upon the apparent contradictions between immunity and the bactericidal virtues of the juices." . . . Generally speaking, immunity to microbes can be secured independently of immunity to toxins, the former being unfortunately much the easier achievement."

In studying natural immunity it is also shown that the serum of immune animals is often an excellent culture medium, thus showing that there is a powerful mechanism in the economy other than that contained in their juices to combat microbic infection. It has been shown in cholera and typhoid fever that bodies immunized by bacteria are poisoned by the toxins of the same bacteria. The subject of agglutination is still an undetermined question. The agglutinating and immune substance which were thought to be one and the same are now known to be distinct. The study of precipitins in the blood bids fair to become of great medicolegal interest.[15]

In speaking on immunity, Prof. Wm. H. Welch says: (*Lancet*, October 11, 1902, p. 983.) "These researches, which have already led to the saving of thousands of human lives and will lead to the saving of untold thousands more, have been carried on by the experimental method and can be conducted in no other way. This method is as essential for the advancement of medical science as for that of any of the natural or physical sciences. To restrict unnecessarily and unjustifiably its use is nothing short of a crime against humanity."

Chemical and bacteriological research and the general use of the microscope have made additions to our knowledge of untold value already. Very many practitioners of to-day have been made by these one-sided, and they have abandoned not a little the broad appreciations which enable one to see always the general laws which govern the manifestations of disease, and without which knowledge he is, indeed, but a poor and lame practitioner who attempts its cure. Modern specialism finds a local trouble almost everywhere, and in its effort to right things and make them perfect locally, ignores too much underlyling causes, and in the end frequently produces woeful results. Upon the whole, looking backward, do we regret the past altogether? looking forward, do we consider every new achievement a decided and manifest gain? The answer is not difficult. We feel deeply and intensely that we should hail what is new with interest and moderate enthusiasm at first, and not adopt it too soon as the beacon light to be followed until we have fully tested wherein it is good and wherein it fails. We feel with equal strength and earnestness that we should not abandon former lines of thought and the action that proceeded therefrom, simply because they are time-worn. Ideas, like clothing, are not threadbare merely because they have been worn, and if they be of good material and good make, they last at least for a time, and are still valuable. Ideas, like gold and precious jewels, sometimes, frequently perhaps, never lose their intrinsic and great value. We may change and modify and reset, but they remain all the same in reality, and to the man who is appreciative and who knows, they prove to him that he is wealthy when others are poor indeed. The burden of this article and its summing up is to make one—all of us—conservative—conservative in the best sense, viz., "Prove all things; hold fast that which is good."

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## ABNORMAL FREQUENCY OF URINATION TREATED WITH EPIDURAL INJECTIONS.

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IT is a pleasant duty that obliges recognition of the kind encouragement and aid provided by Dr. E. C. Dent, Medical Superintendent of the magnificent Manhattan Hospital West, without which even these preliminary studies would have been impossible. The senior writer of this paper submitted to Dr. Dent the details of the procedure, which he had learned from its author, Fernand Cathelin, at the Hôpital Necker, Paris, in 1902. After a thorough personal investigation of the innocuousness of the little operation, done for demonstration in about twenty-five cases, and observing the results, Dr. Dent gave his consent to a systematic test of the treatment in the great institution which he so ably and scientifically conducts.

If, therefore, permanent benefit accrues to those suffering from the obstinate and distressing condition, the credit therefor is due largely to Dr. E. C. Dent and his hospital.

Full appreciation is also due Dr. Dent for assigning two of his staff, Drs. A. C. Delacroix and A. E. Hutchinson, to assist in these investigations. The assiduity and enthusiasm with which these junior colleagues did and are doing their work in this matter show the Superintendent's wisdom in selecting them for the purpose. In view of the preceding, it is clear that all credit for priority in America in the epidural treatment of urinary disturbances of urination belongs to Dr. Dent and his staff.

Ordinarily it would be premature to report on but eight cases, under observation less than three months. But the results in these eight are so encouraging, that it seems well to lay them before the profession with a view to having the matter tested by others. About twenty-five other cases were treated besides those noted here, but as these were removed by their relatives or discharged before any results beyond improvement could be recorded, they are not embodied in this report. In all the twenty-five patients as in the eight reported below, the injections were followed by no untoward results, and the frequency with which their beds and clothing were wet, or the abnormal frequency of voluntary urination, was either reduced or entirely checked, at least for the time being.

Precise records of the cases submitted below were begun on May 9, 1903, so far as concerns their enuresis or diurnal incontinence or abnormal frequency of voluntary urination. In this the painstaking detailed records of the hospital proved inexpressibly valuable. It is from this extraordinary wealth of material that the following abstracts have been made. On first examination of these records it was found that the patients affected with enuresis or incontinence, or both, were recorded, as is usual, as "wetters." A request to have the records amplified was met, as are all others for the patient's benefit, by prompt specific orders to the nurses to record (1) the frequency with which patients urinated in bed during sleep; (2) the frequency with which they wet their garments while awake; (3) the frequency with which they urinated voluntarily.

*Synopsis of Cases.*—I.—A. R., Book 47, folio 299. Age 24, single. Uterus and appendages normal. Menstruates every four to six weeks. Urinary organs normal. Urinalysis* (August 9, 1903) negative. No history of injury to any part of body. Children, none. Admitted to hospital July 3, 1896, for imbecility, chronic melancholia, chronic valvular endocarditis. On admission had a history of enuresis; precise record thereof begins May 9, 1903, when she wet her bed, obliging a change of sheets eighteen times during that night. Previous to the first epidural injection she had experienced occasional relief from strychnia (gr. $\frac{1}{60}$ to $\frac{1}{15}$) and the other remedies usually employed for this condition.

The records of her frequency of urination from the first epidural injection are as follows:

May 9, 1903. Frequency of nocturnal urination as above noted. First epidural injection 10 c.c., which was repeated May 16.

May 20, 1903. Since first epidural injection patient urinates in bed ***twice nightly*** instead of eighteen times, as before.

June 20, 1903. Epidural injections have been repeated once a week since May 20. Patient urinates in bed twice and ***awakes to go to urinate voluntarily*** three times nightly. Epidural injection increased to 15 c.c.

July 29, 1903. Epidural injections have been administered once a week, increasing the amount to 25 c.c. Patient wets bed once and goes to toilet once at night.

August 19, 1903. Injections have been suspended for observation since July 29. Patient urinates in bed once at night, and arises to urinate once a night; does not urinate into her garments during the day. Urinates voluntarily on toilet, five times daily. No injection.

II.—M. H., Book 10, folio 235. Age 40, widow. One child, non-instrumental birth. Small incomplete perineal and bilateral cervical laceration. Retroversion. Has not menstruated for over a year. Urine (July 29, 1903): Specific gravity 1010. Acid. Slight trace of albumin. Calcium oxalate crystals. Many squamous epithelia. Few granular casts, bacteria and fungi.—Paranoiac. On admission, April 28, 1903, she wet her garments six times daily and ten times every night. The duration of incontinence could not be learned. Medication had proven unavailing. The records show:

June 16, 1903. The patient wet bedding ten times at night, and urinated into her clothing six times daily. Epidural injection 5 c.c.

Epidural injections were increased to 7.5, 10, 15, 20, 25 c.c. respectively on June 23, 30, July 7, 13, 20. On July 27 20 c.c., repeated on August 7. Gradual improvement occurred until July 2, 1903, when she urinated into bed occasionally (not every night) and wet her garments once during the day.

July 9, 1903. With an attack of diarrhœa, incontinence recurred. Diurnal and nocturnal frequency could not be noted.

July 25, 1903. Wet bedding three times; although she was taken to the toilet regularly, did not respond at those times.

*The urinalyses noted in this paper were made by Dr. Adolf Myers, Pathologist of the Manhattan State Hospital West.

July 29, 1903. Wet and soiled bedding twice.

July 31. 1903. Diarrhœa ceased. Has not wet bedding or clothing since 29th. No injection *experimenti causa*.

August 12, 1903. Did not wet bedding or clothing since July 29 (two weeks). Epidural injection 15 c.c., to ascertain whether after the relief obtained it would in this case provoke any change.

III.—I.B.R., Book 199, folio 9946. Age 26, married, one child, born October, 1902: non-instrumental labor. Perineal and cervical lacerations. Retroflexed uterus. Urinalysis May 11, 1903: Acid, Specific gravity 1022. Faint trace of albumin. Squamous epithelia. Amorphous urates. Has received no injury to any part of body. Admitted January 30, 1903, for acute melancholia (dementia præcox). At that time she was reported as "wet and filthy," which condition continued and was again specifically noted April 29, 1903, "wets bedding several times daily." On June 20 she is recorded more in detail as wetting clothing and bed every ten or fifteen minutes day and night. She has received urotropin gr.v t.i.d., which was not followed by any change in the frequency of involuntary urination.

June 27, 1903. The condition as described above continues. Epidural injection 5 c.c.

July 1, 1903. No perceptible improvement observed. Epidural injection 10 c.c.

July 7, 1903. Wets bedding twice nightly and clothing two or three times daily. No injection; requested close observation.

July 27, 1903. Patient goes to toilet voluntarily to urinate twice at night and six times during the day. Does not urinate into bed or clothing, but continues to defecate into both, as before. Epidural injection 20 c.c.

August 12, 1903. A relapse is recorded as follows: Urinated into bed once nightly until the 8th: thence to date twice every night. Does not wet clothing at all during the day, but voluntarily urinates on toilet from two to six times. Epidural injection 25 c.c.

IV.—A. F., Book 10, folio 366. Age 18. Genitalia normal. Nullipara. No history of injury. Had an apoplectic (epileptic?) seizure when fourteen years of age. Admitted May 13, 1903, for epileptic dementia, when daily and nocturnal incontinence were recorded; how long it had existed before admission, was not ascertainable. She urinates involuntarily with each convulsion, and at least twice into bed every night.

July 15, 1903. Frequency of involuntary urinations as above noted. Epidural injection 10 c.c.

July 23, 1903. Urinated in bed once at night, but has not wet clothing. Epidural injection 15 c.c.

July 29, 1903. Has not wet clothing since first epidural injection Epidural injection 15 c.c.

August 12, 1903. On August 3 had a convulsion, during which she urinated into her clothing. Since then she has not urinated in bed or into her clothing. Urinates voluntarily on toilet four to six times every twenty-four hours. No epidural injection.

V.—M. H., Book 10, folio 333. Age 37, widow, nine children; no instrumental labor. Incomplete perineal laceration; bilateral cervical laceration, hypertrophied cervix. Menstruates regularly. Dementia præcox. No history or evidence of injury to any part of body. Definite history of previous abnormal urination not obtainable.

July 15, 1903. Urinates into her clothing and bed every ten minutes day and night. Epidural injection 10 c.c.

July 22, 1903. Has not urinated into clothing or bed for one week. Voluntarily urinates on toilet three or four times daily and four times at night. Epidural injection 15 c.c.

July 29, 1903. Has not wet bedding or clothing for two weeks. Goes to toilet three or four times daily; does not urinate at night.

August 5, 1903. Menstruating profusely; impossible to determine whether clothing is wet from menstrual discharge alone or whether urine is mixed therewith.

August 12, 1903. On the 7th, while mentally much disturbed, urinated into clothing once, but urinated voluntarily on toilet twice thereafter on the same day. Epidural injection 10 c.c.

VI.—A. H., Book 79, folio 6,321. Has no friends to furnish information. Sometimes says she is forty-four or forty-nine, or fifty-three years old. Memory poor. On first admission in 1887 she was thirty-two or thirty-six years of age. At second admission in 1899 she was forty. Married. A cicatrix on abdomen shows that an extensive operation was performed, which she says was done for rheumatism at Charity Hospital six years ago (she was at the Manhattan Hospital West six years ago). Genitalia atrophied. Meatus urinarius externus swollen and reddened. Urine July 21, 1903: Acid. Specific gravity 1032. Faint trace of albumin. Considerable pus. Large round squamous epithelia. Bacteria. Amorphous urates.—Scars on right temple and neck, which she attributes to injuries from falling into a coal pile some years ago; this is possible, as she is an alcoholic. Four or five children; she says that none of the labors were instrumental. Admitted 1887 for acute melancholia. Readmitted 1899 for secondary dementia. Has alcoholic and specific history. Record, from June 20, 1887, shows numerous fits, some followed by paralysis of the leg, some by aphasia, some by loss of speech. These sequelæ were transient. The first disturbances in urination recorded are: April 24, 1888, suppression of urine. May 1, 1888, scantiness of urine. April 20, 1899, incontinence. August 4, 1900, dysuria. May 11, 1903, nocturnal incontinence. Does not wet garments, but goes to toilet every hour or two when awake. May 16, 1903, epidural injection 10 c.c.

May 23, 1903. Urinated into bed once nightly. Diurnal frequency unchanged. Epidural injection 15 c.c.

May 30, 1903. Condition same. Epidural injection 20 c.c.

June 7, 1903. Condition same. Epidural injection 20 c.c.

June 13, 1903. Condition same. Epidural injection 20 c.c.

June 20, 1903. Does not urinate into bed every night, but did last night and the night before. Epidural injection 25 c.c.

June 27, 1903. Has not wet bed past four nights; urinates on toilet five times daily. Epidural injection 25 c.c.

July 1, 1903. Has not urinated into bed or clothing. Epidural injection 25 c.c.

July 8, 1903. Urinated voluntarily on toilet four times daily. No nocturnal urinations. No epidural injection.

July 19, 1903. Same record as on 8th. Has not urinated into bed since June 22. No epidural injection.

August 12, 1903. Urination continues normal. No epidural injection.

VII.—S. E., Book 9, folio 335. Age 29. Six months before admission both ovaries, and a greater part of labia minora were removed and ventro-suspension uteri probably performed. Urine, April 15, 1903: Acid. Specific gravity 1011, epithelia, mucus, amorphous urates, calcium oxalate, triple

phosphates.—History of occasional incontinence since May 24, 1902—Cystoscopy, July 22, 1903, showed minute phosphatic concretion at vault of bladder and some areas of inflammation near mouths of ureters (patient had had cystitis in June, which yielded to irrigations with silver nitrate). One child; non-instrumental labor. Diagnosis on admission: Imbecility; acute mania.

The incontinence since May 24, 1902, was exclusively nocturnal. It was not regular, as she wet the bed only occasionally.

July 29, 1903. Epidural injection 10 c.c.

July 31, 1903. Arose to urinate on toilet twice last night; urinated voluntarily four times during day.

August 3, 1903. Same record as July 31. No injection.

August 6, 1903. Went to toilet three times last night and urinated into bed once—the first nocturnal incontinence since July 28. No epidural injection in order to determine whether nocturnal urination was due to a possible recurrence of cystitis.

August 12. 1903. Has not wet bedding since August 5. Epidural injection 15 c.c.

VIII.—L. H. Q., Book 9, folio 140. Age 49. Alcoholic. Married. Atrophied genitalia, cervical and perineal laceration. Menopause established, which she denies. Urinalysis July 21, 1903: Acid. Specific gravity 1010. Slight trace of albumin. Pus. epithelia, bacteria, crystalline and amorphous urates, triple and amorphous phosphates. Has had incontinence, history thereof not ascertainable. Small perforation of hard palate, which she attributes to an injury by artificial denture. Scar on right side of nose near tearduct; says some operation was performed on eye when a child (memory defective). Dr. J. L. Barnes, Visiting Ophthalmologist, performed Bowman's operation for dacryocystitis. Six children, no instrumental labor. Admitted January 10, 1903, with dementia secondary to alcoholism. This patient was not brought for treatment for incontinence, but as she urinated painfully four or five times at night and eight or ten times daily (*i. e.* twelve to fifteen times in twenty-four hours), though not into bed or her clothing. This condition had persisted since January 10, 1903 (five months), to the first epidural injection.

May 16, 1903. Epidural injection 5 c.c.

May 23, 1903. Urinated three times at night and seven times daily. Epidural injection 7.5 c.c.

May 30, 1903. Urinated twice at night and six times daily. Epidural injection 7.5 c.c.

June 6, 1903. Urinates twice at night and five or six times daily. Epidural injection 10 c.c.

June 13, 1903. Frequency unchanged, but urination is painless. Epidural injection 15 c.c.

June 20, 1903. Same record as the preceding. Epidural injection 20 c.c.

June 27, 1903. Record unchanged. Epidural injection 25 c.c.

July 1, 1903. Urinates four or five times during the day; not at all at night. Epidural injection 25 c.c.

July 8, 1903. Same record as last week. No injection.

July 18, 1903. Urination normal. Treatment suspended.

July 20, 1903. Arose to urinate on toilet once last night and five times during the day. No epidural injection.

August 12, 1903. Urination normal. No treatment.

*Résumé of the Cases.*—Omitting all other considerations, the following résumé of these cases may be submitted:

I.—Incontinence first recorded July 3, 1896. Before epidural injections urinated into bed eighteen times at night. After first epidural injection urinated into bed twice at night. After tenth epidural injection urinated into bed once and went to toilet five times daily.

II.—Incontinence first recorded April 28, 1903. Before epidural injections urinated into bed ten times nightly and into her garments six times daily. Improvement was gradual. After tenth epidural injection did not wet bed or clothing.

III.—Incontinence first recorded January 30, 1903, when she was reported as being "wet and filthy." On June 20, 1903, recorded as wetting clothing and bed every ten or fifteen minutes. After fourth epidural injection wet bed twice nightly; did not wet clothing during the day.

IV.—Incontinence first recorded May 13, 1903. Then urinated into bed at least twice every night. After first injection urinated into bed once at night, but did not wet clothing except during a convulsion. After the third epidural injection, urination appeared to have become normal.

V.—Incontinence first recorded July 15, 1903, "every ten minutes day and night." After first epidural injection, diurnal urinations became normal, and nocturnal voluntary four times nightly. After the second epidural injection she ceased to urinate at night. Twenty-two days after first injection, while mentally disturbed, urinated into her clothing twice, but returned to normal micturition on the same day.

VI.—Incontinence first recorded April 29, 1899. More recently urinated into bed once nightly and continued to do so until five epidural injections had been given, then urinated into bed occasionally. After the fifth epidural injection (25 c.c.) ceased to urinate into bed. Had no incontinence thereafter up to present time—fifty-six days after first injection. She received no injection in the nineteen days preceding this report.

VII.—Incontinence first recorded May 24, 1902, as "occasionally nocturnal." Nine days after first epidural injection, urinated into bed once. Fourteen days after first injection, received a second. As this patient had, before receiving injections, only occasional nocturnal incontinence, no conclusions can as yet be drawn from her record.

VIII.—This patient had a history of incontinence previous to her admission. Since five months before the first epidural injection had painful urinations four or five times nightly and eight to ten times daily. After the eighth epidural injection, urination became normal and remained so since (forty-three days at present, August 19, 1903).

*Objections to This Report:* I.—It offers a study of only eight cases. The results in these, however, are sufficiently encouraging to warrant offering them in the hope that others may take up the matter and coöperate in further developing it. These cases, furthermore, are far more valuable than those in private practice, because (*a*) all these patients are insane; not one knew the object of the treatment, therefore no deception, suggestion, or autosuggestion could have had any bearing upon the improvement; and (*b*) all urinations were recorded by nurses detailed for this special purpose, under the supervision of the staff of the hospital, whose records are not at all likely to be colored by enthusiasm.

II.—The histories are not complete as far as concerns abnormalities in urination. It must be remembered that all these patients are defectives, consequently they could not give any reliable

history of their disturbances prior to admission. One of them has no friends or relatives. Those connected with the others either could not be credited with sufficiently close power of observation or were too indifferent to note the details that would be necessary for precise records. Then, again, in an institution of such magnitude, with about 2,400 patients. an overworked Chief and staff, it is remarkable that these patients were at all recorded otherwise than as mere "wetters." Moreover, until these studies were begun, there was no inducement to do more in this special regard.

III.—This preliminary report contains no records of children or male adults affected with abnormalities in urination. They are purposely left out of consideration here, for two reasons: (1) the institution in which the more systematic work could be done has exclusively female patients; (2) in all private cases that have so far been brought to the authors, an inflammatory condition, abnormalities of the urine, a congenital deformity, or a foreign body, presented a direct cause for excessive or involuntary urination. In only one private patient could the effect of epidural injections be observed, and then unsatisfactorily. This is a youth of twenty-one, who had urinated into bed several times at night since his birth. Under epidural injections he became entirely continent, but each time that he was too lazy to go to the closet before retiring he urinated into bed.

*The solution used* in all the cases was a sterilized decinormal salt solution at a temperature of 99 to 100° F., and in the quantities mentioned in each case.

*The instrument* is a syringe of a capacity of 5 c.c. It is provided with tempered steel needles 0.06 long; seven-tenths of a millimeter in caliber, with an eye 3 mm. in size, at the point.

The syringe and its needle is sterilized by boiling, and the needle is passed through an alcohol flame before each injection.

TECHNIQUE OF EPIDURAL INJECTIONS.

*Anatomical Considerations.*—The objects in view can naturally be best studied by carefully refreshing the anatomy and the variations therein of the region under consideration. For the present purpose it will suffice to say that the injections are made into the sacral canal between the periosteum of the vertebræ and the dura mater. The canal is reached through its opening in the sacrum (marked x in figure 1.)

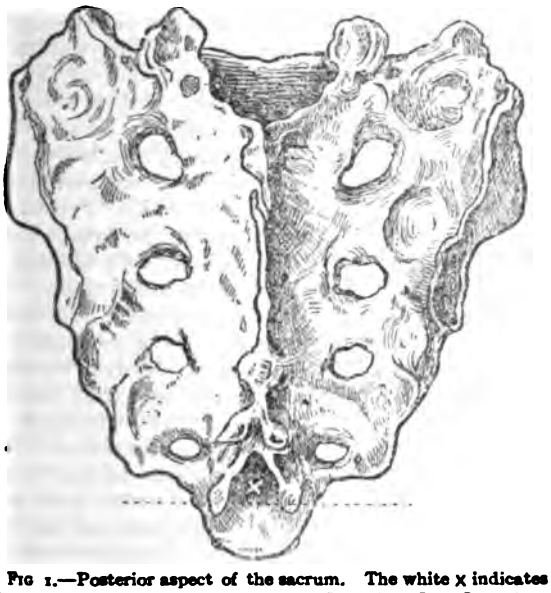

FIG 1.—Posterior aspect of the sacrum. The white x indicates the point to be perforated. (From Cathelin: Les Injections Épidurales.)

The sacral hiatus is not, however, in the line between the nates when the patient lies on his side, as is shown in Figure 2.

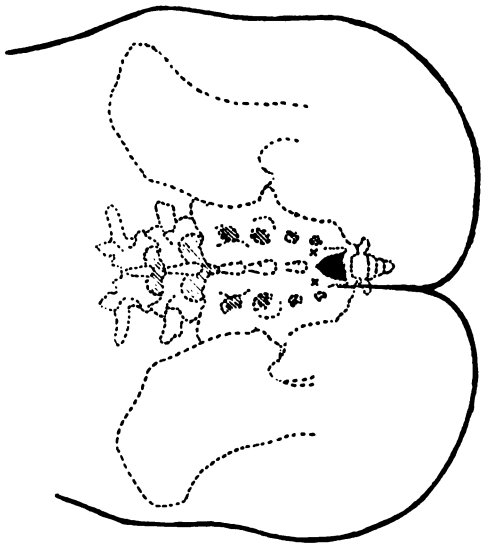

FIG. 2.—Non-concordance of the sacral orifice and the natal crease, when the patient is placed on the left side. (From Cathelin: Les Injections Épidurales.)

*Position of the Patient.*—The patient may be placed on either side, most comfortably on a table sufficiently high to render excessive stooping of the operator unnecessary. Cathelin,* in speaking of epidural injections for other affections than these now under consideration, advises placing the patient on the painful side. When epidural injections are made for disturbances in urination, it is well to place the patient in a species of Sims's position, with the knees drawn as tightly as possible toward the chest and the legs flexed.

*Sterilization of the Region.*—The skin over the sacrum is scrubbed thoroughly with Synol soap, then wiped with sterile pledgets of alcohol, but not dried.

*The operator's hands* are cleansed in the same manner as is the region to be punctured.

*Finding the Point of Puncture.*—The left palm is pressed upon the sterilized skin, with the fingers well extended and held closely together. They are passed down the skin over the sacral spinous processes until the last perceptible one of these is felt under the pulps of the left index and middle fingers. These are then slightly separated and pushed downward until each of them presses an osseous tubercle. The skin is firmly stretched with the same fingers over these tubercles; between them is the space to be punctured.

*The Puncture.*—The needle is taken between the right thumb and middle finger, the tip of the index-finger resting upon the attachment of the needle. So held, at an angle of about 40° to the sacral curve, it is thrust through the space of skin tensely stretched by the left fingers. An instant later the right fingers receive the sensation that is imparted when an instrument is tested by means of tense drum-head. This is produced by the needle's point traversing the posterior-inferior sacral obturating membrane. The shaft of the needle is then depressed about 20° and the left middle fingers raised from the skin, and the left index is pressed upon the point of puncture to steady the needle and the tissues. In this position the needle is cautiously pushed up into the sacral canal. If each step of the technique has been sedulously followed, and no

*Fernand Cathelin: "Les Injections Épidurales." Baillière, Paris, 1903.

gross abnormality exists, the needle can be entirely inserted without touching the periosteum of any part of the sacral canal.

*The Injection.*—The left thumb and index-finger then firmly hold the needle's attachment, while the syringe is attached by the right hand. Nine-tenths of the contents of the syringe are then slowly injected into the sacral canal without moving the needle. Then, still slowly injecting, the needle is gradually withdrawn until its point is just beneath the skin. The last drop or two of the solution are then forced out, forming a little bulla at the point of insertion. If these precautions are carefully observed, there will not be even a slight oozing of blood from the puncture.

*After-treatment.*—Subsequent to withdrawal of the needle, the region is wiped dry with a bit of absorbent cotton, and the site of puncture covered with a little collodion.

*Claims for Epidural Injections, Based upon the Eight Cases Reported.*—Even now the following claims may conservatively be made for this method of treating urinary incontinence, and excessive frequency of urination, when due only to faulty vesical innervation:

1. The operation is not more painful than hypodermatic injection.

2. Generally there are no immediate after-effects. Some patients experience a sense of pressure extending from the site of the puncture to the base of the skull; others are dizzy; still others have moderate pain or aching along one or the other sciatic region, and a few have a marked, but painless paraplegia. All these results are transitory, the longest observed lasting about five minutes. They are, however, exceptional, most patients experiencing no unpleasant after-effects whatever. Seven of the patients who are the subjects of this report, invariably arose from the table and walked from the room in their usual manner. The remaining one (Case VI) tottered somewhat upon being helped to her feet, but in less than a minute regained her usual gait.

3. The eight cases recorded received epidural injections but once weekly, while Cathelin (*op. cit.*) makes them as often as every two days. The patients of the Manhattan Hospital West could thus far not be studied oftener than above recorded, because (1) the exigencies of private practice did not allow more frequent visits to the hospital than once a week; (2) at some of these visits one or another of the patients under observation was either menstruating, had diarrhœa, was in an epileptic convulsion, or was too disturbed mentally to be placed in position for epidural injection. But the results so far obtained encourage new arrangements whereby the patients can be seen more frequently than hitherto. The outcome thereof will be made the subject of a future report.

Though the cases studied have been few, the following deductions seem warranted:

1. That epidural injections with decinormal salt solution offer the most promising results in abnormalities of urination due to faulty vesical innervation.

2. That incontinence of urine, enuresis, excessive frequency of urination (unless due to other pathological conditions) can at least be ameliorated by epidural injections.

3. That, cautiously performed, epidural injections are in no wise dangerous to the patient.

4. Epidural injections are no more painful than any hypodermatic injection with a mild solution.

5. Epidural injections can be performed by anyone who follows the technique outlined, and is alert to those anatomical variations which are so frequent in the region.

6. The immediate effects of epidural injections are very rarely even disagreeable.

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## NITROUS OXIDE IN THE PRODUCTION OF SURGICAL ANÆSTHESIA.*

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Before proceeding to the main part of our subject, it may, perhaps, be not entirely devoid of interest to glance very briefly over the history of this agent and note some of the salient points. The gas has been known ever since the beginnings of the science of chemistry, but it remained for Sir Humphrey Davy to make a thorough investigation of its properties, and he, as early as 1799, asserted that in view of its power to destroy physical pain it might probably be of use in surgical operations which did not necessitate too great effusion of blood. For many years, however, no practical application of this knowledge was made, beyond the fact that certain individuals at various times and places did inhale this vapor for the pleasure and amusement of themselves and their friends. It was probably inhaled, however, with a considerable admixture of air, and consequently the so-called stage of excitement was much exaggerated, with the final result that the gas came to be commonly known as laughing-gas.

Finally, in 1844, at an entertainment where the gas formed the principal means of amusement, a dentist, Dr. Horace Wells of Hartford, noted that one of the gentlemen injured his leg while under the influence of the gas, without any sensation of pain whatever. The next day the dentist himself took the gas and demonstrated in his own person that a tooth could be extracted without a trace of pain. He continued to use it in his practice with varying success, but for twenty years more the gas did not come into general use for dental extraction, and so far as its employment in general surgery was concerned, it was almost a century after Sir Humphrey Davy's announcement before the gas came to be used in this connection with any degree of generality.

Nitrous oxide is, under ordinary conditions of temperature and pressure, a gas both odorless and colorless and with a slightly sweetish taste. At a temperature of 45° and under a pressure of 50 atmospheres the gas is readily condensed into a liquid and may be placed in cylinders of steel or cast iron ready for delivery to the consumer. Burning substances thrust into an atmosphere of nitrous oxide burn with greater brilliancy, owing to the relatively increased amount of oxygen present, as the result of the decomposition of the gas by the heat of the burning substances, the quantity of oxygen present being just double that of ordinary air. The heat of the body, however, is not sufficient to produce such decomposition, so that the nitrous oxide alone is not capable of supporting respiration indefinitely. The gas is simply dissolved in the blood—not decomposed. Accordingly inhalation of the pure gas without admixture of air or oxygen produces pronounced states of asphyxia and some have held that its anæsthetic action was due largely if not wholly to the asphyxia resulting from its administration. That this is not the case, however, at least to any considerable degree, is shown by the fact that even when moderate quantities of air or oxygen are administered with the gas, so that the asphyxia is altogether relieved, an entirely satisfactory narcosis may be maintained, thus evidencing the fact that the gases

*Read before the New Jersey Chiron Club.

a true anæsthetic agent, acting in all probability directly upon the central nervous system and not indirectly by a process of partial asphyxiation.

Turning now to the methods of administration, we find that special apparatus is necessary for the successful production of satisfactory anæsthesia, because the agent is in gaseous form, and because any considerable amount of air administered with the gas at the outset seriously interferes with the induction of anæsthesia, if indeed it does not absolutely defeat this purpose. There are many forms of apparatus, but I will not take the time for a lengthy description of any of these more or less complicated pieces of machinery. There are, however. a few points of prime importance in any apparatus of this description to which we may profitably devote our attention for a few moments. In the first place it is necessary to have an accurately fitting face-piece, thus rendering the connection between the respiratory apparatus of the patient and the gas-containing cylinder practically air-tight, with the exception that there should be a valve which when shut allows the passage of the gas and when open cuts off the gas and allows free ingress of air. A set of valves must also be arranged in the face-piece, so that the gas inhaled, with each respiration is exhaled into the outer air. Another essential in the connections is a gas-bag with a capacity of from two to seven gallons, close to the face-piece, from which the patient may draw his inspirations and thus avoid the sensation of suffocation which is likely to result from the effort to breathe through a tube direct from the cylinder, without the intervening reservoir of gas under ordinary conditions of temperature and pressure. In other words, our chief object in the production of a single complete anæsthesia is to exclude air as far as possible and give simply a pure, unadulterated nitrous oxide.

Passing now to the symptomatology of this form of anæsthesia, we find that the period of unconsciousness is very rapidly induced—usually in 20-30 seconds—and that anæsthesia is complete in from 60-75 seconds. Furthermore, as a rule there is no stage of excitement, so-called, and if this does occur, it is usually indicative that air in considerable quantity has been allowed to enter with the gas into the lungs. The symptoms of complete anæsthesia are stertorous respiration, fixation of the eyeballs, insensibility of the conjunctiva, twitching of the extremities and marked cyanosis, which to an uninitiated observer is often little less than appalling. Just at this point, however, the administration is stopped, and during the ensuing period of a minute or a minute and a half any brief minor operation can be done entirely without causing pain. A tooth may be extracted, an abscess evacuated, and adhesions of the clitoris or prepuce may be broken up. If a longer period of anæsthesia is necessary, say from 5-30 minutes, then instead of stopping the administration finally, as soon as anæsthesia is complete, the gas is shut off and a few breaths of air are given, until the cyanosis begins to abate, and the respiration becomes more natural. This result occurs with considerable rapidity, so that by the time two or three respirations have been taken it is necessary to shut off the air and return to the gas until the symptoms of the deeper anæsthesia reappear once more. This process of backing and filling, so to speak, must be continued throughout the time of operation. This method is known as the "gas and air" method, and as it is necessary to give the gas for a much larger proportion of the time than it is possible to give air, the patient is cyanosed by far the greater part of the time and often presents a very uncanny appearance. It is of course readily seen that the carrying on of this form of anæsthesia requires the closest possible attention on the part of the administrator, if he desires to obtain results which are gratifying to the patient, the operator and himself. The signs which require watching are the same as under ether or cloroform, although less dependence can be placed upon the color, because of the cyanosis which naturally occurs with this agent. Sudden and extreme dilatation of the pupil is, of course, a grave danger sign. The pulse is ordinarily little if at all accelerated, and although good and regular, is usually feeble and lacking in volume. The most important point of all, however, which requires attention is the respiration; as the anæsthesia becomes complete the respiration is regular and somewhat increased in frequency, but deep and stertorous. If now the administration be pushed still farther, the breathing becomes feeble, irregular, and of a frequency about one-half the normal. These signs of respiratory failure are of the very greatest importance and should be heeded immediately by a brief cessation of the anæsthetic until the patient returns to a more normal condition, —a change which usually occurs with considerable speed after stopping the gas inhalation. When more than a 30-minute period of anæsthesia is necessary, resort should be had to the use of oxygen in combination with the nitrous oxide. The oxygen, however, is not used intercurrently simply, as is the air, but is supplied from the very inception of the administration. At the outset it is used to the amount of 2 to 3 per cent. and is gradually increased to 10 to 12 per cent. as the anæsthesia progresses—it having been found by experience that such an amount can be given, while yet complete anæsthesia is maintained, without the development of any cyanosis whatever. The proportions, however, must be varied constantly to suit changing conditions—the patient being, perhaps, more thoroughly under the control of the administrator, than with any other anæsthetic. At the same time a correspondingly greater skill and watchfulness are required on account of the rapidity and facility with which these changes may occur. In cases of nephritis this should always be the anæsthetic of choice, as its effect on the kidneys is practically nil.

Another use of nitrous oxide, and that perhaps in which we are all most interested, is its administration as a preliminary to ether anæsthesia. For this purpose there is required some special form of inhaler, such as the Clover-Hewitt, or that of Bennett, which is commonly used in and about New York. When administering the gas in this connection it is not necessary or even desirable to produce a complete gas anæsthesia; on the other hand, the aim should be so to blend the latter part of the gas administration with the beginning of the ether, that the change will be imperceptible to the patient; by this means we avoid the tendency to coughing and strangling, which frequently occurs in the ordinary way of giving ether.

Another feature of value is that the amount of ether necessary for the induction and maintenance of anæsthesia is greatly reduced, thus sparing the eliminative organs of the patient and the purse of the anæsthetist, and, for a similar reason, subsequent nausea and vomiting are much reduced. The so-called stage of excitement is entirely eliminated in the majority of cases, and inquiry after operation will disclose the fact that the patient has had no recollection of anything after the first three or four inhalations of gas until he begins to wake from his anæsthetic sleep. This method is

particularly useful in the case of plethoric and atheromatous individuals, in which it is so necessary to prevent the vascular engorgement which regularly occurs during the stage of excitement. If for any reason it is desired to use gas as a preliminary to chloroform, the sequence should not be direct on account of the cyanosis and respiratory depression caused by the gas. It is perfectly safe, however, to follow the gas with ether, a respiratory stimulant, and the ether in turn with chloroform.

The advantages of nitrous oxide are that marked anæsthesia is rapidly induced and recovery occurs with equal rapidity. With respect to safety, it is probably the safest anæsthetic which we possess, especially for short operations. Colton has reported 100,000 cases without a single fatality. No ill effect is produced on any organ. No elimination is necessary, or even possible, by way of the kidneys or intestinal tract, for by the time the patient awakes practically all of the agent used has been exhaled with the air expired from the lungs.

The disadvantages, while requiring consideration, are not of serious moment. In the first place, the simple gas anæsthesia is very brief, but here the air and oxygen combinations step in to fill the breach. Another item is that of expense, on account of the amount of gas and oxygen required if the operation is a lengthy one; but this is more than overbalanced by the corresponding gain in safety. Occasionally an alarming degree of asphyxia is developed, but I have been able to find no record of a fatal case. Another condition which sometimes occurs is incomplete muscular relaxation, although this disappears, as a rule, very soon after the anæsthesia is well under way.

The preparation for this form of anæsthesia should, when possible, be the same as for other modes. In any event, however, bladder and rectum should be emptied to prevent the occurrence of evacuation during the course of the induced sleep. An empty stomach is likewise a desirable feature, but is not so much a matter of necessity as with chloroform and ether.

Nitrous oxide is contraindicated, as a rule, in all cases of respiratory interference of whatever kind, such as that resulting from the pressure of tumors, paralysis of the respiratory muscles, or stenosis from the presence of croupous membranes or compression from effusions. Fleshy people likewise are bad subjects, on account of the well-known difficulties which they have with respiration. It is also said to be contraindicated in children, although I have seen it administered to children of all ages from six months up without ill effect.

Nitrous oxide is especially indicated in many minor surgical operations, such as incision of felons and abscesses—in short, operations about the rectum, in examination and reduction of fractures, and especially for painful dressings in children or highly strung individuals of older growth. In fact, at the Hospitals for Ruptured and Crippled in New York all children requiring dressings which are at all painful are anæsthetized with this agent. The time required for each dressing is from five to twenty minutes, and if necessary the anæsthesia is repeated daily, and seems to be absolutely without ill effect.

It is generally conceded that nitrous oxide is the safest of all anæsthetics, not even excepting cocaine, and if we look over the list of conditions in which this agent has been used, we find a category long and varied that will undoubtedly be greatly augmented with the development of new devices for the handling of the gas and the increased skill in administration resulting from extensive experience.

## THE TREATMENT OF THE PEDICLE IN OVARIOTOMY AND SALPINGO-OOPHORECTOMY.*

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KEENE, in a private conversation with the writer, remarked that "the treatment of the abdominal incision is a subject of perennial interest." This remark is equally applicable to the treatment of the pedicle or stump in ovariotomy and salpingo-oophorectomy.

McDowell, in 1809, ligated the pedicle of an ovarian tumor with a long thread and dropped the stump back into the abdomen but drew the ends of the ligature out of the lower angle of the incision. In this his usual practice he was followed by Clay‡ of Manchester. Spencer Wells devised his clamp method in 1858, and continued its use through 627 operations until 1878, with a mortality of 20.73 per cent. After a considerable series of failures by other methods, Baker Brown of London adopted the cautery method of treating the pedicle and then dropping it. From May, 1865, to September, 1867, he employed this method forty times with but four deaths, 10 per cent. mortality, and yet Spencer Wells' mortality with the clamp was 20.73 per cent.; still so overpowering was his influence that Baker Brown's splendid results were entirely overlooked and the Wells' method was almost universally followed.

Keith seems to have been the first eminent surgeon to have profited by Brown's lowered mortality. He began using the clamp method of Spencer Wells, but soon found his mortality so frightful that he adopted Baker Brown's intraperitoneal method and introduced glass drainage tube. To these two methods he attributed his low mortality, which was the lowest that had up to this time been obtained. The short ligature was employed early in the history of the operation, but was not generally adopted until recent years.

§Dr. Nathan Smith of Connecticut, in 1821, first employed the short ligature and dropping the stump. He used for the ligature a strip of leather cut from a kid glove. This patient recovered. In 1829 Dr. David Rogers of New York ligated the arteries separately. Dr. Tyler Smith was first to systematically and regularly advocate the complete intraperitoneal ligature. This method is now almost universally adopted.

Such is the brief history of the evolution of the development of the present methods of dealing with the pedicle in ovariotomy. The same principles have been applied to the treatment of the stump in salpingo-oophorectomy. Many modifications have, however, been introduced from time to time.

Mr. Tait's Staffordshire knot for a time had sway, and in the hands of its originator was one element leading to brilliant results. The knot has not been universally adopted, indeed of late years I have not seen it employed in a single instance. The cautery method of Baker Brown has largely disappeared, but the electrothermic method of Skene has with some operators taken its place.

A few years ago the method of crushing the pedicle by the angiotribe of Tuffier was introduced, and while it has not met with universal acceptance there are many able surgeons who employ it in preference to all other methods.

The writer has employed it in a considerable

*Read before the Indianapolis Gynecological Society.
†Biography of E. McDowell, p. 260.
‡Tait's "Diseases of the Ovaries," p. 246.
§Alban Doran, St. Bartholomew Hospital Reports, 1877.

number of cases, and abandoned its use, first, because of fear of hemorrhage; second, because the instrument is a heavy, unwieldly one; third, because of the time required in its use, and, fourth, because it does not yield any lower mortality than the ligature method.

In the use of means of dealing with the pedicle in ovariotomy and salpingo-oophorectomy there are three dangers to be avoided, viz., hemorrhage, infection and adhesions, and the technique least likely to be followed by any one or all of these dangers is the one to be employed, and if I were to ask a group of abdominal surgeons in turn what technique each deemed the most efficient, I would elicit a variety of opinions. One would say we are all striving at the ends above indicated, and one might say he had obtained the best results with silk ligatures, another with catgut, another with the angiotribe, while a fourth would declare in favor of the electrothermal cautery. The operator who is master of any one of these means will obtain excellent results in its employment.

For myself, the greates satisfaction has come to me and my patients by the employment of the catgut ligature, so to enable me to express my views after my own way and to furnish a text for discussion, I propose to state the methods I have adopted in the use of catgut ligature.

Let us consider first the pedicle of an ovarian tumor. An aseptic catgut ligature applied *en masse* to an aseptic pedicle in aseptic surroundings is an ideal method. I have now for some years used a single thread, No. 3 or 4. If the pedicle is small, it is transfixed in the middle by a single thread, carried by a medium sized blunt pointed ligature carrier, tied around the first half, then reversed and tied around the whole pedicle, three knots being tied; both threads are then cut one-third of an inch from the last knot. The pedicle is then severed between the ligature and tumor, far enough away from the ligature to leave a long button. An effort is made to hollow out or groove the center of the button so that the edges of the raw surface of the button may be brought together with fine catgut sutures. Before these sutures are applied, however the arteries of the pedicle are found in the free surface of the button, seized with a pressure forceps and ligated below the bite of the forceps with suitable catgut. Now the raw surface of the button is covered by peritoneum, either by bringing the edges together by sutures or by resorting to the method of Baldwin, viz., by doubling the pedicle over upon itself so that the raw surface shall rest upon the pedicle below the ligature and fastening it there by two or three interrupted sutures. Care must be used in these manipulations to avoid loosening the ligature by straining the knot or by drawing a portion of the stump beneath the ligature. The latter circumstances I have had happen to me a few times, but inasmuch as the work was done in plain sight, the accident was discovered and harm avoided.

This method of treating the stump of an ovarian tumor pedicle is so common that it may seem a work of supererogation to mention it, but after having witnessed work done by many operators I am persuaded that it is not yet time to cease discussing this important subject.

The same principles must be applied in the treatment of the pedicle in salpingo-oophorectomy, yet here slightly different anatomical conditions are present, viz., the pedicle is, as a rule, less vascular and is much shorter, and the stump left by an *en masse* ligature rests in such an exposed condition that if the distal end of raw surface is left uncovered bowel adhesions are more liable to occur than they are in a case of an ovarian tumor.

Tait's method of ligating the pedicle with silk thread, employing the Staffordshire knot, cutting away the appendages and dropping the stump was at first almost universally adopted. This method has, however, with good reason, largely fallen into disuse. For several years now I have not seen the Staffordshire knot applied, and in most instances in which the distal extremity of the stump has been left uncovered by peritoneum, the operator has made a sort of apology by saying that the surface is so small, I do not believe we will have any adhesions to it.

I believe it was Olshausen who first called attention to the dangers of intestinal adhesions to the stump after salpingo-oophorectomy. I have myself observed three cases of this sort, two in my own practice and one in the practice of one of my colleagues. These unfavorable experiences have made me very persistent in my efforts to always close the raw surfaces in the stump. An unhappy experience in losing a patient from slipping of a pedicle followed by hemorrhage and death led me always to see to it that the ligature was so placed that there shall be no tension upon the proximal end of the stump. Of the large number of methods brought forward to do away with the stump, none of them, so far as I know, have been entirely satisfactory.

A method employed by me occasionally for a number of years comes near meeting the requirements, but has in it an element of danger in the hands of the inexperienced operator. This method consists in boldly cutting across the Fallopian tube at the horn of the uterus, then severing the attachment of the mesosalpinx from the under surface of the Fallopian tube, cutting free the ovary from its attachment to the broad ligament and uterus, tying all bleeding vessels, and with a whip row stitch closing in all raw surfaces.

This is a very satisfactory method in the majority of cases, yet one unfortunate experience in having hemorrhage between the folds of the broad ligament led me to see the danger of such free cutting of vascular tissues without mere extensive ligation of blood vessels. In very vascular patients I have sometimes ligated the ovarian artery near the pelvic wall and then had no fear of hemorrhage.

For several reasons the stump method is the preferable one if a sufficiently long pedicle can be found. It is the quicker method and it serves to render taut and more nearly normal the relaxed broad ligament, and thus in many instances aids the accomplishment of the artificial support of a prolapsed or retroverted uterus. This latter is sometimes effected by tying the stump alone. When it is not, the simple plan recommended and practised by Tait is usually quite effective. This is to draw a loop of the round ligament beneath the ligature, encircling the stump so that when the ligature is tied the portion of round ligament is firmly held beneath it and finally becomes united by adhesions to the tissues forming the stump. This is a very effective way of holding the fundus of the uterus forward.

It has seemed to me that in case the patient should vomit much or the bladder should become over-distended, there might be danger, because of the strain upon the ligament, of its pulling from beneath the ligature, thus rendering the constriction of the stump less firm and possibly predisposing to hemorrhage, so of late I have been in the habit of placing a stitch through both portions of the round ligament anterior to the ligature, so as to relieve the strain upon the stump ligature. Of course this method of shortening the round ligaments to over-

come retroversion of the uterus is only applicable in case the appendages are removed from both sides.

The covering of the raw surface of the stumps in salpingo-oophorectomy is a matter of considerable importance, of greater importance, indeed, than in case of ovariotomy. It is more difficult, too, for many times it is difficult or impossible to place the ligature far enough below the ovary to enable one to cut away the whole of the ovary and leave a sufficient button of tissue distal to the ligature to be entirely sure the stump ligature will not slip over it. Here one must exercise his ingenuity. I have employed one or two means with considerable satisfaction. The first one is to leave as much of the mesosalpinx distal to the ligature as is safe, and sever the tube from the mesosalpinx as close to the organ as it can be cut. There is thus left distal to the ligature enough of the mesosalpinx to be drawn over and cover the stump so that every portion of the raw surface is covered by peritoneum which is fastened in place by sutures of fine catgut.

When this method is found impossible I have sometimes been able to bury the stump by the use of a puckering string of fine silk placed as follows: the silk is threaded into a curved round-pointed needle, and is first carried rather deeply through the tissues in the horn of the uterus near the entrance of the fallopian tube, then through the center of the round ligament about an inch away from the uterus, then through the upper border of the broad ligament, then through the infundibulo pelvic ligament, through the posterior surface of the broad ligament below the ligature, and, lastly, through the horn of the uterus near the first insertion of the thread.

Now if the broad ligament is lax and the infundibulo-pelvic ligament of normal length and not attended by inflammatory deposits when the puckering string is drawn upon, the stump is depressed, the tissues included in the puckering string suture will be approximated and the stump entirely buried out of sight. If the broad ligament is thickened and stiffened by inflammatory deposits, as it sometimes is in pelvic inflammation, this maneuver cannot be accomplished. Sometimes, when neither of these methods can be successfully employed, the Baldwin technique is effective when it can be safely applied.

For many years now I have used only catgut for securing the stump and have had no reason to regret the selection of this material. I do not, however, feel it is safe to leave the pedicle, no matter how securely tied, without having ligated with an aseptic ligature each artery found in the pedicle.

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**Peripheral Neuritis of the Alcoholic Type.**—Leonard Williams says that it is now generally believed that arsenic in the beer in conjunction with the alcohol is the cause of multiple neuritis. He pleads for the re-admission of alcohol on terms of equality with arsenic into the field of etiological probabilities, with a strong recommendation in favor of some other cause or causes to the identification of which there is at present no evidence to point. He reports several cases in support of this view. One, a woman of forty years, had been drinking to excess for some ten years. She had been taking about six bottles of whiskey a week, with an occasional bottle of stout, for over a year. All of these had been openly provided, and it is certain that she was never supplied from any other source. The whiskey and the stout were both examined for arsenic, but the result was negative. She suffered from severe peripheral neuritis, the author being called to attend her in a second attack.—*The Practitioner.*

## POST-GRADUATE WORK IN BUDAPEST.

By WILLARD J. STONE, M.D.,
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THERE have appeared from time to time, in the various medical journals articles, dealing with post-graduate instruction to be obtained in Great Britain and the continent. Among the best of these may be mentioned an article which appeared in the MEDICAL RECORD of June 21, 1902. This article contained details regarding the various hospitals in London available to the foreign student as well as many of the well-known centers of post-graduate instruction on the continent.

The present article has to do with the city of Budapest—a city in which excellent post-graduate instruction may be obtained, especially by workers along the special lines to be more fully described below.

Budapest, the capital of Hungary, is four hours distant from Vienna by express trains, and has a population of about 600,000 people. The hospitals, of which the three larger ones contain over 2,300 beds, draw from an unusually large extent of surrounding country, and are consequently well supplied with clinical material. In addition to these general hospitals, perhaps the most important centers are the Central Clinics or "Kliniken," which are in reality made up of a number of buildings devoted to the special branches.

These Central Clinics contain from 800 to 900 beds, and all of the departments of the field are here represented. Special mention may be made of the new surgical and the new gynecological sections of these clinics, which embody all the latest ideas of hospital construction, and are admirably equipped. The men in charge of these clinics are very cordial in the reception accorded to visiting colleagues, and offer them many of the facilities enjoyed by themselves.

For those who desire especial training in gynecology, obstetrics, pathology, and diseases of the ear, nose, and throat, Budapest has much to offer. This is largely because this particular field is not overcrowded with special workers, visiting physicians are always welcome, and also because the actual work may be done by the worker himself. This work can, of course, be secured in other cities on the continent, notably in Vienna, but the difficulty attendant upon the overcrowding of the field will be found, perhaps, less evident in Budapest than anywhere else. At this point mention may be made of the fact that although Hungarian is largely used, German without exception, and frequently French and English are spoken by the men in the clinics.

*Pathology.*—Special mention must be made of the excellent pathological institute connected with the Central Clinics, which is undoubtedly one of the best equipped laboratories in Europe, and which was erected some years ago at a cost of $225,000. The autopsies in this particular institute number over 1,000 yearly, and ample opportunity is given to workers in pathology for participation in the autopsies themselves. Visitors are most cordially welcomed by the director, Professor Pertik, and every facility is given by him to those who desire to work along special lines of research. A special working table is allotted to those who contemplate a prolonged stay, and the abundance of pathological material which has accumulated during the last nine years, together with an excellently arranged collection of over 10,000 microscopical sections, is placed at their disposal. The system of recording the daily findings in the post-mortem room is an especially good one, and the reports of the last 8,000 or 9,000 cases,

arranged in a manner easy for reference, will be found a valuable aid to statistical workers.

Professor Pertik's demonstration during the semester is particularly good—since microscopical preparations of the macroscopical material to be demonstrated are fully described, and the mechanism of death carefully considered.

*Gynecology and Obstetrics.*—The "Erste Universitäts Frauen-Klinik," the gynecological section of the Central Clinics—the old Semmelweiss Clinik, is in charge of Professor Barsony. This clinic, being new, is modern in construction, and very well equipped, and contains 100 beds for the obstetrical service and forty beds for the gynecological service. The last yearly report showed 1,542 births with two maternal deaths, while the gynecological service gave a report of 278 in-patients with five deaths. There are 3,000 out-patients attending this clinic yearly.

The finest special hospital in Budapest, if not in Europe, is the new building devoted to gynecology and obstetrics, but which is not connected with the Central Clinics. This clinic is in charge of Professor Tauffer, formerly an assistant of Professor Hegar in Freiburg, and contains 120 beds. The service here is a large one, consisting of about 2,500 hospital and dispensary patients yearly in gynecology, and of about 1,000 births in hospital, and 1,500 out-patient births yearly. Service in this hospital is offered as follows: first month, as resident interne in obstetrical service; second month, on out-patient obstetrical service; third month, as interne in gynecological strvice.

This, of course, refers to living in the hospital, and includes the ordinary room and living requisites in addition to a small monthly fee.

*Surgery.*—The opportunities given to post-graduate guests for operative work is necessarily limited. In this connection the word "guest" is to be taken literally, differing markedly in this respect from many of the other centers of instruction in Europe, since the so-called "private courses," common to Vienna and Berlin, in which a small class is made to cover the ground under an assistant, are made remuneratively worth the assistant's time. These opportunities will, however, probably be found less difficult to obtain here than elsewhere by those who are able to spend a few months in the service either of the surgical section of the Central Clinics or in one of the many hospitals. Guests will be appointed "externists," which implies actual service in the dispensary, and after two or three months of such service, participation in the major operative cases.

Professors Dollinger and Reczius are in charge of the surgical section of the Central Clinics. This section contains 180 beds and has 1,400 in-patients yearly, with from 800 to 900 operations. The dispensary service is divided as follows: (1) General surgery, 5,000 patients; (2) Orthopedic surgery, 2,000 patients; (3) Genito-urinary surgery, 1,000 patients.

Professor Navratil is in charge of the surgical work in St. Rocas Spital. This contains 100 beds; the in-patients number 1,500, while the dispensary service numbers 11,000 annually.

*Laryngology and Rhinology.*—In this department work may be secured in the cliniks of Professors Irsai, Onody, and Navratil. For those who wish to study tuberculosis of the larynx, the Clinik of Professor Irsai may be especially recommended, as this clinik is particularly rich in material from this standpoint, and Professor Irsai is exceptionally liberal in apportioning operations. The daily average of patients is from sixty to seventy. The clinik of Professor Onody is to be recommended for the study of the affections of the nose and the accessory sinuses. His researches along the lines of the anatomy of the sinuses in recent years make his clinik an especially interesting one from this point of view. The material here is somewhat less than in the one mentioned above.

Professor Navratil holds the chair formerly held by Czermak, who, perhaps, in the early days of laryngology did more to advance the science than any one else. Attached to this clinic are twenty-four beds, and the yearly number of in-patients is about 550. The dispensary service numbers about 3,400 patients yearly.

It is not intended in this short article to imply that at last the Mecca for post-graduate work has been found. The author merely wishes to note that for those workers in the field of gynecology and obstetrics in pathology and upon affections of the nose and throat, who, not willing to content themselves with a mere view of the work, but who are anxious to assist or do the work themselves, Budapest will be found to supply a certain want.

English colleagues desiring further information on this subject may confer with D. Louis Cairus, M.B., 2 Overdale Villas, Langside, Glasgow, Scotland, who is, in large measure, responsible for the appearance of this descriptive article, and who likewise, from a more extended experience in Budapest, attaches importance to the opportunities offered there. He will be glad to give to anyone who may wish to study in that city more detailed information relative to residence and work.

## A CASE OF VENEREAL WARTS.

By A. P. STONER, M.D.,
DES MOINES, IOWA.

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From a cursory examination of the literature at my command, I am impressed with the opinion that a case such as I am about to report possesses sufficient interest to entitle it to brief mention.

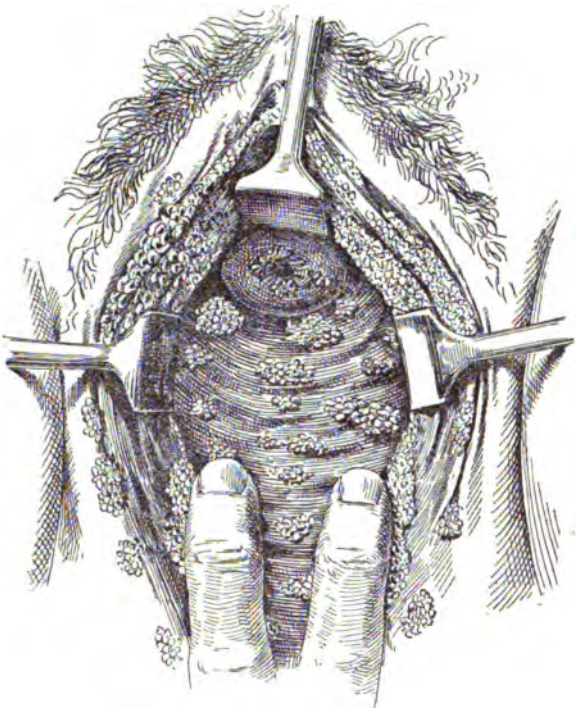
In January, 1901, May H., age eighteen, a domestic, consulted me relative to a discharge and a warty growth upon the external genitalia. Examination revealed a recent attack of gonorrhœa. The discharge from the vagina and urethra was profuse, and numerous condylomata studded the surface of the vulva and a large mass occupied a site adjacent to the anus.

Antiseptic douches were ordered, and on the following day, with local anæsthesia, the warts were removed and their bases cauterized. The douches were continued twice daily, and the parts kept clean and dusted with an antiseptic powder. However, in spite of this care the warts persistently returned. Upon removing them for the second time and they returning, I was led to make a thorough vaginal examination, when I discovered that the vaginal walls were studded with the growths.

The patient then entered Mercy Hospital, and on February 18 the growths were removed and their bases cauterized under ether anæsthesia. The accompanying cut drawn from a photograph shows the condition before the last operation.

Several condylomata occupied the cervix. Speedy work was prevented by hemorrhage, as it was difficult to operate on those situated high up under a continuous stream. So extensive was the involvement of the labia that much of them had to be sacrificed with the removal of the growths. The canal was loosely packed with gauze and a douche of antiseptic solution was used twice daily. The patient left the hospital in a week, since which time I have not seen her.

According to Unna, condylomata should be distinguished from true papillomata, inasmuch as there is not any independent growth of the papilla in condylomata but only an increase of their size from infiltration with leucocytes. The infolding of the epithelium upon the papilla produces the increase in number of the latter; thus the papillæ are



secondarily altered by proliferating epithelium. When condylomata appear upon the mucous membrane of the vulva they usually extend by serpiginous process, or they may appear discretely upon the adjacent integument. It is unusual for them to extend internally within the neighboring organs, but cases are reported of the involvement of the rectum, urethra, vagina, etc., rendering their destruction necessary before a cure can be accomplished.

## CIRCUMCISION IN INFANCY.

By WM. B. HARLOW, M.D.,
KIBBE, CONN.

THE practice of circumcising infants has of late come into some favor. As a Jewish rite handed down from remote antiquity of course nothing can be said against it. It is as sacred to the Hebrews as baptism is among the Christians. Both ceremonies deserve to be respected. But as a medical practice what are the arguments in favor of infant circumcision? The delicate surface of the corona of the glans is provided with innumerable nerve papillæ of exquisite sensitiveness. Nature has provided a careful protection to this surface—the double flap of foreskin which is common to male animals of the higher as well as the lower species. Why should this be torn or cut away? There are rare instances, it is contended, in which phimosis or inability to move the foreskin at will might in adults cause inconvenience and also tend to produce epithelioma or surface cancer. Yet it is known to be the case that connection has been complete when this temporary removal of the foreskin does not take place. A mother was told by her physician to draw down the foreskin when bathing her infant boy and wash beneath it. She was distressed because the prepuce would not pass over the corona and was then told that the child should be circumcised at once. It is not intended by nature that the generative organs of an immature child should thus be tampered with. What surer way to cause premature excitement, susceptible as some are even in extreme youth to any manipulation of the organs? That unwise adviser of the mother might as well have told her to lift up the eyelids of her child and wash the sensitive mucous membrane that lines them or to syringe out the ears when no foreign substance had irritated them. There is no possibility of any irritating collections occurring beneath the prepuce until maturity, and not then until the semen has been called out and allowed to set back under the skin. It has been asserted that circumcision will prevent self-abuse. How untrue this is may be known by the fact that erections may be produced as readily without the foreskin as with it, and boys who are inclined to the habit of course may produce the desired sensation by manipulating other parts of the organ as well as the prepuce.

The foreskin of infants as well as of adults who have remained continent usually extends beyond the corona, and is not only a nice protection from injury but a guard against many excitements of the organ.

Circumcision produces an ugly mutilation of the penis, of which one arrived at man's estate, unless he were a Hebrew, might feel greatly ashamed. It would be cruel to inflict unnecessarily such a mutilation upon a helpless child. The statue of a Greek with such a deformity upon it would be turned from with loathing. Let the operation be performed only upon adults, with their own consent, and when it is a necessity.

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**Rabies in London.**—Every reported or suspected case of rabies in London is inquired into and a necropsy made by one of the council's veterinary inspectors. Whenever the inspector is of opinion that the dog was rabid, or in the event of any person or animal having been bitten by a suspected rabid dog, a further examination is made on behalf of the council at the Royal Veterinary College, or the Brown Animal Sanitary Institute. During the past year necropsies have been made in twenty-eight suspected cases, in eight of which further experiments were conducted, but in no case was any evidence of rabies found.—*British Medical Journal.*

**The Use of Opium in the Carditis of Children.**—Alexander Morison holds that among calmative agents there is none more powerful than opium, when there is no idiosyncratic intolerance of the drug, and when it is used with due care in children, in view of this special susceptibility to its action. The younger the patient, naturally the greater is the care necessary in its use, but even young children when excited locally and generally by an actively irritative process, can tolerate larger doses than in normal circumstances. Indeed the physiological consequences of inflammatory reaction resemble, in a measure, the phenomena caused by agents known to be antagonistic to the action of opium. The quick pulse, the dilated pupil, the suffused skin, the uneasy sleep, or even wakefulness and delirium of the carditic child, may be likened to the poisonous effects of the belladonna group of agencies. It is under these circumstances that opium finds its most beneficial application. In carditis, the author holds that the mechanism by which some of the measures used tend to save life is by their action on the cardiac nervous system, that they are avowedly directed against effects not a primary cause, and that although they may not directly affect the course of an inflammation (a point not proved), they may maintain life until the conflagration has burned out, or the protective processes of the body eliminated the intruding cause of the disease. Among such measures the author would give a prominent place to opium.—*The Edinburgh Medical Journal.*

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## PERIODICITY OF DIPHTHERIA AND ITS CAUSES.

IN a pamphlet on "die Periodizität der Diphtherie und ihre Ursachen" (Berlin, 1903), Dr. Adolf Gottstein discusses the factors which determine the form of the curve of diphtheria epidemics. Of recent years almost all study of infectious diseases has been from the bacteriological standpoint, which, while excellent enough, has, nevertheless, its limitations; and there are some questions for the solution of which it is not suited and for which recourse must be had to older methods. In epidemiology the need for the employment of accurate quantitative methods is insisted upon. The author's deductions are based upon the mortality statistics of several of the German states. His studies show that the curves showing the ravages of epidemics in general are dependent for their form upon the interaction of several factors, all of which are to be determined empirically. The first (*a*) represents the average number of individuals exposed to the contagium generated by one patient during the whole period of contagiousness. The second (*c*) represents the percentage of non-immunes so exposed, who actually develop the disease. And the third factor which affects the form of the curve, is the length of time which a patient remains capable of infecting his environment. Even when each patient is in a position to offer contagium to more than one individual (that is, when *a* is greater than 1), the epidemic does not necessarily increase, as it is only when the product *ac* is greater than 1 that it must do so. Both of these factors are, it will be noted, symbols of very real conditions, and they afford some indications for sanitary measures. Thus when *a* is very large and *c* very small, emphasis should be laid upon measures tending to combat individual susceptibility; whereas under reverse conditions measures directed toward destruction of the contagium offer better promise. Applying the above factors to the explanation of the curve exhibited by measles, we find that in this disease *c* is almost equal to 1, more than 95 per cent. of exposed non-immunes contracting the disease. This fact, taken in connection with the short period of incubation (that is, the rapid rise of contagiousness), shows that the disease must grow into an epidemic, provided only that each patient is in a position to offer contagium to one (or a little more than one) individual on the average. In other words, the measles curve must show, as it does, a rapid, sharp rise; and, as the available non-immune fuel must be soon exhausted, the descent must be almost as sharp. And the periodicity of the principal waves find their explanation in the mode of transmission, the seven-year-old school recruits usually being the first attacked, and carrying the disease into the home where the younger children are infected, and thus rendered immune. Whence a cessation till a new non-immune infant population appears.

The question with regard to diphtheria is, however, quite different. A study of the diphtheria epidemics of the last three centuries has brought to light this peculiarity, that for several decades the disease recedes completely; so completely as practically to be for both profession and laity an unknown disease. Then, very gradually, at first sporadically and in small areas, it makes its reappeareance and is recognized only by physicians familiar with medical history. Then very rapidly, but with recessions and new advances, it increases, and somewhere in the second decade reaches an extremely high point and constitutes a fearful scourge for childhood. About a decade and a half later the disease decreases, to vanish as completely as before. Kussmaul's anecdote is characteristic. Familiar with diphtheria at Paris and on the Rhine, he was astonished never to see it postmortem at Vienna in 1847, where the prosecutor explained the disease as a French invention. A little more than a decade later diphtheria invaded Germany, and thirty years later numbered its victims by tens of thousands. Analyzing now the curves representing the mortality from diphtheria, they are shown to present a chief high wave, preceded and followed by one or more waves of secondary magnitude. The chief wave corresponds, of course, to the height of the epidemic. But the author's analysis reveals the extremely interesting and important fact that whereas the crest of this wave represents approximately an equality of mortality as regards the different ages of childhood, the waves of the second magnitude show a sharp difference; those preceding the chief wave representing predominantly a mortality of the youngest children, while those succeeding the chief wave represent predominantly a mortality of the older children. This is, however, not all. These older children, who contribute so largely to the mortality denoted by the secondary waves succeeding the chief wave, are children whose years of birth correspond to those of the younger children whose mortality furnished the bulk of that denoted by the secondary waves preceding the chief wave. From these facts we begin to get a clue to the true meaning of the peculiarities in the periodicity of diphtheria epidemiology. For we see that the mortality of the youngest children (first comers of the comparatively immune generation) has already reached and passed its maximum and sunk again to a comparatively low ebb, at a time when the total mortality for all ages is still exceedingly high. Since it is a disease, one attack of which does not protect against subsequent attacks, the explanation of the peculiarities of the diphtheria curve is, remembering the above facts, now to be sought in the biological field, namely, in the direction of an alternation of a comparatively non-immune generation with a comparatively immune generation; the latter being the offspring of parents who have withstood the ravages of the disease; in other words, of a generation comparatively destitute of susceptible individuals, owing to a continuous,

progressive, and fairly thorough weeding out of the susceptibles before the period of puberty.

That such a progressive weeding out process has been in operation upon the human race is shown by statistics. Thus in one of the worst epidemics, the Hamburg cholera epidemic of 1892, though in all probability a majority of the population was in contact with the contagium, only 3 per cent. contracted the disease. And with diphtheria, at the height of the epidemic, the most susceptible generation does not lose more than about 5 per cent. of its members under the age of five. At least 90 to 95 per cent. (and under favorable circumstances as high as 98 per cent.) of all children possess an inborn immunity against diphtheria; an immunity of so high a grade that they are able to stand without danger to life (and often without the development of symptoms) exposure to its contagium, an exposure which the author has proven to occur at least two or three times before the age of ten. While this may seem surprising, in reality it is not so exceptional. For, to compare again one of the worst epidemics, the Hamburg cholera epidemic of 1892, though it was probable that a majority of the population there was brought into contact with the contagium, only 3 per cent. actually developed the disease, and only 1.5 per cent. died. Great differences exist in the susceptibility of different individuals toward diphtheria, as both Eigenbrodt and Gottstein have shown. Moreover, a sharp line is to be drawn between acquired and inherited immunity. Thus the immunity against measles, smallpox, etc., acquired as the result of an attack, is never transmitted to the offspring, who are just as susceptible as their parents were. The reverse is, however, the case with inborn immunity. This is carried over, as a race trait, to the offspring. The gradual reappearance of a generation susceptible to diphtheria comes about through the fact that marriage qualifications bear no relation to immuneness (the members of the most susceptible families inter-breeding with those of less susceptible ones), and to a partial intermixture of the alternate generations through the somewhat earlier marriage age of the females.

We thus reach the conclusion that the periodicity of diphtheria is due not to variations in the virulence of the contagium, but to fluctuations in the susceptibility of the human organism. Our analysis further shows that besides the process pointed out by Hoppe, by which saprophytes gradually become true parasites, we must recognize the co-existence of the contrary change by which (through continued symbiosis, accompanied by a progressive weeding out of the more susceptible individual hosts), some of our parasites must come to be harmless to the surviving insusceptibles. And with regard to some microorganisms, indeed, we would appear to have almost reached that stage. Thus the colon bacillus, streptococci and staphylococci, and the pneumococcus live without producing disease on our mucous membranes, and involve grave consequences only when, under special conditions, the resisting power of the organism is lowered. Even then they no longer produce epidemics, but only diseases which are limited solely by the reactive power of the organism. Toward Löffler's bacillus this process of adaptation has proceeded so far that over nine-tenths of the human race are born into the world with the needed immunity.

## PRIVILEGED MEDICAL COMMUNICATIONS.

THE *Boston Medical and Surgical Journal* of September 3 contains three well-written and instructive articles dealing with the above subject. The first is contributed by Dr. David W. Cheever of Boston. "The highest legal authorities in England," says the writer, "have decided that medical men enjoy no special privilege with regard to secrets of a professional nature. In other words, no practitioner can claim exemption from answering a question because the answer may or would involve a violation of secrecy, or even implicate the character of his patient." The law of Massachusetts closely follows the English law, as do all the New England States, as well as Alabama, Delaware, Florida, Georgia, Mississippi, North Carolina, New Jersey, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

New York State, however, is entirely different in the legal limitations it places upon the evidence of a medical witness, for its law reads as follows: "No person duly authorized to practise physic and surgery shall be allowed to disclose any information which he acquired in attending a patient in a professional capacity." This law was subsequently amended so as to allow a physician to testify, in cases of wills, as to the mental or physical condition of the deceased, except confidential communications and such as might disgrace the memory of the patient. Twenty-two States follow New York, while as to the remaining States, the writer is not certain with regard to the law respecting the question. Dr. Cheever points out that the English law places a medical witness in an anomalous and cruel position. The law lays down the dictum, that a medical man when cross-examined in a court of law is bound to answer any questions which may be asked concerning his patient, and every instinct of honor, propriety, and decency forbids him to follow such a course. The writer proposes, in order to reconcile these difficulties, that "It shall be considered unprofessional for a physician to divulge anything confided to him by a patient, unless (1) with the patient's consent; (2) to defend himself when accused; (3) to expose crime.

The second paper is by Mr. Walter Sorren of Brookline, Mass., who treats of the question from the standpoint of the lawyer, referring solely to the workings of the New York law. It is an elaborate exposition of all the legal niceties involved in the matter, a number of cases on each point being cited, so that the ordinary individual as well as the medical practitioner can form his own opinion as to the working of the law. The article is too long and somewhat too intricate to be more than briefly commented upon here. Nevertheless, it would appear that although the writer considers the existing law of New York State relating to testimony of medical witnesses is by no means perfect, yet he is inclined to doubt whether a new law could be framed which prevented more injustice than is now caused by the present one.

The last paper is by Mr. Frederick J. Stimson of Dedham, Mass., and is entitled "Privileged Communications to Physicians." This writer draws attention to a very important fact, that while the common law of England, followed by so many States in this country as to the testimony of medical witnesses, states that such a witness must answer

any questions with regard to his patient which may be put to him, yet a large discretion is permitted to the judges in their conduct of cross-examinations. Indeed, this discretion is so great, particularly in States where there is no statute, that the judges shape the law.

Mr. Stimson is of the opinion that the common law—interpreted as broadly as it generally is—is, on the whole, preferable to a hard and fast code system. In the common law, he thinks, that the vagueness of discretion left to the judge is possibly of advantage. "Under the Code System," he writes, "nothing is certain that is not in the code. No discretion to be strict or to be lenient can possibly be allowed the judge; and until every sentence, every word, every punctuation mark, has been the subject of a court decision, we cannot be certain of what the law is."

The writer, therefore, deems it wiser to leave the whole matter to the common law, but if any statute is adopted, he would recommend a combination of the laws of Pennsylvania and North Carolina; that is, adopt the Pennsylvania principle that the privilege extends only to civil cases, and this with the exception of the competency of persons making a will, and the very luminous phraseology of the North Carolina Statute, which substantially states the common law—that is, allows the judge to determine when the communication by physicians of knowledge acquired while attending the patient is necessary for a proper administration of justice.

There are, undoubtedly, many forcible points to be brought forward in favor of the common law and of the code system as they relate to medical witnesses. When the judges are well-educated men, thoroughly versed in historical legal education, then the common law is sufficiently effective and, although susceptible of improvement, answers the purpose in a satisfactory manner. On the other hand, if as happens occasionally, the judges are ignorant, and know but little of precedent, the code is better suited to the exigencies of the situation, for the course to be pursued is, to a great extent, marked out, and pitfalls can be more easily avoided by the occupant of the bench.

## THE WORKING OF THE NEW YORK STATE DISPENSARY LAW.

*Charities* of August 29 contains an article by Dr. Stephen Smith, Chairman of the Committee on Dispensaries of the New York State Board of Charities, on the working of the dispensary law. This law was passed in 1899 and sought to regulate the establishment and operation of dispensaries by placing them under the supervision of the State Board of Charities. The statute furnishes a legal definition of what constitutes a dispensary and the procedure under which dispensary licenses may be granted; it directs the formulation of rules and regulations by this board in accordance with which dispensaries shall furnish, and applicants receive, medical relief and medicine; it provides for visitation and inspection by the State, the revocation of licenses for cause and penalties for failure to observe the rules and regulations.

Dr. Smith presents statistics showing the number of dispensaries that have been licensed within the State, the attendance of applicants at the licensed dispensaries and a comparison with statistics obtained in former years.

During the year ending September 30, 1902, five new dispensaries were licensed in New York City, and three new dispensaries located elsewhere in the State were also licensed. Two dispensaries discontinued dispensary work during the year in Greater New York, and three elsewhere in the State.

On September 30, 1901, there were 92 dispensaries in Greater New York and 28 elsewhere in the State, and on September 30, 1902, the number of dispensaries in Greater New York had been increased to 95, and 28 were located elsewhere in the State.

The number of persons treated for the year ending September 30, 1901, was, in Greater New York, 871,783, and for the year ending September 30, 1902, 889,157. The number of persons treated during the same periods outside of New York City was 34,577 and 27,881 respectively, making a grand total for the entire State, in 1901, of 906,360 and in 1902, of 917,038.

Statistics show that the movement of population at dispensaries exhibit a marked tendency toward Manhattan borough. The explanation of this preference for Manhattan on the part of those who seek medical aid at dispensaries, is that the majority of the large hospitals and medical school dispensaries are in that borough, and because the large medical schools create a demand for material for clinical instruction.

It is interesting to note that a considerable proportion of the increase of cases treated at dispensaries during the past year in New York City can be traced to the prevalence of eye affections. So ripe was trachoma among school children, that it was found necessary to open a special dispensary in Manhattan borough to stamp out the epidemic.

One rule which is more or less disregarded in the management of dispensaries is that which orders an investigation to be made of every applicant's financial position, whether he or she is able to pay either personally or by parent or guardian. When, however, it is understood that 90 per cent. of the applicants pay an "entrance fee" while some institutions make a uniform charge ranging from ten cents to twenty-five cents, there is less cause for surprise at the laxity shown in investigating the ability of the applicants to pay a reasonable fee.

Dr. Smith very rightly criticises adversely these methods, first on the grounds that the value of professional medical attendance is thereby unduly cheapened, and secondly because the charge made prevents the institution from refusing its benefits to persons who in reality are able to pay considerably larger fees for the service rendered or employ a private physician.

On the whole, the writer is of the opinion that the New York State Dispensary law has proved effective and has fulfilled in a satisfactory manner the objects for which it was created.

**An Early English Apothecary.**—Anderson, in the "History of Commerce," 1319, states that King Edward III, in the year 1345, gave a pension of sixpence a day to Coursus de Gaugeland, an apothecary of London, for taking care of and attending His Majesty during his illness in Scotland, this being the first mention of an apothecary in the Fœdera.—*National Druggist.*

### Ferrous Sulphate as an Antiseptic and Germicide.

Bulletin 15, issued from the Hygienic Laboratory of the Public Health and Marine-Hospital Service, is by Assistant-Surgeon Allan J. McLaughlin, and treats of the antiseptic and germicidal properties of ferrous sulphate. This chemical substance has long been extensively used for the disinfection of animal excreta, chiefly on account of its cheapness and ease of application. The writers upon the subject, according to Dr. McLaughlin, are few in number, and by no means agreed as to the value of ferrous sulphate as a disinfectant and deodorant. The majority, however, give it but faint praise. Sternberg found that a solution of 20 per cent. failed to destroy micrococci and putrefactive bacteria. Later he found that 10 per cent. failed to kill pus cocci, but was fatal to micrococcus tetragenus after two hours' exposure. He also found that a solution of 1:200 prevented the development of micrococci and of putrefactive bacteria in bouillon placed in the incubator for forty-eight hours. Koch found that a 5-per-cent. solution failed to destroy anthrax spores in six days. Foote found, as a result of a series of experiments, that the substance was of little use as a means of disinfecting fæces. McLaughlin carried out a series of experiments in order to test the antiseptic and germicidal efficiency of ferrous sulphate, and arrived at the following conclusions: "Sulphate of iron does not show any restraining influence over the development of putrefactive changes unless it constitutes more than 2 per cent. of the mixture. It does not permanently restrain the development of putrefactive changes unless it constitutes at least 5 per cent. of the mixture. As a germicide it has little or no action, even when applied under the most favorable conditions for disinfection." Tested upon fæces it failed to disinfect after three days, although intimately mixed with the fæces, and applied in saturated solution and in double the bulk of the material to be disinfected. It seems, therefore, that copperas or sulphate of iron is of no real value as a disinfectant. The strongest solution has either no disinfectant action at all, or its disinfectant action is so slow and uncertain that its demonstration might be a matter of interest, but certainly could not be of practical value.

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### The Operative Treatment of, and the Mortality from, Chronic Pancreatitis.

During the past few years much has been learned concerning chronic pancreatitis. Dr. W. Hale White, writing in the *British Medical Journal*, July 18, says that the most common form of this disease, is an enlargement and induration of the pancreas, such as is constantly seen in a nutmeg liver, or in the large tough kidney associated with cardiac disease. Mr. Mayo Robson—as he mentions in the address in Surgery delivered before the British Medical Association this year—was the first to draw attention to the fact that many cases described as cancer of the head of the pancreas, and leading to chronic jaundice, which ended fatally, were really cases of chronic pancreatitis that could be cured by draining the pancreatic duct indirectly through the bile passages.

Dr. Hale White, however, records a case of chronic pancreatitis which, in his opinion, teaches that an operation probably, and diverting the bile from its normal tract certainly, are not always necessary; and, secondly, which shows that chronic pancreatitis is rarely fatal. The case in question was diagnosed as carcinoma of the head of the pancreas and an operation was decided upon. The abdomen was opened and the head of the pancreas was found to be so large and hard, that—as this was considered to indicate that the patient was suffering from carcinoma of the head of the organ, the abdomen was closed. The bile passages were not drained in any part. The operation took place in July, 1901, and in June of this year the man operated upon reported that he was in excellent health. This instance, thinks Dr. White, suggests that in some cases operation has been performed unnecessarily. As to the point whether chronic pancreatitis is often fatal, the author, from a close and careful study of the post-mortem records of Guy's Hospital, from 1861 to 1901, in which period 1,900 necropsies were made, has come to the conclusion that chronic pancreatitis is very rarely a fatal disease. "Probably," he says, "not being responsible for more than one or two out of nineteen thousand deaths, and certainly not being responsible for more than four."

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### Calomel in Tuberculosis.

In the *Wiener medicinische Wochenschrift*, Nos. 7-10, Dr. Martell speaks highly of the value of calomel in the treatment of incipient tuberculosis. Treatment against a specific microbe, with its specific localization, must be specific and antitoxic, and the elective action of mercury toward the glands, its incitant action on the tissue cells, and its power of combining with metabolic toxic products, qualify it for this rôle. Mercury is no specific against tuberculosis, but it stimulates the biochemism of the infected territories to a higher grade of activity. The fittest preparation is calomel. The indications are the removal of the vasomotor paralysis, the fixing of the poisonous metabolic products, and the fluidification, and ultimately the elimination of the morbid substances. After the administration of calomel we see from day to day a progressive increase in the secretion from the lungs and the intestine. At the beginning the dose should be 0.01 (gr. $\frac{1}{6}$), increased to three powders each of 0.02 (gr. $\frac{1}{3}$), or even more should constipation be present, returning to two or three powders when regularity in defecation is established. With the internal administration, inunctions are to be begun, each inunction being preceded by a washing of the skin with tincture of green soap. The mouth must, of course, be carefully washed, and upon the least painfulness washed with corrosive sublimate 0.02, alcohol 50, aquæ melissæ 500. From about the fifth day of treatment the tuberculous matters appear in the stools in the form of slimy, fibrinous or purulent, yeasty, and foul smelling masses, whose excretion in women is accompanied by a fetid, yellow purulent discharge from the genitals; necessitating rest in bed, or at least absolute rest from exertion. Children with a strong hereditary taint, especially if the brothers or sisters have been tuberculous, should be subjected to the calomel treatment (0.003, or gr. $\frac{1}{20}$ three times a day) by way of precaution; the treatment being continued until the dejections are absolutely free from foul odor and mucopurulent admixture. Children bear the treatment well, and the author believes that he has saved many by it from certain death.

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### Salt Solution Enemata after Renal Operations.

In the *Maryland Medical Journal*, August, attention is drawn to this subject. The fact is pointed out that in the Johns Hopkins Hospital Reports for August, 1898, was published the result of a series of experiments designed to determine the effect of enemata of salt solution upon the specific gravity of

urine. The outcome of these experiments demonstrated the marked diuretic value of salt-solution enemata, and suggested that it would furnish a valuable method of flushing out the kidneys, in conditions in which such flushing out is of prime importance. Nephrectomy, nephrotomy, and nephropexy are among the most important of these conditions, but the method it was thought might be used with success in all operations in which ether was the anæsthetic, and in which a diminution in urinary secretion existed. The writer of the article goes on to say that, as a result of these observations, it has been the custom at Dr. Kelly's private hospital to carry out the following regimen in all cases, in which the kidney has been operated upon: one pint or more of salt solution is administered by rectum every six, eight, or twelve hours, according to the necessity of the case, for a number of days after operation. In the six cases of nephrectomy, and the twelve or more of nephropexy in which this procedure has been carried out the secretion of urine has been very free, very often even larger quantities than normal being passed. Besides this, it was noteworthy that the convalescence of these patients was much more comfortable than in the usual run of renal patients, the nausea and headache especially being markedly diminished. When the kidney has not been operated upon directly, but when ether is used and there is a diminution in urinary secretion, there is no need to give the enemata so frequently. The article concludes by insisting upon the great value of the systematic use of salt-solution enemata at frequent intervals not only in cases in which operation upon the kidney has been performed, but also in all cases in which ether, an anæsthetic peculiarly irritating to the kidneys, has been used, and even in a large number of medical cases in which it is essential to promote diuresis rapidly and effectively.

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### Ship-bred Mosquitos.

Although few men accustomed to weigh evidence and not blinded by prejudice now doubt the agency of mosquitos in the propagation of malaria and of yellow fever, there are still some facts alleged by objectors to this doctrine which are not easy of explanation. One of these is the occurrence of ship epidemics of yellow fever after seemingly thorough disinfection and before the vessel has again entered an infected port. An interesting fact which might serve to account for some such cases is related by Dr. Andrew Balfour of Khartoum in the *Journal of Tropical Medicine* for August 15, 1903. He says that while searching for specimens of mosquitos he was led to inspect the steamers which ply on the Blue Nile and the White Nile and which are perfect hotbeds of these insects. The reason for their presence in such numbers was soon apparent, for he found the bilge water swarming with larvæ, which in some cases were present even in the oily water standing in the engine rooms. These larvæ were of two species of *Stegomyia*, and there were no larvæ of *Anopheles*, although that mosquito is a frequent passenger on the boats. The yellow-fever mosquito, it appears, is a less fastidious breeder than the malarial, and its larvæ will flourish in filthy water which would be fatal to the young of *Anopheles*. Measures are to be taken to rid the steamers of their mosquitos, but evidently fumigation alone will not accomplish this object, since some at least of the larvæ in the bilge would probably survive the process. In that case, assuming that the female imago can transmit the parasite, whatever it may be, to the offspring, it is evident that simple fumigation could not absolutely free an infected ship of its disease-bearing stowaways.

## News of the Week.

**State Board of Medical Examiners of New Jersey.**—The regular examination of the State Board of Medical Examiners of New Jersey will be held at Trenton, N. J., on Tuesday, Tuesday evening, and Wednesday, October 20-21. Application for admission to this examination should be made before October 10. Applicants must possess a high-school diploma issued after four years of study, or its equivalent as determined by the State Superintendent of Public Instruction, and must have had four courses of medical lectures of seven months each in different years.

**Civil-service Examinations.**—The State Civil Service Commission has called examinations to be held October 17, 1903, for the positions of apothecary, trained nurse, physician (male) and woman physician in State hospitals and charitable institutions. Application for these examinations must be made on or before October 12. Full particulars of the examinations and blank applications may be obtained by addressing the Chief Examiner of the Commission at Albany.

**The Henry Phipps Institute** for the study, treatment, and prevention of tuberculosis has arranged for the coming fall and winter a series of lectures by well-known physicians on the various phases of tuberculosis. Some of these lectures will be more or less popular in character, and all will be free to the public. The auditorium of the Witherspoon Hall at Juniper and Walnut streets, Philadelphia, has been selected for the purpose, having a seating capacity of nearly twelve hundred people. The first of these lectures will be given by Dr. E. L. Trudeau of Saranac Lake, New York, during the last week in October, his subject being "The History of the Development of the Tuberculosis Work at Saranac Lake." The following gentlemen have been invited to give the subsequent lectures: Dr. Pannwitz of Germany, in November; Dr. William Osler of Baltimore, in December; Dr. Calmette, Director of the Pasteur Institute at Lille, France, in January; Dr. Herman M. Biggs of New York, in February, and Dr. Maragliano of Italy, in March. All of them have accepted with the exception of Dr. Calmette, who will come if it is possible for him to leave his work in connection with his institute and the International Congress on Tuberculosis to be held in Paris in 1904. Subjects and exact dates will be announced as soon as possible. The director and members of the staff of the Henry Phipps Institute extend a most cordial invitation to the profession in general to attend these lectures. It is greatly desired that this inaugural series of lectures given by these gentlemen will prove a success and be largely attended. The following additions to the staff of the Henry Phipps Institute have been made: Dr. M. P. Ravenel has been appointed Assistant Medical Director and Chief of the Laboratory; Dr. E. A. Shumway has been appointed Ophthalmologist, and Dr. J. F. Wallis has been appointed Dermatologist. The Medical Director of the Institute is Dr. Lawrence F. Flick.

**The Cumberland Valley Medical Association.**—The physicians of Cumberland Valley, including Cumberland and Franklin Counties in Pennsylvania, and Washington County in Maryland, met at Mont Alto, Pa., on September 8, and organized the Cumberland Valley Medical Association. The membership is limited to members of the County Medical Societies of the territory involved, which includes the Cumberland Valley lying between the Susquehanna and Potomac Rivers. The follow-

ing officers were elected: *President*, Dr. Robert W. Ramsay; *First Vice-President*, Dr. James Evelyn Pilcher; *Second Vice-President*, Dr. T. H. Weagley; *Third Vice-President*, Dr. J. W. Humrichouse; *Secretary*, Dr. J. J. Coffman; *Assistant Secretaries*, Drs. A. R. Allen, P. B. Montgomery, and C. R. Miller; *Treasurer*, Dr. J. H. Montgomery.

**Vital Statistics of Philadelphia.**—For the week ended September 9 there were reported to the Philadelphia Bureau of Health 82 cases of typhoid fever with 10 deaths, as compared with 135 cases and 9 deaths for the preceding week. There were also 61 cases of diphtheria with 8 deaths, 57 cases of scarlet fever with 6 deaths, and 7 cases of smallpox with 1 death. The total number of deaths was 418, as compared with 370 for the previous week and with 346 for the corresponding week of the preceding year.

**Typhoid Fever Transmitted by Milk.**—An investigation made under the auspices of the Philadelphia Bureau of Health has shown that of seventy-eight cases of typhoid fever in one ward, forty-one occurred among persons who obtained their milk from a single dealer in whose family there were cases of the same disease. Other cases occurred in the customers of another milkman, in whose family also there had been typhoid fever. In both instances the sale of milk was stopped, and a process of general cleaning and disinfection instituted. Other hygienic deficiencies were found, but it was definitely shown that there was no relation whatever between the disease and the filtered water.

**Teaching of Dental Pathology in Medical Schools.**—At the recent meeting of the National Dental Association, held at Asheville, N. C., a resolution was adopted stating "That it is the sense of the National Dental Association that each medical college in the United States should include in its curriculum a lectureship on Oral Hygiene, Prophylaxis, and Dental Pathology." In support of this resolution it is urged that, with the introduction of the teaching of oral hygiene in the public schools, which the Dental Association is striving to accomplish, and the coöperation of medical men who have been specially instructed on this subject, a great stride will have been made toward the prevention of caries of the teeth, not to mention the betterment of the general health which would surely follow an intelligent care of the oral cavity.

**Another Startling Announcement from Chicago.**—The University of Chicago is always pregnant with great facts, and from time to time gives newspaper birth to them. From it have come spontaneous generation, a half promise of corporeal immortality, a cure for tetanus, various other less portentous disclosures, and latest, but we trust not last, is a recipe for bigness. According to the Associated Press report, the usual medium for giving these discoveries to an anxious world, "the age of the race of giants is about to be ushered in again. Henceforth there will be no pigmies, for a wonderful food substance has been discovered in Chicago that makes men and animals grow fast and large. The new food is lecithin. Its qualities have just been demonstrated by a series of experiments by Dr. Shinkishi Hatai, professor of neurology at the University of Chicago. Dr. Hatai experimented with white rats, and by feeding them lecithin made them grow 60 per cent. faster than they grow ordinarily. This was under conditions of atmosphere and general surroundings that were unfavorable. The scientific men say that lecithin will have a similar effect on human beings." The report adds that the professor finds that the growth induced by lecithin is normal and embraces all parts, inducing bigness of heart and of body as well as of head—a most comforting assurance.

**A Trachoma Hospital.**—The Commissioner of Health has decided to establish a hospital for the exclusive treatment of sufferers from trachoma. A large house in the Borough of The Bronx has been remodeled for this purpose, and will be opened as soon as an appropriation to cover the cost of equipment and the salaries of the staff can be secured. At present trachoma patients are being treated at the old Gouverneur Hospital by a staff of physicians and nurses provided by the Board of Health. The number of patients treated there is between 400 and 500 a day.

**Cornerstone of St. Mary's Hospital Laid.**—The cornerstone of the new building for St. Mary's Hospital in Jamaica, Borough of Queens, was laid last Sunday afternoon by the Very Rev. Mgr. McNamarra, Vicar General of the Diocese of Brooklyn. The hospital building when completed will accommodate about 300 patients. The institution, which now has rather cramped quarters, is conducted by the Little Sisters of the Order of St. Dominic.

**The International Congress of Hygiene and Demography** was held in Brussels September 1–8 under the presidency of M. Beco. An animated discussion on the subject of the relation of human and bovine tuberculosis took place, and the conclusion was arrived at that no precautions should be relaxed to safeguard human beings against any possible contagion. A resolution put by Sir Patrick Manson urging all Governments to take steps to recognize the mosquito malarial theory, and to enforce its adoption, was carried. A discussion on the plague was held, and a resolution was passed that the conditions of quarantine against the disease should be improved. The next congress will meet in Berlin in 1907.

**Spitters Punished.**—On one day last week the New York City sanitary officers who had been detailed to look for violations of the anti-spitting law arrested eight men for expectorating on the platforms of the elevated stations as well as on the floors of the elevated cars. Four of the delinquents were fined from one to three dollars each.

**School Children Excluded for Medical Reasons.**—As a result of the medical inpection of children of the public schools in this city, on the opening day last week, one hundred children have been excluded from the schools by order of the Board of Health. Of these thirty-five were suffering from trachoma, sixteen from conjunctivitis, fifteen from parasitic diseases, three from skin diseases, and one from tonsillitis. They are under the care of nurses provided by the city.

**Nazarene Nurses.**—A Catholic women's association in Brooklyn has organized a class for what they term "Nazarene nurses," which began last Monday to train mission workers to care for the sick poor of Greater New York. This course is not intended to produce registered trained nurses, but merely to teach the rudiments of the art of caring for the sick in order that the settlement workers and missionary assistants may be enabled to aid the physicians in their work among the destitute sick. The course will comprise ten weeks of study.

**For the Reëstablishment of the Army Canteen.**—Brig.-Gen. Frank D. Baldwin, commanding the Department of the Colorado, in his annual report urges the reëstablishment of the army canteen under proper restrictions. He says: "I have been deeply impressed by the very marked differ-

ence in discipline and general contentment among the enlisted men since the abolition of the canteen feature of the post exchange. If men are unable to get a glass of beer in a decent and orderly manner in the garrison, they will resort to the vile brothels which cluster around the borders of the reservation, where they drink all manner of alcoholic beverages and often sink into debauchery and ruin." Gen. Frederick D. Grant of the Department of Texas has also borne testimony to the same fact in his annual report, from which we quoted in a recent issue.

**Dr. Morris Bailey** of Titusville, Pa., lately celebated his eighty-fifth birthday, says the *New York Times*, and especially marked the day by erasing from his books accounts extending over half a century and aggregating about $42,000. He still has some $10,000 "hard to collect" accounts, and may some day settle these in the same way. But paying patients, we are pleased to learn, have supplied him with a competency.

**Gift to an Eye and Ear Infirmary.**—The Newark Charitable Eye and Ear Infirmary is to have new quarters in a building to be erected on Central avenue, between Washington and Plane streets. The infirmary association has purchased the land, and one of its members, who will not permit his name to be made public, has given $50,000 toward the erection of a fireproof building, for which plans have been made.

**Disease in the Philippines.**—One hundred cases of bubonic plague were recently reported in Tondo, the most northern and most populous suburban district of Manila. Of these, eighty had a fatal termination. Twelve cases, with nine deaths, have also been reported from Cebu, in the Province of Visayas. Cholera is prevalent in all parts of the island as the result of an absence of rain.

**Experiments with Food Preservatives.**—Announcement is made of an early resumption of the experiments to determine the effect of various so-called food preservatives upon the human system, which Dr. Wiley, chief chemist of the Department of Agriculture, conducted for several months last winter. The general character of the experiments will be the same as last year. The official report of the experiments conducted from last November until June by Dr. Wiley is now in the hands of Secretary Wilson, but will not be made public until the entire series of experiments is completed.

**A Strenuous Turkish Doctor.**—Dr. Djeved Abdullah Bey, the physician to the Turkish Embassy in Vienna, recently thrashed the Turkish Ambassador, Nedim Bey, whom he accused of sending unfavorable reports concerning him (Djeved) to the Porte, thereby preventing him from securing a better position. The assault took place in the Turkish Embassy in the presence of the Secretaries and a visitor. Dr. Djeved was summarily dismissed, and the bruises which he had inflicted were dressed by a giaour surgeon of the vicinity.

**Bequests to Hospitals.**—The will of the late Dr. Joseph Schnetter, who died last month in Germany, sets aside $40,000, the interest of which is to be paid as an annuity to a family servant. At her death $25,000 of the fund is to go to the German Hospital and $15,000 to Mount Sinai Hospital, to endow beds for women.

**A New Peril in Matrimony.**—A woman physician was arraigned recently in a police court charged with practising medicine without being registered. She produced in court a copy of her registration under her maiden name, and said that when she was married three years ago she did not know that it was necessary to register again under the new name. The magistrate dismissed the complaint, but advised the physician to lose no time in securing a certificate of registration under her married name.

**Cholera in Syria.**—Cholera is reported raging fiercely at Birejik, Syria, a town of 10,000 inhabitants on the left bank of the Euphrates, at the head of navigation.

**A Conflict of Authority in Chicago.**—The Health Commissioner of Chicago is moved to indignation by the action of the Superintendent of Compulsory Education of the School Board in organizing an "emergency corps" to deal with diphtheria among the children of the public schools. In a recent Bulletin of the Health Department, the "physicians of Chicago, school principals and teachers and parents of school children are officially notified that they are not required, either by State law or city ordinance, to report cases of contagious disease, suspected or actual, to any authority except the Contagious Diseases Division of the City Health Department." The Health Commissioner explains that "this public notice is made necessary by a renewal of the efforts of the Superintendent of Compulsory Education of the School Board to operate an independent health department of his own. His motive is no doubt a laudable one, and if his efforts were guided by a moderate degree of professional intelligence and qualification for the work they might be beneficial instead of detrimental. As it is, they are meddlesome, mischievous, and sensational."

**A Tuberculosis Farm in Colorado.**—On May 21 there was formally opened, about five miles from Denver, what is to be called "The Denver Association Health Farm," the aim of which is to provide a sanitary home with nutritious food and pleasant occupation for persons of small means who are in need of the restorative influence of the Colorado climate. The Association Farm consists of ninety-four acres—a thirty-four acre fruit farm, the gift of Mr. and Mrs. David Brothers, and a sixty acre ranch. The present equipment includes a brick house for office, superintendent's residence, parlor, dining room, kitchens, cellars for one thousand barrels of apples, stable, and a group of cottage tents for the guests of the farm. Only one resident will occupy each tent. The first contribution (of $5.00) to the farm fund was made by Dr. Edward P. George of Hanover, Germany.

**Strange Action of the Alabama Legislature.**—On September 17 a resolution was passed unanimously by both houses of the legislature of Alabama naming the late Dr. Jabez L. M. Curry as one of the two men to represent Alabama in Statuary Hall, in the National Capitol. On the following day the Senate reconsidered this resolution by a vote of 20 to 8, and the House, by a vote of 43 to 11, with similar action. No explanation of this sudden change of mind was given in the press despatches recording the reversal of opinion.

**The Late Dr. Robert Newman.**—At a special meeting of the Faculty of the New York School of Physical Therapeutics, held September 14, 1903, the following resolutions were adopted:

"*Whereas*, Time in his unswerving course, has removed from our midst an associate, knowledge of whom engendered not only respect for his honesty of purpose and indomitable courage of conviction, but personal affection because of the uniform kindly courtesy of his deportment, Therefore be it

"*Resolved*, That the sympathies and condolences of the members of the Faculty of the New York School of Physical Therapeutics, be, and hereby are,

extended to the bereaved family of the late Dr. Robert Newman, and that, in token of the esteem in which they hold his memory, the secretary be instructed to forward a copy of this resolution to his family."

CLARENCE EDWARD SKINNER, M.D.,
President of the Faculty.

HERMANN GRAD, M.D.,
Secretary of the Faculty.

**Obituary Notes.**—Dr. EGBERT GUERNSEY of this city died of bronchopneumonia at his summer home in Fishkill Landing, N. Y., on September 19. He was born at Litchfield, Conn., on July 3, 1823. After passing through Phillips Academy at Andover, Mass., and the Sheffield Scientific School of Yale University, he came to New York and studied under Valentine Mott, receiving his degree from the Medical Department of the New York University in 1846. At first he combined newspaper work with medical practice, and was for a time editor of the *Evening Mirror*, being later one of the founders of the *Brooklyn Times*, of which he was editor for two years, and at the same time city physician of Williamsburg. Dr. Guernsey was a man of strong convictions, and suffered at times through the expression of them. He became a believer in homœopathy, and joined that body, through which action his membership in the regular societies was forfeited. Later in life he strove to broaden the rules of homœopathic practice, and to reconcile the differences of his school with the principles of regular medicine. For this he was expelled from the New York County Homœopathic Medical Society, but was reinstated by the unanimous vote of the members a few years later. Dr. Guernsey was for six years a professor in the New York Homœopathic Medical College, and was one of the founders of the Western Dispensary and the Good Samaritan Hospital and a member of the Staff of the Hahnemann Hospital. He was instrumental in having the inebriate asylum on Ward's Island converted into a general hospital, under the Charities Department, and was one of the originators of the State Hospital for the Insane at Middletown. In 1872 he founded the New York *Medical Times*, of which he has always been the senior editor.

Dr. S. S. H. STOUT died September 18 in Clarendon, Tex., at the age of eighty-two years. He was a native of Tennessee. He served through the war between the States as director of the medical department of the Confederate Army. He was conceded to be the best Latin scholar in Texas. At the graduation exercises of Dallas University last spring he conferred the degrees on the graduates, and made an address entirely in Latin. Dr. Stout was graduated in arts from the University of Nashville in 1842, and in medicine from the University of Pennsylvania in 1848.

Dr. SIDNEY A. CAMPBELL died at West Pittston, Pa., on September 12 at the age of eighty-three years. He was a graduate of Jefferson Medical College in the class of 1849.

Dr. ELY E. JOSSELYN, physician to the Women's Department of the Pennsylvania Hospital for the Insane, died suddenly at Philadelphia on September 13, at the age of fifty-seven years. He was a graduate of the Medical Department of the New York University in 1873, and had been connected with the Pennsylvania Hospital for more than fifteen years.

Dr. J. BECHTEL MINTZER died in Philadelphia on September 18 at the age of forty-nine years. He was graduated from the Medico-Chirurgical College in 1884.

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

THE WAR COMMISSION'S REPORT—VINDICATION OF ARMY MEDICAL DEPARTMENT—LIVERPOOL TROPICAL SCHOOL—ANOTHER EXPEDITION—BRUSSELS CONGRESS—TUBERCULOSIS STATISTICS—THE LATE H. G. CROLY AND DR. SMILES—DISAPPEARANCE OF MISS HICKMAN.

LONDON, September 4, 1903.

THE medical department of the army has good reason to feel satisfied with the report of the Royal Commission on the South-African War. In fact, so far as I can see no other department can compare with it. This report consists of three bulky blue books, over 1,200 pages, and much of it goes to show the inefficiency rampant. In the evidence before the commission I notice that generals and others contradict each other on many points, one of them even, who achieved no distinction himself, going so far as to describe his superior's evidence on some points as "absolutely untrue," and saying some of his statements are "those of a man in a dream."

But my business is not with military matters, and I return to the medical department. This department saw no reason to reopen the inquiry made by that of 1900 into the department, but it brings into prominence the disgraceful fact that the provision made for the medical service was insufficient in time of peace, and yet was expected to suffice for a war. In fact, as Surgeon-General Sir W. Wilson testified, he had not a sufficient number of medical officers supplied for 80,000 men, and they had to take charge of 250,000, scattered over half a continent. Between the War Office and the Treasury lies the terrible responsibility. Lord Roberts testified that the medical service is under greater disabilities than the other departments; it was not prepared for expansion, "but was called upon to provide, within a few months, officers, non-commissioned officers, orderlies, and nurses for an army three or four times the size of that for which its establishment had been estimated as sufficient." Lord Roberts further remarked that but for the outbreak of an epidemic the department might have proved equal to the occasion. But he told the commission that such an outbreak is inevitable in war, and the failure which occurred for a time was not due to inefficiency or want of zeal in the medical men, but to the arduous nature of the military operations and the impossibility of giving precedence to medical supplies on the railway.

With this vindication the medical service may well be content. That it never had a chance of doing more must, as I have said, be charged to the military officials who have for years starved the service so systematically that the medical journals have over and over again predicted just what has occurred. Mr. Broderick has certainly signalized his administration of the War Office by a degree of justice to the medical service which is already bearing good fruit. But that even so energetic a minister will be able to cleanse the augean stable is doubtful, seeing that General Sir R. Butler told the commission plainly that nothing worth doing would be accomplished until "the War Office was abolished as it stands." Sir Redvers gave them a characteristic illustration to this effect. At Ladysmith, by sweeping the colony with telegrams for beds for the hospital, some van loads were obtained and he saw them arrive, but going to the hospital on that day week the sick were still lying on the floor. On investigation he found that the whole week had been consumed by two departments in disputing which should take them on their books and deliver them, while the doctors remained helpless and in despair. So much for red tape. Much more Sir Redvers told about war office management, and when we remember that he had twenty-five years' experience of it, he will be able to criticise its methods. Like every other witness who was asked, he gave flattering testimony to the zeal and energy of the medical officers.

The twelfth expedition of the Liverpool School of Tropical Medicine sails to-day for the Congo. The king of the Belgians contributes to this as the sovereign of the Free State. I feel special interest in this expedition, as I have several friends in Congoland, some of whom will be pleased to assist so far as they may be able. A letter from one recently received states that sleeping-sickness is quite epidemic in some parts. He lately passed through villages which had been desolated by it, but which, two years ago, when he visited them, were free from the disease.

At the Brussels Congress, now sitting, I hear that Drs. Brouardel and Mosny of Paris have a paper in which they commend the example of England *re* Tuberculosis to the French and other governments. In a report by these physicians are the following statistics of the mortality from phthisis in different countries per 10,000 inhabitants: England 13, Belgium, Sweden and Norway 17, Holland

and Italy 18, Switzerland, Denmark and Ireland, 20, Germany 22, France 30, Austria 36, Russia 40. These figures are for the year 1899. From the same correspondent I learn that the French legislature has appointed a committee to visit the sanatoria of Belgium and Germany and compare them with those in France, and that this committee will begin its tour to-day.

Dublin has lost one of her leading surgeons by the death, on the 28th ult., of Mr. H. G. Croly, who had been elected twice successively President of the Royal College of Surgeons in Ireland. He took the F.R.C.S.I. in 1863, and the M.R.C.P. in 1881. At an early stage of his career he taught anatomy at the college school and was elected surgeon to the City of Dublin Hospital. He was a brilliant operator. He kept abreast of the progress of surgery generally, was one of the first to accept the antiseptic system, a constant contributor to the surgical and pathological societies and to the Academy of Medicine after its establishment. He will be much missed at these meetings. He was a J. P. for the country.

Dr. Wm. Smiles died on the 26th ult., aged eighty-seven. He had been retired for some years. He was formerly surgeon to H. M. Prisons, and Physician to St. Pancras Dispensary. He took his M.D. at Edinburgh in 1839, his M.R.C.S. in England in 1861. He had served as V.P. at the Medical Society, and was a corresponding member of the Madrid Academy.

Much excitement has been fomented by the newspapers respecting the mysterious disappearance of Miss Hickman, M.D., who left the Royal Free Hospital the day she arrived to take charge for the house surgeon, and has not been heard of since. Numerous are the guesses made, but there are no facts in favor of any. One naturally thinks of the cases of automatic wandering, but I do not remember of a recorded case lasting so long, for Miss Hickman has been missing above a fortnight.

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## LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

OVERCROWDING IN MANILA—UNHYGIENIC HABITS OF THE CHINESE—THE RIVER POPULATION—CONTROL OF DANGEROUS TRADES—OFFENSIVE TRADES—GRADUAL INCREASE OF SANITARY KNOWLEDGE AMONG THE FILIPINOS

MANILA, August 1, 1903.

AMONG the factors unfavorably affecting the health conditions of Manila, the matter of overcrowding is one of the most important. This condition exists in a dual sense, not only as overcrowding within buildings, but in the crowding together of the buildings within the city on a too restricted area.

The too great crowding together of buildings is the direct result of present totally inadequate means of transportation about the city; it being necessary for the poor classes, whose means are insufficient for the keeping of a horse and carriage or a daily expenditure for carriage hire, to live within a reasonable distance of the place of their employment. In this climate the performance of a fair day's work at heavy labor, in addition to the fatigue of walking any long distance to and fro from the place of employment is not practicable, and in meeting this demand for house space near the center of the city the owners of ground have permitted the latter to be built up far more closely than is compatible with the interests of the public health, and with a greatly increased danger of widely destructive conflagration. At present nothing can be done to remedy this condition, as rents are high, and the number of houses in the city is not sufficient properly to shelter the population. An early improvement may be expected however, when the electric street-car system, the franchise for which has been granted, and the work on which has been inaugurated, shall have been completed. This street-car system, extending to every portion of the city, will render life in the suburbs much more comfortable and economical for the poorer classes, and will enable any place of employment to be reached in a few minutes from any part of the city. As soon as this street-car system is finished, the work of gradually removing the more insanitary habitations from the too congested districts should be begun, and rational sanitary requirements as to a reasonable amount of building space insisted upon. At present, with inflammable and insanitary buildings packed together as they are in some districts, there are too great facilities at hand for widespread destruction of property by fire and the transmission of infectious epidemic disease from house to house.

Overcrowding within habitations assumes a somewhat different sanitary importance, according as this overcrowding occurs in Filipino houses of loose construction and light materials, or in the buildings of solid masonry erected according to Spanish ideas. As the former type of house is built well above the ground on bamboo posts, and there is always ample movement of air currents through the open spaces in the walls and bamboo floor, these houses are always dry, and are ventilated to such an extent that the inmates are practically in the open air. Fortunately, also, these native houses are small and capable of containing relatively few persons, and there is no opportunity to transform them into the barrack type of tenement building seen in low-class houses of solid materials. Overcrowding in these native bamboo and nipa houses affords opportunity for the transmission of communicable disease from one individual to another, but there is not present the influence of foul air, highly contaminated with human impurities, by which the vital resistance of the inmates of such a house is slowly overcome, and they are predisposed to acquire more readily any infectious disease with the germs of which they may come into contact. Further, the well-aired native house is less liable to harbor the germs of infectious disease, as these are constantly exposed to destruction by desiccating air currents and sunlight, and to removal from the habitation by falling through the spaces between the bamboo slats of the floor to the ground below. In houses of this type the matter of cubic air space has no sanitary importance, and the establishment of a minimum per capita floor space is all that is required; thus permitting no excessive number of persons to crowd together, limiting the spread of infectious disease should it break out among them and rendering its transmission to the small domestic groups in other houses less liable to occur.

Conditions quite different from the above obtain in the buildings of solid construction, particularly those of masonry, occupied by the poorer classes, and especially by the Chinese. In these buildings, which are frequently large, the floors of the basement rooms are usually of dirt, but little elevated above the outside ground level, and are foul and damp. Many of the rooms in such houses have no communication directly with the outer air, and can receive light and ventilation only through the door opening into an exterior room. Rooms which are insufficiently lighted are almost invariably found to be uncleanly, and in the presence of darkness, moisture, organic matter, and stagnant air the germs of the infectious diseases to be combated in Manila find conditions most favorable for their existence and development. As this class of houses is located chiefly in the more densely populated districts where rents are high, the poorer class of tenants is practically forced by financial necessity to crowd into dark, damp, and unventilated rooms of a capacity totally inadequate for their numbers. This state of things is highly undesirable, but the lessening of the condition of overcrowding is scarcely practicable until the electric street-car system renders the cheaper rents of more sanitary houses in the suburbs available for the laboring classes. The condition may then be expected to improve to a considerable extent among the Filipinos as a result of rapid transit, which must have a marked influence upon the laws of supply and demand. The Chinese, however, who particularly resort to these insanitary buildings of solid construction appear to have an instinctive tendency toward overcrowding, and to render this even more potent in its effects by carefully closing in, particularly at night when the greatest number of persons are present, even the few existing apertures by which ventilation might be partially accomplished. Without sanitary regulation they would in many cases crowd together under conditions rendering their habitations literally plague spots. Improved transportation facilities will have no effect upon the mode of life of this class of population, and hence the minimum permissible floor space and cubic air space, per capita, should be strictly defined to prevent the evils of overcrowding: The use of mezzanine floors and cubicles, as increasing the liability to overcrowding and intensifying the effects of this condition, should be strictly prohibited for sleeping purposes. At present the sanitary authorities are unable to enforce regulations for the prevention of overcrowding, as in the absence of sufficient houses to afford proper shelter any such action would work great hardship to the poorer classes.

No inconsiderable part of the population of Manila lives in houses which have no street frontage, and can be reached only through narrow alleys or by passing through another house. These houses are frequently mere makeshifts, built of refuse material and cannot be made sanitary in any way. Frequently the very worst specimens of these interior habitations are located behind buildings of good character occupied by a relatively high-grade class of tenants. These interior houses are a cause for much perplexity on the part of the sanitary authorities of the city. As the life of these flimsy habitations is only a few years, they are being condemned and removed as fast as they fall into decay, and rebuilding is either prohibited or else permitted only under such special

conditions as will permit of the carrying out of proper sanitary requirements. A necessary part of the future improvement of the city lies in the removal of these interior houses, which are unquestionably important agents in raising the death rate of Manila.

Questions of much sanitary importance are also raised by the residence of a large portion of the population of the city, probably aggregating some 15,000 souls, upon cascoes, lorchas, launches, and other small vessels plying in the river, esteros, lake, and along the water front. These people, men, women and children, permanently live on the boats upon which they are employed, and are with difficulty kept under proper sanitary supervision by reason of the constant movement of the water craft upon which they are resident. The pollution of the river and esteros by this floating population by excrement and refuse thrown therein, is impossible of prevention, nor can these people be restrained from using such polluted waters for purposes of drinking, cooking laundering, and bathing. A sufficient supply of good water for such purposes is never maintained aboard these boats, and even where an honest effort would be made by some individuals to secure good water for drinking and cooking it frequently happens that the casco or lorcha is made to seek temporary anchorage at parts of the water front and river where water from the city supply is practically unobtainable by reason of the great distance to the nearest pipe line or public fount. Under such conditions, if cholera occurs on board these water crafts and the river becomes infected, it is impossible that the disease should not prevail among this class to a far greater extent than among the rest of the city population. This has been true to a large extent of the cases that have occurred during the present calendar year, when repeated bacteriological tests have shown the sluggish reaches of the river to be infected with cholera; although at the same time the numerous water crafts of the Quartermaster's Department of the Army, which were required to procure and maintain a sufficient supply of distilled water from the military distilling plants had practically no cases of cholera develop on board, though otherwise under the same sanitary conditions. Not only is this large casco and boat population difficult to keep under sanitary control, but it is composed of a less intelligent class of people which chafes under any restrictions and evades them where practicable. Although contacts from cholera are no longer placed under quarantine, and the precautions usually taken consist merely of the removal of the sick and the disinfection of the boat, the latter operation is so distasteful to this boat population that the sick are usually hurried to some place ashore where they are later found by the inspectors; or if such removal was impracticable and the patient had died, the body was in many instances disposed of by being weighted and thrown at night into the river: a procedure which, among a people so imbued with the religious belief of the importance of burial in consecrated soil, shows their repugnance to even the simple sanitary precautions required. Whether the sick person was found on shore or the body was removed from the river, in almost no instance is it possible to ascertain the boat upon which the case of disease developed, and thus the sanitary authorities are unable to seek it out and destroy any infection aboard. Clearly the sanitary questions raised by the existence of this boat population are not readily to be solved To require its removal to the shore for residence would be impracticable, and to send the boats out into the bay for anchorage when not actually in use would be productive of much hardship, financial loss, and, in the case of sudden storm, serious disaster An important step in advance would be the erection of public latrines ashore close to the usual points of moorage, and to require the use of such public latrines. While this regulation would undoubtedly be broken at night, it could be enforced during the day time, and thus a large part of the water contamination prevented. An even more important sanitary step would be the piping of the city water supply to numerous places on the river front, where public founts would permit the boat population readily to procure a supply of pure water. It is easy to deplore the general use of river water by this class of the population, but until some other source of supply is provided for them they have no other recourse. This matter is of such importance that it should receive early attention by the municipal authorities—but there is so much to be accomplished in doing the numerous other new things that ought to be done, and rectifying the sanitary mistakes evident in practically everything done by the Spaniards, that this improvement will have to take its turn among other necessary reforms.

The question of the proper restriction and control of offensive and dangerous trades is also one of far-reaching sanitary importance for the city of Manila. The present law prohibits the establishment of any new business of an offensive or dangerous nature within the district of strong materials, or the maintenance of any such business not conducted in a sanitary manner. In the absence of proper sewerage facilities, the waste from such establishments as breweries, tanneries, dye-houses, etc., in the city necessarily drains into the esteros and largely contributes to their pollution and offensive condition. Even those establishments of this character located outside the district of strong materials, discharge their wastes largely into the heads of esteros, through which they are conveyed into the heart of the city and become a cause of great nuisance—thus practically nullifying the sanitary advantage of removing such establishments from the more densely populated sections of the city. The situation can only be satisfactorily dealt with by the enactment of a law prohibiting the future location of any establishment for the conduction of an offensive trade at any point within the corporate limits of the city, or upon any estero the waters of which flow within the city limits and by requiring also that all establishments now in operation for the conduction of offensive trades, located within the city limits or discharging wastes into an estero flowing therein, shall be removed within five years, or such other period as may appear to be reasonable. The early enactment of such a law will ultimately result in less interference with business interests as new establishments of the above sort are, from time to time, being put into operation in localities from which there is no question but that the sanitation of the city will require that they should be removed in the future.

A law prohibiting the occupancy for kitchen and dormitory purposes, of buildings in which offensive trades are conducted, is also much needed. At present a large part of the workmen engaged in offensive trades, particularly Chinese workmen, live, eat, and sleep in such buildings among highly unhealthful surroundings, and when cases of cholera or plague occur in such establishments it is often almost impossible to secure proper disinfection.

Another great factor influencing mortality rates in the Philippines is the unsanitary personal habits of a large part of the population. These habits are, to a certain extent, the result of racial customs and to the attainment of a less high degree of civilization, but it is no less true that they are dependent in considerable degree upon conditions of environment. The sovereignty existing in these islands prior to American occupation apparently concerned itself but little with the sanitary welfare of the people, and while much in the way of reform has been accomplished since 1898, the fact remains that certain improvements essential to the public health, even in Manila, have not yet been introduced. As the public welfare must be safeguarded by certain restrictions applied to the individual, so the individual has a right to expect that the governing authorities will in turn provide him with certain sanitary conveniences, by means of which he may live in greater comfort, and the resulting improvement of his mode of life and surroundings may redound to the health and well-being of his community. Thus in the city of Manila, in the absence of a pure, abundant, and properly distributed piped water supply and of a satisfactory system of sewerage and of sewage disposal, it is quite impossible for the poorer classes to conform to the most modern sanitary requirements, and certain important regulations—as, for instance, the prevention of the pollution of the esteros, or the proper disposal of excreta—cannot be satisfactorily enforced, because of failure by the authorities up to the present time to provide proper facilities for the disposal of wastes. With the vast amount of work of improvement required to be done about the city, it has naturally been impossible to accomplish everything during the short time and with the limited funds available since the American occupation, but under present more settled conditions the importance of at once securing certain sanitary essentials should commend itself to immediate attention. It is at present impossible to prevent a number of customs of the lower class of people, which have a marked influence in increasing the mortality, in the absence of various fundamental sanitary conveniences and necessities.

It must not be considered, however, that the habits of the people have undergone no improvement during the period of American occupation, for the reverse is quite the case, and especially in Manila there has been a marked change for the better, in this respect, as sanitary conditions through the city have been gradually improved. This change has been brought about by personal example instruction by government officials, and by the general enforcements of sanitary regulations, a task rendered much easier through the apprehension excited by the outbreak of cholera. Even with the gradual relaxation of previously compulsory sanitary requirements, the

poorer classes have not wholly returned to previous unhygienic practices, and the value of cleanliness of person and environment and the use of pure water is at present far better realized than was the case eighteen months ago. Of course, racial habits and customs established by generations of usage cannot be immediately done away with even under the best conditions; but it is possible gradually to modify and improve them, and this has already been accomplished in no small degree. Of course the best results must be looked for in this respect from education of the younger generation, whose habits are not yet thoroughly established. and to this end instruction should be given in all schools with respect to the elementary principles of personal hygiene, house sanitation. and the causes and measures for the prevention of transmissible disease. Immediate and radical change in habits of life cannot be expected of the older people, and the sanitary regeneration of the Philippines must be planned for the future through impressing the present school children with the necessity for living under more sanitary conditions and giving them instruction as to the best methods by which these can be brought about

## LETTER FROM NEW ZEALAND.

(From Our Special Correspondent.)

A MEDICAL PRACTICE BILL—MANAGEMENT OF INFECTIOUS DISEASES—A SMALLPOX HOSPITAL—CONTAGION IN BANK BILLS—PYLORECTOMY—DECREASING BIRTH RATE AND LOWERED DEATH RATE—PLAGUE.

AUCKLAND, August 20, 1903.

THE profession here, represented by a branch of the British Medical Association, has promoted a bill which is now before our Parliament for altering the conditions upon which foreign and colonial degrees can be registered. so as to qualify the holders for practice in New Zealand. The regulations of the Medical Council of the United Kingdom require. as you are probably aware, a curriculum extending over five years, and an examination on general subjects previous to commencing the purely medical studies Most, if not all, of the institutions for granting degrees in the British Empire have regulated their curricula in accordance with the requirements of the Medical Council. Some of the universities or other institutions granting medical or surgical degrees in the United States formerly allowed their students to go up for examination after a course of study of three or even two years. Practically we find that druggists, herbalists, and various quacks, who want to become registered medical practitioners in New Zealand, go over to the United States and come back in a couple of years with the title of M.D. This we are determined to put a stop to if possible. The bill provides that no medical degrees or titles shall be registered here unless a course of at least five years' study at a recognized medical school or university has been undergone. In the discussion on the bill one of the speakers informed the House that there would be no objection to the degrees granted by Harvard! I hope Harvard graduates will not be attacked by megalomania when they learn that New Zealand will recognize their degrees.

I observe that this question is exciting considerable attention in the United States. It certainly is very desirable that a uniform curriculum should be required in all the States. Unfortunately in New Zealand, where we have no large towns, the local hospitals do not afford sufficient material for clinical study. The plan in vogue now of whirling off every infectious case to isolation hospitals renders it impossible for an ordinary student to learn practically the symptoms, pathology, and treatment of such diseases as scarlatina, diphtheria, measles, erysipelas, or even typhoid fever. To us of the old school all this excessive fuss about infectious diseases seems very absurd. It is not to save the other medical cases that such separation is required, but to safeguard the laparotomies and the complicated operations. The proper way to do this is to have a separate staff and separate buildings for the surgical cases.

We are now in the vortex of a furious storm about the locality of a hospital for smallpox cases. This disease has established itself in Tasmania (an island to the south of the Australian continent), which is the last port of call for certain steamers coming to New Zealand. About seventy or eighty cases have occurred at Launceston, Tasmania, and a fair proportion of deaths. Of course all steamers coming from there are quarantined, but those coming from other ports (Hobart) in the island are allowed to land passengers and goods after examination and a very inefficient disinfection. If the disease comes no other way it will come by letters and newspapers. I had a newspaper from Tasmania delivered at my house the other day by mistake. I instantly went into the kitchen and put it into the oven, where it was baked for an hour. When I was Medical Officer of Health of a West Indian Island and variola made its appearance, I revaccinated all the officials of the Colonial Bank. All the cases were successful, with a good deal of constitutional reaction, and only two of the staff caught smallpox. These two were the teller at the counter and one of the officers who checked him and had to handle the notes. I had expressly cautioned the manager to allow as few of the staff to touch the notes as he could manage with. Dirty notes were burnt.

An operation of pylorectomy by Kocher's method, was performed here four weeks ago by Mr. Hope Lewis, one of the surgeons of the Auckland Hospital, in which about one-third of the stomach was removed and the portion of the duodenum involved in the cancerous growth. The man has made an uninterrupted recovery. He took slops on the fourth day, and in nine days took minced chicken; on the fourteenth poached eggs on toast. He sat up by the fire on the eighteenth day, and is now alive and very well, walking about the ward, etc., at the end of four weeks. He is putting on weight. Bowels acting well. The absence of pain since the operation is somewhat remarkable.

Mr. Hope Lewis is remarkably successful with all his abdominal operations, of which he has a great number.

The constant diminution of the birth rate is causing some uneasiness and a good deal of discussion. One sapient person recommends that women with large families should be granted a medal or some similar decoration! Another proposes that the fathers of six children should be allowed a preference in selecting land. One aspect of the question escapes notice, and that is the extremely low rate of mortality among children even in towns, but especially in country districts. It is better to have a low birth rate and a small death rate than a high birth rate and a mortality such as we used to have in England. I remember a huge Irishwoman bringing me a baby which she said was her thirteenth child, and she was uneasy about it because all the others had died! I said: "Do you mean to tell me that you have lost twelve children?" "Yes." "Then you ought to have been hanged years ago," was my unsympathetic reply. I found that the deaths were all owing to her preposterous system of feeding, and to stuffing three or four into one small room at night

We have had a plague case in Auckland, but very few people knew about it, and there were no hysterics about it. The man recovered. I believe more than half the deaths from plague are caused by sheer panic. Any one who has seen cholera or smallpox epidemics must have seen numbers of deaths from fright. This is particularly the case with the colored races. Negroes in the West Indies have been known to die of cholera in half an hour.

## Progress of Medical Science.

*The Boston Medical and Surgical Journal, Sept.* 17, 1903.

**The Dietary Treatment of Constipation.**—Henry F. Hewes has made a careful study of this subject. He first aims to learn the source or underlying cause of the trouble: next the method or methods of treatment of the condition in its various manifestations which will tend to establish the natural physiological function as far as possible as a permanent and self-supporting condition. Either the patient has some definite pathological lesion or condition, or he is living under a faulty condition of hygiene. Those hygienic factors which bear most directly upon the physiological function of the intestine are: (1) The habit of a regular period of defecation; (2) a proper amount of physical exercise; (3) a proper diet. In regard to the diet, it is necessary first to ascertain the exact nature of the patient's accustomed diet, and to supplement this until it corresponds to the normal diet. Foods, from the point of view of their influence upon intestinal action, may be divided into three classes: First, all food substances possessing a large or unabsorbed residue. These are chiefly vegetable substances having much cellulose, as the grains in coarse form, green vegetables, fruit, etc. Second, the foods containing considerable quantities of organic acids or other substances which increase intestinal activity, such as the tamarind, prune, plum, manna, and, certain green vegetables. Third, the substances which undergo fermentation in the intestine, with formation of organic acids. These are carbohydrates generally, including the cellulose of the vegetables already mentioned. In the treatment of constipation, then, having established the normal physiological diet for the patient, there is included in it a fair proportion of the above special forms of food. Besides general directions as to hygiene and health instructions are given to give up drugs and to depend entirely upon the diet. The writer then gives several tables illustrating diets helpful in this condition, and discusses their use. The results of his researches

show that in a very large majority of the cases of constipation, the chief if not the only cause or underlying condition is a failure of the patient to follow a normal physiological manner of life; also in a large majority a complete cure can be obtained by a proper direction of general régime and diet.

*Journal of the American Medical Association, Sept.* 9, 1903.

**Precision in the Determination of Human Parasites.**—A plea for this precision is made by H. B. Ward. He notes that the parasites are by no means all of etiologic rank; some are known to exert deleterious effects on the human organism, regarding the action of some much doubt exists, and there are others which are believed to be indifferent to man. Furthermore, even of those whose injurious effects are unquestioned, the results on the hosts differ notably, and the line of successful treatment differs equally. It is evidently important, then, to determine accurately with what species the practitioner has to deal in the individual instance. A mere diagnosis of "worms" is not consonant with the present-day requirements of medical science. Ward describes the various classes of parasites, their respective mode of entrance into the body and the symptoms caused thereby. Diagnosis necessarily implies the use of the microscope, yet it is simple, calling for no elaborate high-power apparatus. No cultures are necessary. We should examine the blood, sputum, urine, and fæces, though the three former rarely furnish evidence of infection.

**Uncinariasis in the South.**—C. A. Smith notes that this disease is found in the mountains as well as in the lowlands, increasing in prevalence as one goes toward the southern latitudes. It is not uncommon even in regions where the chance of contamination of drinking water by surface drainage is very slight. He finds that as a rule the eggs of the parasite do not hatch out in the bowel. Incubation seems to require mixture with earth, that is, air. Eggs are destroyed by freezing, as also by drying, but they must be thoroughly dry, the least bit of moisture preserving them. Fæces which are perfectly dry on the outside will be found to be moist in the interior and the eggs there still preserving their vitality. Smith believes that the parasite itself generally gains access to the body through the skin of the feet. Inoculation by drinking water is the exception. He describes the appearances of the ova, and symptoms produced by their development; instancing and presenting photographs of several cases. He does not consider it necessary to boil drinking water if the possibility of surface drainage contamination can be excluded. If every person will wear shoes which thoroughly protect the feet in rainy weather or in damp places, there is very little chance of infection.

To determine whether the parasite which infects the dog in his section would exist in the human body, Smith ministered successive doses of the larvæ of this parasite to a negro boy nineteen years of age (of course, with his consent), but results were negative, nothing being found in the stools.

*Medical News, September* 19, 1903.

**Chronic Nephritis without Albuminuria.**—Arthur R. Elliot, concludes: Latency of symptoms is so constant a characteristic of chronic interstitial nephritis as to almost constitute its most salient feature. Symptoms are especially liable to be absent and urinary signs uncertain during the early stages of this disease, consequently the diagnosis during this period must generally be made from physical signs rather than from symptoms or urinary signs. Albumin is absent from the urine of this form of nephritis with great frequency. Albuminuria constitutes a very unreliable diagnostic sign in this disease. More reliable evidence of renal change is diminution in the gross amount of urinary solids, and especially significant is the presence of casts. The secondary circulatory changes following chronic interstitial nephritis are so constant and characteristic as to furnish, in most cases, sufficient ground for the recognition of the disease before reference is made to the urine. The diagnosis of this disease should, if possible, be made from the physical signs and symptoms the urinary indications being regarded as corroborative rather than as essential evidence.

**The Modern Treatment of the Acute Suppurations of the Knee-joint.**—Arpad G. Gerster speaks of the acute purulent inflammations of the knee-joint under three heads: metastatic or pyemic suppuration; suppuration due to osteomyelitis; and traumatic suppuration. The onset of the metastatic form is generally mild, its course inclined to be chronic. If the local symptoms are troublesome they will demand surgical interference. First, evacuation by puncture, and if the collection be ropy and thick, by irrigation. Rapid reaccumulation will demand incision and drainage. The number of incisions must depend upon the acuteness of the local symptoms. One of the most troublesome forms of metastatic infection of the knee joint is that due to gonorrhœa. In suppuration due to osteomyelitis, the author recommends Mayo's incision. This consists of the transverse incision of the infected knee-joint, passing from condyle to condyle just above the patella, and, of course, dividing the quadriceps tendon. Ollier, the French surgeon, supplemented Mayo's incision by advising the extirpation of the crucial ligaments. The writer relates several cases of the third class. In one, Mayo's incision was used with very good results.

**What Ought We to Expect from Cardiac Drugs in Heart Weakness?**—O. T. Osborne describes a cardiac tonic as a drug that will more or less permanently strengthen the heart and pulse, and leave the heart in better condition after its action has ceased than it was in before. A cardiac stimulant, on the other hand, is a drug which will stimulate, and perhaps for a short time strengthen a weak heart, but when its action has ceased the heart is left really in poorer condition than before unless the cause of the weakness for which it was given has ceased to act. The principal cardiac tonic is digitalis, while the drugs which resemble digitalis in their action are strophanthus, sparteine, cactus, convallaria, adonidine, and last but not least, suprarenal preparations. Stimulating cardiac tonics are strychnine and caffeine, while the cardiac stimulants are alcohol, ammonia, camphor, nitrite of amyl, nitroglycerin, and ether. Digitalis should be used in broken compensation in valvular disease, in simple dilatation, in the irritable or weak heart of nicotine poisoning, in strained heart from overwork, over-athletic exercise, etc., also in cases of poor vasomotor tone, and when there is œdema or exudations with no serious kidney lesions. The action of digitalis in slowing the heart by its action on the pneumogastric nerve gives the heart a much-needed rest, and the action on the cardiac muscle making the contractions more effective and more complete, thus acts as regulated calisthenic exercise, and the cardiac muscle is increased in thickness and strength. The contraindications to the use of digitalis are a high tension of the arteries, atheroma, a weak cardiac muscle from prolonged fevers or from fatty degeneration, myocarditis, and, ordinarily, a serious kidney lesion. The best substitute for this drug is strophanthus. As a cerebral stimulant probably no drug equals caffeine. Coffee plus tobacco enables one to do an immense amount of brain work. If this is kept up long neurasthenia will supervene. The exact action of alcohol on the heart is not absolutely proved. Overdoses after absorption are depressant to the heart muscle, to the muscle of the blood-vessels, and to the vasomotor center in the medulla. To combat continuous or persistent cardiac failure or depression alcohol is the poorest stimulant that can be used, and if much is given the treatment is vicious. In serious feverish conditions undoubtedly the narcotic effect of alcohol may be of advantage in quieting the patient, as mental worry and anxiety are great disturbers of the heart and circulation, and should be overcome by any legitimate means.

*New York Medical Journal, September* 19, 1903.

**The Etiology and Treatment of Subacute and Chronic Catarrhal Affections of the Upper Air Passages in Children.**—J. A. Patterson discusses this question along conventional lines. Treatment should include cleanliness of the nasal passages, restoration of their normal lumen, and removal of tissue excess at any portion of the tonsillar ring.

**The Pathology and Treatment of Rheumatoid Arthritis.**—E. M. Menins states that a comprehensive definition of this affection includes the following inferences and facts: (1) The disease occurs in patients with an arthritic diathesis, or whose nervous system has been impaired by physical injury, shock, sorrow, or anxiety. (2) Its history and the general clinical aspect of the disease point to some form of chronic poisoning as being most concerned in its production, rather than to the direct action of a specific germ. (3) This chronic poisoning depends on the elaboration in the system of certain toxins, which apparently may be the product of any general infection or local morbid condition. (4) These toxins exert a peculiar and selective action upon the tissues of the joints and nervous system concurrently, and so produce the characteristic nervous phenomena and arthritis of the disease. (5) There is a small residue of cases closely resembling rheumatoid disease, if not identical with it, which seem to depend wholly and directly upon some functional or organic disorder of the nervous system, as so far they have not been traced, and perhaps cannot be, to any source of infection. Treatment should aim at the accomplishment of discovering and removing the source of infection, eliminating poison from the system, re-

pairing the damages done by the disease and relieving pain.

**Birth Palsies.**—M. H. Bochroch offers the following conclusions: (1) In a spontaneous labor, one should not (in making traction upon the head) be in too great haste to deliver the trunk. The latter should be left to Nature, or should be helped by means of expression. Only in cases of necessity should traction upon the head be made, and even then the head should be flexed laterally only so much as is absolutely necessary to conform to the necessity in the case. If it is found necessary to hook the axilla, too great traction should not be made. (2) During extraction by means of forceps, expression should be used as an assisting factor, presupposing that the shoulders meet with an obstacle at the entrance of the pelvis. One should remember Walcher's hanging position, and bring the forceps not far outside of the direction of the axis of the body. By this, however, is not meant that the slight pendulum movements sanctioned in textbooks should be omitted. Danger only arises when there is a deviation *from* thirty degrees, but a slight pendulum movement is not prohibited. (3) During extraction by means of the feet, the arms should be quickly attended to, in case they are interfering, by means of Mauriceau's procedure, *i.e.* by placing the finger in the mouth of the child and using the arm to assist in the traction, resorting in grave cases to expression, and, if necessary, to Walcher's position. If the extraction of the head offers considerable difficulties, this may be considered as an indication for the application of the forceps to the aftercoming head, in order to avoid stretching the nerves of the axilla. Under the head of treatment the author names massage, electricity, and if it shall appear that nerve-plexus have been torn, exposure of the latter and suturing.

*The Lancet, September* 12, 1903.

**The Treatment of Plague by Large Doses of Carbolic Acid Given Internally.**—The histories of six cases are given in detail by J. M. Atkinson. The treatment consisted in giving the acid in doses varying from twelve grains every two hours to six grains every four hours, according to severity of symptoms. Other remedies were administered to meet special indications. In one case over 2,500 grains were administered before the blood was free from the plague bacilli. The remedy was usually given in mixture, the dose being diminished on the supervention of carboluria.

**The Treatment of Cancer and Other Forms of Malignant Disease by Electric Osmose.**—The burden of the experiments by C. A. J. Wright is to show that the "radio-active salt of strontium introduced into the tissues or cataphoresis by high frequency" will prove the panacea of all forms of malignant disease. He has employed the remedy in twenty-three instances, in five of which it proved successful. Full notes of these cases are given, and he suggests that a recovery of 22 per cent. of all cases treated calls for a further trial of the plan by the profession at large. All the five cases were superficially situated—in fact, were of the class in which the *x*-ray has given such promising results. The paper opens with an illustrated description of the apparatus used and with remarks on the phenomena of electric osmose, and must be consulted in the original by those interested.

**Upon the Virulence of the Bacillus of Bovine and Human Tuberculosis for Monkeys.**—From an elaborate series of experiments by A. Macfayden, the following results may be noted: The monkey proved susceptible to an inoculation with the bacillus of bovine tuberculosis either directly or after one passage through the organism of the guinea-pig. A certain number of the animals died in two or in ten days after feeding with bovine and human tuberculous material. Normal human sputum did not produce this effect, and the result suggested some form of intoxication. The monkey fed thrice, twice, or once with the bovine material succumbed to a general tuberculosis in from one to two months, and fed with the human material the same results and fatal effect were produced in about the same period of time. A young monkey proved to be equally susceptible to the bovine and human strains of the tubercle bacilli. The striking difference in the effects produced occurred in the digestive tract. Intestinal lesions were found in the case of every monkey that had been fed with human tuberculous material, whilst none of the monkeys fed with the bovine material presented any evidence of tuberculous ulcers in the intestine. Within the limits of these experiments it would appear that virulent bovine tubercle bacilli may pass through the intestinal wall in large numbers without any detectable lesion of the gut being produced. It would also appear that a food tuberculosis can be as readily brought about by the bovine as by the human strain of the tubercle bacillus in the young monkey.

*British Medical Journal, September* 12, 1903.

**A Discussion on Miners' Phthisis.**—Thomas Oliver concludes that: Miners' phthisis is not the result of the inhalation of gases given off by the strata, nor evolved by the explosives used in mines. It is a disease in which there is a marked excess of fibrous tissue in the lungs, embedded in which can be seen numerous particles of coal dust and silicious material, in which also cavities may be seen and tubercle occasionally detected. It is a disease of occupation, due to the irritating action of dust, which renders the individual liable to repeated catarrh; it is non-tuberculous, not only in the early stages, but may even remain non-tuberculous throughout, when tubercle is present it is an accidental infection which, while hastening the end, does not exercise any very marked influence upon the pre-existing structural alterations caused by dust, unless it be a tendency toward disintegration. It is a local disease, purely personal to the individual, and never assuming hereditary characters. Accepting this view of the pathology of the disease, miners' phthisis, as experience in this country has shown, may be largely prevented by improved ventilation, and by the adoption of means for the removal of dust or for the allaying of dust by water.

**Discussion on the Pathology of Splenic Anæmia.**—H. D. Rolleston gives the clinical characteristics of this disease as: Splenic enlargement which cannot be correlated with any known cause. Absence of enlargement of the lymphatic glands. Anæmia of a type midway between secondary anæmia and chlorosis. Leukopenia, or at most, no increase in the number of white blood corpuscles. An extremely prolonged course lasting years. A tendency to periodic hemorrhages, especially from the gastrointestinal tract. This disease presents no characteristic blood picture by which a diagnosis can be made from a number of diseases which it more or less closely simulates. The spleen is enlarged in all directions and greatly increased in weight In some cases there is no change in the marrow of the long bones; in others, it has extended into the shafts of the long bones, as in pernicious anæmia. It is not yet known what cause produces the changes in the spleen. No microorganism can be correlated with the splenic change. The question as to whether the nature of the disease is an intoxication or an infection has not yet been fully answered.

**Case of Syphilitic Nephritis in an Infant Aged Fifteen Months.**—George Carpenter reports this case. He believes that catarrhal nephritis can arise from the action of syphilitic poison. This patient was the child of syphilitic parents. He presented all of the symptoms of nephritis. Necropsy revealed the kidney in a condition of catarrhal nephritis. Casts were visible here and there in the tubules. There were no interstitial changes. The small arteries in the neighborhood of the glomeruli were thickened and their lumens greatly diminished. The structural alterations in the blood vessels were probably responsible for the anuria which was a prominent feature in the case. The writer reports still another case of a child of five weeks, in which there was evidence of catarrhal nephritis in an incontestable syphilitic kidney The writer believes that congenital syphilis is capable of producing catarrhal nephritis as well as interstitial nephritis, and that there is no valid reason why one form should not occur independently of the other. This nephritis is indistinguishable clinically from acute catarrhal nephritis by reason of its symptoms, and its urinary deposits and interstitial kidney changes may or may not be present in such cases.

*Münchener medicinische Wochenschrift, September* 1, 1903.

**Intravesicular Separation of the Urine of Both Kidneys.**—Keydel considers the apparatuses which have been devised especially by Luys and Cathelin for the separation of the urine within the bladder in cases of catheterization of the ureters. The cases which have been reported are considered in detail, and it is shown that in the majority of cases the results have been satisfactory with the use of either instrument. Four of the author's own cases are given In three Luys' instrument was used, and in one Downe's. The results show that no one form of apparatus is to be universally recommended, but that each case must be handled upon its own individual basis.

**Absence of Casts in the Urine of Nephritics.**—Adolf Treutlein confirms the opinion that casts may be absent in cases of nephritis which show albuminuria and a typical retinitis albuminurica. This absence is not due to a digestive action upon the casts of pepsin, which may be excreted by the kidneys. Nor is it caused by the action of leucocytes which may be present in the bladder due to a coexisting cystitis and which may ascend to the urinary tubules of the kidney. Neither do the leucocytes

of surgical pus possess any such action. The destruction of the cylinder is caused by the action of the bacillus coli communis—but not by its ferments alone—which are present in the bladder or have invaded the upper urinary passages.

*Berliner klinische Wochenschrift, August* 31, 1903.

**Indications for the Induction of Labor in Hyperemesis and Cardiopathy.**—Oedön Tuszkai says that the diagnosis of hyperemesis gravidarum can only be made after careful exclusion by the employment of all diagnostic and therapeutic means. Especially should all hysterical influences be excluded. Even after the most rigid exclusion, the gravidity can only be regarded as the cause of the emesis when there is a local susceptibility of the uterus—that is, when a bimanual examination causes marked increase in the nausea or vomiting. Only in the latter class of cases should the induction of labor be considered, and here only after all local measures have been tried without avail, opium, in large doses has failed to give relief, and the life of the patient is threatened by inanition. Cardiopathy in pregnant women rarely calls for the induction of labor, nevertheless, its presence should be early detected in order that the patient should be carefully watched and serious consequences avoided. In normal individuals there is a marked difference in the pulse rate in the horizontal and upright positions. In cardiac hypertrophy and pregnancy when the heart is sound this difference vanishes. One of the first signs of cardiopathy in pregnant women is a return of this difference in the pulse rate. If during the beginning of the pregnancy the "pulse-difference" is present, it is, of course, a sign that from the inception of the same the heart has failed to compensate. All pregnant women should be frequently examined for the presence of this pulse symptom, in order that the conditions of the cardiac muscle may be accurately appreciated.

**Cytodiagnosis.**—B. Czerno-Schwarz and J. Bronstein review the literature relative to the value of cytodiagnosis in the examination of effusions of serous cavities in general, and give the results of their own studies respecting pleuritic exudates and the cerebrospinal fluid. Four cases of the former were examined and Courmont's and Arloing's views confirmed in that by cytological means as diagnosis cannot be made in cases of primary tuberculosis until the end of the second week of the disease. Widal and his school have claimed that it could be made earlier than this on account of the abundance of lymphocytes present in the fluid, but it is certain that previous to the time indicated polynuclear cells are abundantly present in tuberculous pleural exudates and render cytodiagnosis but of little, if any, value. Normally, the cerebrospinal fluid shows the presence of but few if any lymphocytes. This is also the case in the various neuroses, psychoses, diseases of the central and peripheral nervous system (excepting meningitis), brain tumors, and in the so-called meningismus. In progressive paralysis, the early stage of tabes, and meningomyelitis a lymphocytosis is present. In the early stage of tuberculous meningitis the polynuclear cells are in excess in the majority of cases; later on there is a lymphocytosis, but if secondary infections occur the polynuclears again become the more prominent. In epidemic cerebrospinal meningitis the polynuclears predominate, but in chronic cases, there is a lymphocytosis, except during exacerbations, when there occurs a polynuclear leucocytosis.

*Deutsche medicinische Wochenschrift, August* 27, 1903.

**Mechanical Treatment of Blepharoptosis.**—G. Abelsdorff has devised an apparatus for lifting the eyelid and completely relieving the deformity. The device takes essentially the form of a pair of eyeglasses. A slender gold wire which lifts the lid is concealed behind the upper margin of the frame on the affected side in such a manner that it cannot be observed when viewing the patient from the front. The glasses can be worn indefinitely without causing any significant irritation.

**Intermittent Hydrops Cured by Iodoform-Glycerin Injections.**—Wilsinger reports a case of intermittent hydrops of both knee-joints of thirty-five years' standing. Constitutional treatment had been tried in all forms without avail. The right joint had been "washed out" eight and the left six years previous. No recurrence had taken place upon the right side, but for some time past the fluid had recollected in the left joint at half-yearly intervals. A clear yellow serum was evacuated from this joint, and 10 c.c. of iodoform-glycerin injected. A pronounced local reaction was produced, which lasted for six days. Five months has now elapsed without recurrence, and there has been no interference with the normal functions of the joint. The etiology of the case is unknown. From this and the two similar cases which have been recorded it is probable that the disease is to be regarded as a local affection and closely related to synovitis.

**Antitoxic Tetanus Therapy.**—E. v. Behring states his theoretical views regarding the mode of action of tetanus antitoxin upon tetanus toxin, and gives his reasons for believing that the antitoxic molecule is united to the toxic by a third body, which he calls the "conductor." This body is derived from the substance of the axis cylinders and ability of any antitoxic serum to neutralize tetanus toxin in vitro depends upon the quantity of the "conductor" present in the serum. Moreover, this "conductor" outside of the body is very labile, and is easily broken down. Upon the basis of these views a new method of standardizing tetanus antitoxin has been evolved, and a serum thus standardized placed upon the market by Siebert and Ziegenbein in Marburg. The statistics of tetanus treated by antitoxin are reviewed, and the early and repeated use of large quantities in all cases of tetanus advocated.

*French and Italian Journals.*

**Kinesitherapeutic Treatment of Flat-foot.**—L. De Munter treats this affection as a muscular atrophy, applying energetic pétrissage with tapotement to the anterior and posterior tibial muscles, with resisted movements of adduction and supination of the foot, and effleurage of the tarsus. The ascending faradic current may be used in rebellious cases. Of course this form of treatment is of no value in old cases, or when paralysis is complete. The author has treated twenty-seven cases in this way, and has had fair success. He gives the statistics in full.—*Revue Internationale de Thérapie Physique*, August 15, 1903.

**Spinal Rheumatism.**—M. Jeanselme reports a case of this unusual form of rheumatic affection. The patient suddenly had pain in both feet, then in the knees, hips, and the *uretha*. Ten days later micturition was absolutely suppressed. There were no periarticular pains, but rather, painful spots along the course of the sciatic nerve. Under appropriate treatment the urine was voided and the following day micturition was normal, but the left elbow and leg were the seat of violent pain. The salicylate of soda brought complete relief. The alternation of meningomedullary symptoms with articular pains, and the rapid disappearance of both by means of the salicylate, justify the diagnosis of spinal rheumatism.—*Journal des Praticiens*, August 29, 1903.

**The Biological Action of Blue Electric Light on Muscular Labor.**—Raffaele Pisani concludes that the blue light increases the energy and resistance of the muscles. This is the case whether the rays be turned on the muscles while they are at work, or previous to their activity, but is more marked in the latter event. This favorable action is not always in proportion to the length of time to which the muscles are exposed to the blue light, but fifteen or twenty minutes exposure as a rule obtains the best results. The effects diminish in time. It is the blue light alone which has this action, white having no influence, and blue a depressing one.—*Annali di Elettricità Medica e Terapia Fisica*, August, 1903.

**Arthritism.**—Edmond Fiquet concludes from his researches that arthritism is not a disease properly so-called, but rather a predisposition to certain diseases, such as gout, diabetes, gravel, etc. It is the result of insufficient intracellular oxidation, and varies according to the nature of the oxidation process. If there be deficiency in the process which oxidizes the carbohydrates, glycosuric diabetes will appear; if in that which oxidizes fats, obesity will result, and if in that which should oxidize the albuminoid residue of nutrition, albuminoid diabetes will declare itself. Treatment is the same as in ordinary diabetes, except that albuminoids are to be forbidden in the diet instead of carbohydrates. Iron will increase oxidation, as will massage and hydrotheraphy by increasing cellular functions in general. Rest in the country is of value.—*La Presse Médicale*, August 22, 1903.

**The Treatment of Infantile Diarrhœa by Gelatin Solutions.**—E. Weill, A. Lumière, and M. Péhu claim to have had excellent results from the administration of this remedy. The gelatin must be as pure as can be obtained, and be subjected to a sterilizing process after making a 1 to 10 solution in boiled water. A gram of gelatin can be given with each feeding from the bottle, that is to say, 6 to 8 grams a day, or even more. Its effect is to diminish the number of stools, and cause them to become of a more normal type as to consistence, color, odor, and reaction. The general condition of the infant begins to improve after four or five doses. The authors state that this medication is of especial value in cases of simple gastroenteritis, but is, of course, of less use in digestive infections with high temperature, complicated by broncho-

pneumonia, congestive râles, spleno- and hepato-megaly and albuminuria.—*Lyon Médical*, August 23, 1903.

**Ehret's Disease.**—C. Pantaleoni considers this paralysis to be a functional one, but clearly distinct from hysterical paralysis, and constituting a morbid entity. It affects the peroneal muscles almost exclusively, and is nearly always accompanied by contraction of their antagonists. The cause is in the cortical centers, which for some unknown reason are less resistant in some persons than in others, and readily acquire habits which soon become permanent. Sometimes pain is a cause, or it may follow traumatism. The paralysis comes on slowly and progressively. Treatment should be directed toward training the cerebral centers by means of corrected position, and strengthening the muscles. If the disease be too far advanced to be affected by these measures, tender transplantation may be resorted to.—*Archivio di Ortopedia*, Vol. 20, No. 2, 1903.

**Adiposis Dolorosa.**—Paul Sainton and Jean Ferrand describe this affection, to which attention was first called by Dercum in 1888. It occurs as a rule in women over forty, pain in some limb being usually the first symptom, followed by the appearance of either limited or diffuse tumors of lipoma-like consistence. Asthenia accompanies these symptoms and ranges from slightly impaired muscular movements to an absolute refusal to leave the bed. Psychical troubles are also present in greater or less degree. The pathogenesis of the affection is not as yet well understood. As to treatment, extirpation of the nodular tumors has usually been followed by their reappearance; massage has given good results in some cases, possibly by improving the general condition. Internal medication has not been followed by any radical cures. Ewald was the first to try thyroid treatment, and his experiment was very successful, but other practitioners have had varying results with the remedy.—*Gazette des Hôpitaux*, August 22, 1903.

## Surgical Suggestions.

**Abortive Treatment of Boils.**—A 2-per-cent-carbolic-acid solution is used. A hypodermic needle is inserted obliquely through the outer edge into the center and a quantity of the solution injected. The needle is then withdrawn and reinserted at another point of the periphery, etc., etc. The results are almost magical. The process of necrosis is arrested and the already dead tissue rapidly falls away.—A. BIDDER.

**Gauze Drains.**—Gauze drains left in wounds should not, as a rule, be removed until the fourth day, when the adhesions have liquefied and the gauze is easily removed. In the uterus gauze should never be left in more than twenty-four hours, owing to danger of sepsis.—*International Journal of Surgery.*

**To Preserve Rubber.**—Ten to twelve parts of water and one part of ammonia will preserve soft rubber any length of time. Dip rubber pipes, etc., in a glass jar filled with this solution. Use for your ammonia bottle a rubber stopper: it is better than a glass stopper.—*Toledo Medical and Surgical Reporter.*

**Corns.**—A ring of glycerin jelly is painted around the corn to form a raised rampart. A piece of salicylic acid plaster mull is cut to the size and shape of the ring and placed upon the corn. The whole is painted with glycerin jelly and wrapped in cotton wool.—UNNA.

**The Microscope.**—If the clinical history and naked-eye appearance on fresh section indicate that the growth is malignant, but under the microscope the growth appears innocent, I regard the growth as malignant. If the macroscopical appearances are innocent, but the microscopical appearances malignant, I regard the growth as innocent. In other words, when the clinical and microscopical appearances differ, I base my judgment upon clinical history and macroscopical appearance on fresh section because I have found them more reliable.—C. HAMILTON WHITEFORD.

**A Simple Method for the Removal of External Hemorrhoids Under Local Anæsthesia.**—Thos. Chas Martin, President of the American Proctologic Society (*Cleveland Medical Journal*,), uses two hypodermic syringes with the finest needles, having long oblique points. A $\frac{1}{10}$ of 1-per-cent. solution of eucaine is prepared in a physiological salt-solution, which is administered at a temperature of about 98° F. The integument in the proposed line of incision and the tissues beneath the base of the tumor should be rendered uniformly œdematous by the endermic injection. The oblique portion of the needle's point should be laid on the skin, which is drawn tense, and by a movement of the fingers only, the needle should be pushed steadily in till its mouth is buried in the integument. The piston is now pushed, and as the welt rises in advance of the needle's point, the needle should also be advanced in the plane of the integument. Before making the incision a row of continuous sutures should be placed in the infiltrated area around the growth, then cut and converted into interrupted sutures, to be tied after the tumor has been dissected away.

**An Oily Solution of Cocaine.**—It is claimed that if cocaine be administered in a solution made up of equal parts of almond and petroleum oils, the effect will be of much longer duration, though slower in making its appearance.—*The International Journal of Surgery.*

**Vaselin in Ozæna.**—Brindel recommends interstitial injections of vaselin with a fusing point of 60° C. into the lower turbinate bones in cases of ozæna. The atrophic rhinitis becomes hypertrophic and the ozæna disappears. The amount used is from 3 c.c. to 4 c.c. at each injection.—*La Presse Médicale.*

**Abortive Treatment of Boils.—**

℞ Icthyoli.....
Æther.....ää 12.0
Spir. vini gallici dil..... 14.0

M. S. Apply externally twice daily.—GLIKMAN.

The **Fundal Incision** in the cæsarean section has the following advantages: (1) The wound being higher, the chance of ventral hernia is less. (2) There is less bleeding. (3) The placenta is less often in the way, and therefore less frequently cut into. (4) Extraction of the child is rendered easier. (5) The lower segment of the uterus being uninvolved, the wound is more readily stitched.—KERR.

**Treatment of Squint.**—Treatment should begin as soon as the slightest deviation is noticed, and should consist in the maintenance of fixation by bandaging or atropinizing the better eye, and by correction of all refractive errors. The fusion faculty should then be educated, and when that is well developed if the deviation is not corrected operative measures should be undertaken to produce approximate parallelism of the axes, as little can be done with the fusion sense after the sixth year. This parallelism can be perfected and maintained by further fusion exercises. The amblyoscope is adapted for use in any degree of squint, and which overcomes suppression of the image by increasing the illumination, at the same time amusing the child.—*American Medicine.*

**Treatment of Stye.**—The lash is removed from the center of the inflammatory area. The swelling should be carefully touched with tincture of iodine or pure carbolic acid. Where there is any pus it should be released by a small incision. Warm applications will lessen the pain. A weak mercurial ointment will generally cause the disappearance of the remaining thickening of tissue. The diet should be regulated when there is reason to believe that the condition is due to general constitutional atony. —*International Clinics.*

**Bronchiectasis.**—A patient was recently presented by Putnam, in whom he had evacuated several bronchiectatic cavities which gave out a profuse malodorous discharge. The cavities were emptied by means of the Pacquelin cautery at a low red heat, after they had been located definitely by means of an aspirating needle which was retained in position as a guide during the subsequent procedures. The wound healed nicely and without complications, and there has been no recurrence for more than a year.

# Book Reviews.

CANCER, ITS CAUSATION AND ITS CURABILITY WITHOUT OPERATION. By ROBERT BELL, M.D., Glas., F.F.P.S., Consulting Physician to the Glasgow Hospital for Women. London: Baillière, Tindall and Cox, 1903.

THE writer of this book is a firm believer in the curability of cancer, especially of epithelioma and scirrhus, if only treatment is begun early enough. He insists especially upon this point, and one of the avowed objects of his work is to urge upon the profession the importance of an early diagnosis and timely treatment and to encourage a campaign of education in these matters for the laity. Epithelial cancer, he holds, is a sort of running amuck of the normal cell (we are giving the author's ideas, not his words) which becomes altered in character, devours its neighbors, and reproduces itself with great rapidity, thus gradually destroying the healthy cells, replacing them by its own ungovernable progeny. In the great majority of cases the exciting cause of this malignant metamorphosis is trauma, but a predisposing cause must exist in a lowered vital resistance caused by autointoxication, worry, unhygienic surroundings, and especially the so-called 'uricacidæmia." The main treatment which Dr. Bell advises is the use of thyroid-gland extract combined, if need be, with the salicylates. Whatever we may think of the author's theories, there can be no doubt of the earnestness of his advocacy of them. The book must be regarded as a valuable contribution to the rapidly growing literature of cancer.

PORTFOLIO OF DERMOCHROMES. By Professor JACOBI of Freiburg im Breisgau. English Adaptation of Text by J. J. PRINGLE, M.B., F.R.C.P., Physician to the Department of Diseases of the Skin at the Middlesex Hospital, London. Vol. I. Parts 1 and 2. London and New York: Rebman Company, 1903.

THIS is a work intended primarily for the general practitioner, and for this reason the rarer forms of skin disease have not been selected for illustration, but rather those most frequently met with in ordinary practice. In this volume there are forty-two plates with seventy-eight separate figures. The plates, except some illustrating smallpox, are taken from models in Neisser's Clinic at Breslau. The process employed in their production is that known as "citochromy," the invention of Dr. Albert of Munich. The coloring is wonderfully clear, and in many of the pictures is most faithful, though, as is almost inevitable in the depiction of skin diseases, it is sometimes too bright The text accompanying the plates is brief, but yet not so condensed as to eliminate any of the essential points in the description of the disease. In short, the work is excellently adapted to the uses of the non-specialist or the student who has not the time or the opportunity to go exhaustively into the study of this most interesting branch of medicine. The work will be completed in two volumes.

SIGHT AND HEARING IN CHILDHOOD. By ROBERT B. CARTER and ARTHUR H. CHEATLE. London: The Scientific Press, Limited.

THIS little book is addressed to the laity, and particularly to school managers, with the object of showing how important an influence defective sight and hearing exert upon children. The authors very properly insist that an inquiry into the condition of the eyes and ears should be an essential preliminary to the work of the teacher and to laying plans for the child's future.

A MANUAL OF OBSTETRICS. By A. F. A. KING, A.M., M.D., Professor of Obstetrics and Diseases of Women and Children in the Medical Department of the Columbian University, Washington, D. C. Ninth Edition. Philadelphia and New York: Lea Brothers & Co., 1903.

THE return of an old acquaintance is always a welcome event, and so the reappearance of this tried friend of the student and busy practitioner must be as welcome to the medical profession as the issue of the ninth edition is gratifying to the author. The work is too well known to call for review; it is enough to know that the present edition has been brought abreast of the times, as shown by the introduction of newer and better illustrations and by the rewriting of the portion treating of puerperal infection, and that it remains, as of old, a sure foundation stone to the student of obstetrics—a veritable *multum in parvo*.

A NURSE'S HANDBOOK OF OBSTETRICS. By JOSEPH BROWNE COOKE, M.D., Surgeon to the New York Maternity Hospital. Philadelphia and London: J. B. Lippincott Co., 1903.

THERE is room for an honest difference of opinion as to the amount of technical instruction a trained nurse should receive. Those who believe that the nurse can hardly be aught too much will approve of the scope of this work, but, personally, we feel that it is rather a brief treatise on obstetrics than a nurse's handbook, and that it is neither necessary nor desirable, in a book of this character, to describe at any length such things as the mechanism of labor, the abnormal presentations, the principal obstetric operations or the mode of examining the breast milk to determine approximately its chemical opposition Nevertheless the book is clearly and carefully written, and the profusion of illustration and the minuteness of description must prove helpful to the reader. That the author is alive to the importance of many little things that are too often neglected by trained nurses, and even by physicians who should know better, is shown by his emphatic directions concerning the holding of the fundus uteri after the birth of the child. His remarks upon the establishment of proper habits in the young infant and the need of "saving it from its friends" are also very much to the point.

CONSTITUTIONAL THERAPEUTICS. By A. W. WOODWARD. Philadelphia: Boericke & Tafel, 1903.

THIS volume is dedicated to those physicians who, believing that a scientific therapeutics is attainable, are willing to make a new study of pathology and the physiological action of drugs as conditions essential to that end. The author has evidently made an earnest effort to bring order out of chaos nevertheless to one who has not been brought up in the school of homœopathy, but who is honestly striving after the truth, the result appears to be confusion worse confounded.

PLAIN HINTS FOR BUSY MOTHERS. By MARIANNA WHEELER, Superintendent of the Babies' Hospital, New York. New York: E. B. Treat & Co., 1903

THE author's aim is to help poor and busy mothers to solve the many every-day problems connected with the feeding and general care of babies. Of special merit is the advice about crying babies and the need of supplying only the simplest of toys.

THE LATIN GRAMMAR OF PHARMACY AND MEDICINE. By D. H. ROBINSON, Ph.D., Late Dean of School of Arts, and Professor of Latin Language and Literature, University of Kansas. With an Introduction by L. E. SAYRE, Ph.M., Professor of Pharmacy in, and Dean of, Department of Pharmacy, University of Kansas. Fourth Edition, with Elaborate Vocabularies, thoroughly Revised by HANNAH OLIVER, A.M., Assistant Professor of Latin, School of Pharmacy, University of Kansas. Philadelphia: P. Blakiston's Son & Co., 1903.

THIS is a well-arranged method for the study of Latin in which many of the paradigms and most of the substantives used in the exercises are words in daily use (in their English form) by pharmacists and medical men. At the same time the ingenuity employed in the construction of the sentences is such that there is nothing stilted or forced in the language used. In the latter part of the work many of the reading lessons are composed of selections from Celsus. For the medical or pharmaceutical student who has not studied Latin or who desires to refresh his memory or to supplement a deficient school course in the language, we know of no book which would be of greater help than this. It is so simply arranged, and the quantities are so consistently marked, that the book ought to be as useful for one studying alone as for class work.

The first edition appeared about twelve years ago. In this, the fourth, the changes and additions, shown by experience in the classroom to be advisable, have been made. The vocabularies have been bettered, and a section has been added explaining the English method of pronunciation, as well as the Roman. Most of the additions are such as increase the practical value of an already very good book.

A THESAURUS OF MEDICAL WORDS AND PHRASES. By WILFRED M. BARTON, M.D., Assistant Professor of Therapeutics and Materia Medica, and Lecturer on Pharmacy, Medical Department, Georgetown University; and WALTER A. WELLS, M.D., Demonstrator of Laryngology, Georgetown University; Adjunct Professor of Laryngology, Washington Post-Graduate School; Fellow of the American Rhinological, Laryngological, and Otological Society. Philadelphia, New York, London: W. B. Saunders & Company, 1903.

IF the execution of this unique work had only been as good as its conception there could be naught but praise for the book and for its authors. The aim of the book is well expressed in its title, which is, of course, adapted from that of Roget's: "instead of supplying, as an ordinary dictionary does, the meaning to given words, it reverses the process, and when the meaning or idea is in the mind it endeavors to supply the fitting term or phrase to fit the idea. It aims especially to give the technical equivalents of vernacular or vulgar medical words, and under appropriate headings to present all the technical words associated with a given subject." Had this idea been well carried out, the book would have been invaluable to the medical writer and society debater, but unfortunately there are many deficiencies and inaccuracies in it which render it an unsatisfactory and unsafe guide. Nevertheless, one who knows

his medical language so well that he cannot be misled in its use and who turns to the book only to repair a little break in his memory, may occasionally be helped.

As a justification for this criticism, we will give a few examples of the many errors and omissions which mar the work. Under Mosquito we find Anopheles mentioned as the variety carrying malaria, but nothing is said of the yellow-fever mosquito; culicide (*sic*) is said to be an agent to drive away mosquitos. Abdominal phthisis is called celiophthoe, but of the many alternative expressions not one is mentioned. As a synonym of Body-cavity we are given pleuroperitoneal cavity, but not cœlom or celoma. As a word to express the science of the signs of disease we find only pathognomy, but surely symptomatology, semeiology, and semeiotics should have been included. In a list of "the most important oils" castor oil is not mentioned, nor is mercury found among the "elements with common and technical names." Catalepsy is offered as a word to express "sudden prostration by disease" (p. 146); oligomania, to express "person (*sic*) with insanity on several subjects" (p. 262); veterinary, "surgery of the horse" (p. 468) enenteritis, "inflammation of the peritoneal coat of intestine" (p. 267); kineseonos, "disease marked by impaired motion" (p. 146); analectrotonos and catalectrotonos, respectively "lessened" and "increased" irritability of tissue to stimulation by electricity" (p. 188). These, however, are rather superficial imperfections than intrinsic faults (some of them probably typographical errors), and will doubtless be remedied in future editions. The authors have entered a new field in medical literature, for which they deserve all praise, and it could not in fairness be expected of them to turn out a perfect work at the first trial.

BACTERIOLOGICAL CHART. New York: M. J. Breitenbach Company, 1903.

THIS is a chart arranged to hang on the wall, containing sixty illustrations of the most common microparasites. Most of them are bacteria, but some are amœboid parasites. Not all of the microorganisms represented are established as recognized parasites, as, for example, the assumed microbes of measles, gangrene, whooping-cough, scarlet fever, etc., but they are interesting to study nevertheless. The chart is printed in fifteen colors and has been reproduced from original water-color sketches.

LE SYNDROME URINAIRE DANS LA SCARLATINE ET LA DIPHTHÉRIE DE L'ENFANCE. Par le Dr. RAOUL LABBÉ, Ancien Interne des Hôpitaux de Paris, Ancien Moniteur de Tubage et de Trachéotomie à l'Hôpital Bretonneau. Paris: Jules Rousset, 1903.

THE subject matter of this volume, of such great interest and importance to the physician, considers most comprehensively the urinary syndrome in these two diseases so menacing to the health of childhood. It is really the résumé of investigations carried out in the laboratory of Sevestre at the Bretonneau Hospital. The urine has been studied from all points of view with relation to scarlatina and diphtheria in children. The volume is of great value to those interested in the subject under discussion.

THE GREAT PHYSICIAN. By GABRIEL V. MAX, Historical Painter. Professor at Munich, Hon. Doctor of the University of Jena. Prague: Nicholas Lehmann, 1903.

THIS is a large gravure reproduction of the well-known painting which has been so admired by those who have seen it in exhibitions in this country and Europe. It represents Jesus, the Great Physician, sitting beside the dead daughter of Jairus and in the act of bringing back to her the breath of life. The picture is full of pathos and should carry comfort and hope to all believers in the life-giving power of Christ.

A TEXTBOOK OF CHEMISTRY, for students of Medicine, Pharmacy, and Dentistry By EDWARD CURTIS HILL, M.S., M.D., Medical Analyst and Microscopist; Professor of Chemistry and Metallurgy in the Colorado College of Dental Surgery; Professor of Chemistry and Toxicology in the Denver and Gross College of Medicine University of Denver. With seventy-eight Illustrations, including nine Full-Page Half-Tone and Colored Plates. Philadelphia: F. A. Davis Company, 1903.

As the author states in his preface, this book has been built up from lectures for ten years in medical and dental schools. It is designed for the use of students of medicine, pharmacy, and dentistry. Sixty-nine illustrations and nine plates add much to the attractiveness of the text. The author treats of medical physics, chemic philosophy, inorganic chemistry, the carbon compounds, analysis, incompatibility sanitary chemistry, toxicology, physiologic and pathologic chemistry, clinic chemistry, solubility of common drugs, arithmetic constants, equations of manufacturing chemistry, ores, rocks, and minerals, and popular and alchemic names. The arrangement of the text is convenient, and appeals to the eye. The book must surely prove valuable in the medical library.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and especially prepared original articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Otology, Rhinology, Laryngology, Hygiene, and other topics of interest to students and practitioners. By leading members of the medical profession throughout the world. Edited by A. O. T. KELLY, A.M., Philadelphia, U. S. A. Volume II, Thirteenth Series, 1903. Philadelphia: J. B. Lippincott Company, 1903.

STRANGE as it may seem, this issue does not contain one word upon the Finsen light, *x*-ray therapy, or radium. It does, however, deal with many old-fashioned topics, such as summer diarrhœa of children, prophylaxis and cure of influenza, malaria, erysipelas, common colds, valvular affections, cirrhosis in children, sterility, etc. The articles are written for the most part in a conversational or clinical-talk style, which is pleasant to read.

A TEXTBOOK OF VOLUMETRIC ANALYSIS, with Special Reference to the Volumetric Processes of the Pharmacopœia of the United States. Designed for the Use of Pharmacists and Pharmaceutical Students. By HENRY W. SCHIMPF, Ph.G., M.D., Professor of Inorganic Chemistry in the Brooklyn College of Pharmacy; Member of the American Chemical Society; of the American Pharmaceutical Association; of the New York State Pharmaceutical Association; of the Kings County Pharmaceutical Society; of the German Apothecaries' Society of New York City; Honorary Member of the Alumni Association of the Brooklyn College of Pharmacy, etc. With sixty illustrations. Fourth edition, revised and enlarged. New York and London: Chapman & Hall, Limited, 1903.

THIS work has received merited recognition. In this new output advantage has been taken of modern methods of extraction, analysis, and standardization to add descriptions of processes and procedures not possible in former editions. The many methods bearing the name of the inventor which have received due recognition makes quite a list, which indicates in a measure the necessity for this new edition. The student of pharmacy must have such a work, and the aim of this one would seem to be that of a standard.

THE PRINCIPLES OF OBSTETRICS. A Practical Manual for the Student and General Practitioner. By STANLEY PERKINS WARREN, M.D., Portland, Me., Obstetric Surgeon to the Maine General Hospital, Consulting Physician to the Maine Eye and Ear Infirmary, etc. Illustrated by 165 line and half-tone engravings. New York: William Wood & Company, 1903.

WHILE at the first blush it might seem as if the addition of another to the long list of obstetrical treatises extant were a needless contribution to the literature of a subject already rich in excellent manuals, a little consideration of the present volume shows that no such criticism is applicable to it. The author, with unusual judgment, has filled the debatable ground between the bulky system and the sketchy quizz compend, neither of which is adapted to the use of the student or practitioner, and has produced a book exactly suited to their needs. Every phase of the subject is covered, and its most salient features developed in a manner thoroughly in keeping with the most advanced views of modern aseptic obstetrics, and presented in so simple and practical a way as to make the advantages of hospital technique available for the routine work of the average practitioner.

In looking through the book one finds few points susceptible of criticism and many worthy of the highest praise. The measurements of the pelvic brim given on page 8 are decidedly smaller than those usually accepted, and the chapter on embryology would gain greatly by the addition of several diagrams of the development of the fetal membranes, a subject always difficult of comprehension by the student. The sections on percentage, infant feeding, and pelvimetry are especially noteworthy for their completeness and lucidity, and should do much to popularize subjects of the utmost importance for the welfare of child and mother.

The illustrations and presswork are fully worthy of the text, and the volume should prove extremely popular.

THE MEDICAL EPITOME SERIES. MEDICAL JURISPRUDENCE. By EDWIN WELLES DWIGHT, M.D., Instructor in Legal Medicine, Harvard University. Philadelphia and New York: Lea Brothers & Co., 1903

ALTHOUGH a book of only about 250 pages, the practitioner, as well as the student, will find in this much useful information, including general principles, personal identity the causes of violent death, and the medicolegal side of pregnancy, abortion, infanticide, inheritance, insanity, and life insurance. Questions placed at the end of each chapter adapt the book for use by quiz classes.

# Society Reports.

## THE PRACTITIONERS' SOCIETY OF NEW YORK.

*One Hundred and Eighty-first Regular Meeting, Held on Friday, May 1, 1903.*

Dr. JOSEPH D. BRYANT, PRESIDENT, IN THE CHAIR.

**"Some Aspects of the Old and the New: A Plea for Conservatism in Medicine and Surgery."**—Dr. BEVERLEY ROBINSON read this paper (see page 481).

Dr. W. GILMAN THOMPSON, who opened the discussion, commended Dr. Robinson's views in general, and especially his note of warning against the so-called polypharmacy. What has been gained of late years in the abolition of "shot-gun" prescribing has been lost in the bewildering multiplicity of useless new drugs and preparations. The gravest responsibility rested upon teachers of therapeutics and of the practice of medicine to see that the student and young practitioner shall take the right view of medicines, and not be beguiled or bewildered by an enormous number of new remedies, the uselessness of which he was otherwise likely to learn only through the experience of his unfortunate patients. The editors of pharmacopœias and dispensatories might well have the courage to eliminate nine-tenths of the drugs and preparations which they persistently describe.

Dr. G. L. PEABODY said he had been very much interested in Dr. Robinson's paper, and thought that while it was full of suggestions, it was rather difficult to discuss. He agreed with the writer of the paper, but would go one step further in the use of hydrotherapy. As time went on, the medical profession was making more use of this therapeutic agent. He thought that hydrotherapy, used in pneumonia, delirium, and certain high fevers, invariably gave better results than drugs, especially the coal-tar derivatives, and was not so depressing to the patient. "Polypharmacy" was due, in a great part, either to laziness or ignorance on the part of the physician.

Dr. J. W. BRANNAN said he thought that the society was greatly indebted to Dr. Robinson for presenting this paper. In regard to unnecessary operation, he could scarcely recall a case in which the operation was uncalled for in his practice, but he had heard of cases in which such operations had been performed. Dr. Brannan thought that cirrhosis of the liver opened up a new field of operation in a certain number of cases in which medicine could do nothing. He spoke of a patient with cirrhosis and ascites who got well after an operation. He agreed with Dr. Thompson in regard to the wisdom of discarding a great many drugs. He recalled a case in which trional was administered for sleeplessness, and the patient developed alarming symptoms; since then he had been more careful in using this drug.

Dr. F. P. KINNICUTT said he was quite in accord with the conservatism of Dr. Robinson's paper. Dr. Robinson had referred to the self-limitation of many diseases. It was important that not only the self-limitation should be borne in mind, but also the natural remissions and exacerbations that occur in many chronic affections: Graves's disease and pernicious anæmia were striking examples of this fact. In Graves's disease the natural remissions and exacerbations in many of the symptoms were such that it was exceedingly difficult to judge of the effect of any method of treatment. Personally, Dr. Kinnicutt had seen little effect from drugs in this disease, but a great deal certainly could be accomplished by the regulation of the patient's life, environment, etc. Again, in pernicious anæmia, natural remissions of varying and indefinite periods occurred in which the blood condition improves to an extraordinary degree, occasionally reaching its normal quality, and this with or without the administration of drugs. Dr. Kinnicutt's experience was in accord with Dr. Peabody's regarding the value of hydrotherapy. In the disturbances of the nervous system in many acute infections, he had learned to depend much more on hydrotherapy than upon drugs. In the acute delirium not infrequently present in the course of pneumonia in adults, a cold pack often succeeded in relieving the symptom when drugs were quite useless. Again, a full bath at 90°, as a rule, would quiet the violent disturbances of the nervous system so often present in young children at the onset of this disease.

Dr. E. G. JANEWAY said that all that had been expressed by Dr. Robinson was in the main very judicious, and that the discussion had been so satisfactory that there was little left to add. He would consider the paper, however, from two points: first, that at times we are thought to be too conservative in our surgery. He mentioned instances that had come under his observation with carcinoma of the stomach where it would have been wiser to have operated at an earlier date, and as regards operation in some of the cases of this character in which the condition was so serious that a radical procedure was out of the question, that he thought the patient had to decide whether he would be willing to have palliative surgery, with the hope that he could obtain a more satisfactory existence while life lasted. He mentioned that of the three last cases which he had seen of operation for carcinoma toward the pyloric extremity, one patient died as a result of the operation; one made a very positive gain of fourteen pounds in six weeks, and felt at the end of that time perfectly well, though the tumor still persisted and could be made out; in the third the operation was successful, but the gain had not been so considerable as in the second case. If in these cases operation could have been performed at an earlier period, there might have been still better results. In carcinoma of the intestine, the same thing was true; the diagnosis was so often arrived at so late a period that only palliative measures were available. It seemed to him that at times it would be wise, choosing judiciously, to do an exploratory incision to determine certain of these cases. As regards the medical side, Dr. Janeway agreed with Dr. W. Gilman Thompson that we have too many drugs; in iron, for example, a few preparations would be preferable to the many that are now in the books, and the same was true of other drugs. He said also that at times the coal-tar products had a distinctly serviceable field in fever, particularly in those cases in which there was idiosyncrasy against the use of the tub. He mentioned one case to show how little might be of service; it was that of an adult in whom one grain produced all the results desired, five grains producing a greater influence than was wished.

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## AMERICAN DERMATOLOGICAL ASSOCIATION.

*Twenty-seventh Annual Meeting," Held at Washington, D. C., May 12, 13, and 14, 1903.*

**Special Report to the Medical Record.**

(Continued from page 479.)

*Wednesday, May 13—Second Day.*

**Some Observations on the Use of Röntgen Rays in Dermatology.**—By Dr. HENRY W. STELWAGON of Philadelphia. In this paper the author limited himself essentially to his own observations. He stated that in the *x*-rays we had a potent remedy in some cutaneous diseases, chiefly in some of the epitheliomata. It was also productive of benefit and even cure in some cases of lupus, scrofuloderma, and other forms of cutaneous tuberculosis, and it would probably prove a permanent curative influence in some cases of lupus erythematosus. In other skin diseases, more especially acne of stubborn type and in acne rosacea, its effects were occasionally brilliant. In certain limited keratoses, especially of the palms and soles, it might be resorted to with a good chance of its being beneficial and occasionally curative. The same might be said also of the local forms of hyperidrosis. In eczema, psoriasis, and other like comparatively inoffensive dermatoses he would

reserve it for those cases which proved intractable to other plans of treatment. While recognizing the great value of this therapeutic agent in dermatology, and that future observations might give it a still stronger hold, he hesitated, as yet, from his own relatively limited experience, to subscribe without reservation to its possession of the almost marvelous powers accredited to it by other writers in so large a number of dermatoses.

**The Rationale of, and the Indications for, the Therapeutic Use of Röntgen Rays.**—By Dr. WILLIAM A. PUSEY of Chicago. The author stated that the microscopical changes occurring in tissues affected by *x*-rays have been studied by various observers, and their findings showed a striking uniformity. The first changes occurred in the epidermis. There was marked hyperplasia of the prickle-cell layer, with increase in the number of cells, and increased formation of pigment and of keratohyalin, followed after further exposure by breaking up of nuclei or division of the nuclei; subsequently, there was degeneration of the cells, and if the process proceeded further, complete disintegration. The changes in the corium were of a similarly striking character. The changes produced in diseased tissues were similar to those seen in normal tissues. The process was one primarily affecting the tissue cells; there was evidence first of stimulation of cellular activity, and later, if the effect was intense, there followed derangement or disintegration of the affected cells. The changes occurred first and most strikingly in the epithelial structures and next in the blood vessels, but it was likely that they developed also, though to a much less degree, in the cells of all the tissues of the affected areas. From a consideration of the effect of *x*-rays upon tissues and upon bacteria in living tissues it was not difficult to arrive at a fairly accurate estimate of the indications for the therapeutic use of this agent. The actions of the *x*-rays which offered opportunities for therapeutic application were as follows: (1) The action in causing atrophy of the appendages of the skin. (2) The destructive action upon organisms in living tissues. (3) The effect upon the metabolism of tissues. (4) The power of destroying certain pathological tissues. (5) The anodyne action, to which attention had been called by the effect upon pain in malignant growths, in neuralgias, and in diseases of the skin accompanied by itching.

Dr. L. A. DUHRING of Philadelphia said he was firmly impressed with the value of the Röntgen rays as a therapeutic agent in numerous diseases. He favored the use of the low vacuum tube.

Dr. JAMES C. WHITE called attention to the possible injurious effects of the rays, even when the applications were made by men of great experience in the handling of the apparatus. The ultimate use of the rays should be confined to cases in which the knife or cautery was not considered advisable.

Dr. L. DUNCAN BULKLEY of New York emphasized the importance of measuring the dose of the remedy. He favored short exposures at close range, and not too frequently repeated.

Dr. F. H. WILLIAMS of Boston said that while the *x*-rays offered a remedy of much value in the treatment of skin diseases, it should be used with the greatest care. Some cases of even superficial new growths did not yield readily to the treatment, and in some instances they were actually aggravated by it. Such cases, however, were uncommon. Another disadvantage was the long duration of the treatment.

Dr. WILLIAM A. HARDAWAY of St. Louis said that while all were agreed as to the utility of the *x*-ray in malignant new growths of the skin, particularly in that type of growth approaching the rodent ulcer, there was some legitimate reason to doubt its value in acne and various other forms of skin disease. He also spoke of the relapses that occasionally followed the treatment.

Dr. E. B. BRONSON said the value of the *x*-rays was, in more ways than one, the burning question in therapeutics. In the application of the remedy there was still lacking a certain degree of precision. The essential feature was the amount of irradiation, and this depended, he thought, upon the condition of the tube. The actuating element he regarded of less importance.

Dr. HARTZELL said that until physicists told us what the *x*-rays were, and furnished us with apparatus to gauge the strength of the rays, we would be limited to the effects they produced. The time of the exposure must be determined by the effect produced. The same rule applied to other therapeutic agents. The proper dose in one case would be insufficient in another, and too much in a third. He favored short exposures daily until a reaction occurred; then the intervals could be lengthened.

Dr. FRANK HUGH MONTGOMERY of Chicago said that in the treatment of superficial epithelioma about the forehead, nose, and cheeks with the *x*-rays, he had not seen one failure in at least over one hundred cases. In psoriasis the results were brilliant almost invariably, but the lesions recurred as fast as after other methods of treatment. In lichen planus the results were excellent. In acne he looked upon it as the ideal local treatment, but there were quite a number of cases in which, after the face had cleared, there was a return of the disease from outside.

Dr. F. H. SHEPHERD said that *x*-ray burns were usually produced in the course of skiagraphic work and not in the treatment of skin diseases. He did not think the use of the *x*-rays should be advised in the treatment of epithelioma of the lower lip, on account of the usual involvement of the glands in the submaxillary region.

Dr. MARTIN F. ENGMAN of St. Louis cited a case of epithelioma of the tongue successfully treated by the *x*-rays.

Dr. A. P. BIDDLE of Detroit mentioned a case in which the tube exploded, badly cutting the patient's cheek.

Dr. JOHN T. BOWEN of Boston gave a brief review of the result of the Röntgen ray treatment in dermatology in the Massachusetts General Hospital during the past year. In all, 143 purely cutaneous diseases were treated by this method. This number was made up as follows: There were 55 cases of epithelioma, of which 27 were healed, nine were benefited but failed to continue treatment, and 19 were still under treatment. There were 4 cases of carcinoma; these were not benefited. Seventeen cases of keratosis senilis, 11 of which were cured, 4 were benefited but failed to continue treatment, and 2 were still under treatment. There were 22 cases of tuberculosis, including lupus, verrucosa and scrofuloderma; 15 of these were healed, 4 were benefited but failed to continue treatment, and 3 were still under treatment. There was one case of multiple round-cell sarcoma of the skin which was not benefited. There were 12 cases of folliculitis, 8 of which were healed, 2 were benefited but failed to continue treatment, and 2 were still under treatment. There were 7 cases of eczema, 5 of which were healed and 2 were still under treatment. There were 8 cases of psoriasis; 6 healed; 2 still under treatment. There were 4 cases of varicose ulcer; 2 healed; one benefited but failed to continue treatment; one still under treatment. There was one case of cellulitis of the leg, which failed to show any improvement. Two cases of varicose dermatitis; one healed; one benefited but failed to continue treatment Two cases of acne; both healed. Two cases of hypertrichosis; both healed. Two cases of alopecia areata; not benefited. One case of erythema induratum; healed. One case of scleroderma; not improved. One case of hyperidrosis; not improved.

**Professional Discretion: The Medical Secret.**—By Dr. P. A. MORROW of New York. In this paper the author discussed the complicated problems that often confront the physician in dealing with patients suffering from venereal diseases. On the one hand, he was bound by the obligations formulated in the precepts of the Hippo-

cratic oath; on the other, by his duty to society at large. In the ordinary treatment of venereal disease he found it easy enough to adjust his line of conduct in strict accordance with his code of professional duty, as in such cases the individual interests of the patient alone were involved, but when a venereal patient consulted a physician in regard to marriage, the situation was changed: then the interests of others might be jeopardized. His protective duty extended to the wife and future children, and through them to society at large. There was no situation in the entire range of a professional man's experience so painful as to recognize himself powerless to prevent the morally culpable union of a syphilitic man and an innocent woman. What had been termed the "eternal problem" of the professional secret had long engaged the thoughtful attention of medical men. Like all problems connected with the prophylaxis of venereal disease, it was exceedingly complex and baffling. It might be said that no solution of these problems had ever been proposed, no plan of action for the regulation or control of these diseases had ever been formulated which did not come in conflict with individual liberty, legal rights, or moral principles. In the larger proportion of cases, venereal diseases were introduced into marriage from extra-conjugal infections, contracted *post nuptias*. Here it was evident that the preventive duty of the physician could not be exercised. Other phases of the subject discussed by Dr. Morrow in his paper were the relation of the physician to the syphilitic husband or wife, to the syphilitic nurse, syphilis in domestic servants, and lastly, industrial infections.

Dr. GILCRIST said he thought syphilis should be regarded from the same standpoint as smallpox. It should be looked upon as a highly contagious disease.

Dr. STELWAGON called attention to the fact that many hospitals refused to accept venereal patients on the ground that it would encourage vice. Physicians themselves, he thought, were partly to blame for the increase in venereal diseases, as they were too apt to belittle this class of affections.

Dr. H. G. KLOTZ of New York advised the wide dissemination of a knowledge of the dangers attending the contraction of venereal diseases. The subject should be handled without gloves. Syphilis was not a venereal disease, but a disease of the public.

**Note on a Method of Early Diagnosis in a Case of Leprosy.**—By Dr. FRANCIS J. SHEPHERD of Montreal. The patient, a Chinaman, was admitted to the Montreal General Hospital with a skin affection of an erythematous type. Leprosy was suspected. and the city authorities were anxious for a positive diagnosis in order that the patient, if suffering from leprosy, might be sent home. The ulnar nerves were enlarged. A section was removed from one of them, and on examination it was found to contain numbers of the bacilli of leprosy. Thus the diagnosis was positively established.

Dr. FRANK H. MONTGOMERY of Chicago called attention to the early involvement of the posterior auricular nerve in leprosy. According to one authority, it was involved in 90 per cent. of all cases of anæsthetic leprosy, and much earlier than the ulnar nerve.

Dr. MORROW said that in a very large proportion of cases of leprosy the identification of the lepra bacillus was easily made in the nasal secretions.

**Dermatitis Venenata—A Supplemental List.**—By Dr. JAMES C. WHITE of Boston. In this paper the author placed on record for convenient reference a list of the agents which had been observed to produce inflammation of the skin by contact since the publication of his work on "Dermatitis Venenata" in 1887. Some of these had already been described by him from time to time. The list included chlorhydrat-paraphenyl-diamin (found in certain hair dyes); aureole, also used as a hair dye; orthoform; salol; resorcin; aristol; ichthyol; dermatol; europhen; pyoctanin; creolin; iodvasogen; kerosene; electricity; aurantia, an orange colored dye used to stain leather; cocus wood; guiacum; humulus; heracleum; angelica; hyacinth; Ginkgo tree; cotoneaster; humea.

Dr. MORROW called attention to the importance of a very thorough investigation in every case of dermatitis venenata. Many innocent plants had obtained a bad reputation for toxic effects simply from misinterpretation.

Mr. V. K. CHESNUT of the U. S. Department of Agriculture said the most common causes of skin poisoning from plants were the poison-ivy and the sumac, both of which were very widely distributed in this country. He stated that persons who handled radishes in abundance were apt to be poisoned.

Dr. STELWAGON said that the drug metol, used by photographers in the development of negatives, often produced a varying degree of dermatitis of the hands and sometimes of the face.

Dr. GILCRIST mentioned a case in which an eczematous eruption was produced by a weak solution of boracic acid, used as a rectal injection.

Dr. KLOTZ said he had observed the same thing in cases in which the drug was used for irrigating the bladder in cystitis.

Dr. James C. White, in closing, said that while it was a popular belief that ivy poisoning might recur spontaneously a year after the original attack, he did not regard that theory as at all plausible; there were no grounds for it. On the other hand, the skin of a person who had once been poisoned by ivy was no doubt more susceptible, and with the onset of warm weather eczematous lesions or other forms of dermatitis might occur. It was well known that the poison of the ivy vine was quite evanescent.

**A New Drug Eruption of the Iodoform Type.**—Dr. S. POLLITZER of New York read this paper. He reported a number of cases of dermatitis, of a vesicular and crusted type, resulting from the external use of mesotan, which was described chemically as a methyl-oxymethyl-ester of salicylic acid. Mesotan was a comparatively new remedy for rheumatism, and was applied externally over the affected parts, after diluting it with an equal volume of olive oil. The local application of the remedy was promptly followed by an agreeable sensation of warmth and tingling, the skin became reddened, and within half an hour after its application salicylic acid could be detected in the urine.

**Report of a Case of Dermatitis Gangrænosa Infantum.**—By Drs. J. NEVINS HYDE and E. R. LECOUNT of Chicago. The patient, an infant seventeen months old, had always been in good health, with the exception of a single attack of bowel disorder, from which it had promptly recovered. It had walked at the twelfth month and had accomplished the normal eruption of teeth. There was no history of varicella, variola, or vaccination. The family history was good, and there was no record of unhygienic surroundings in the home. The child was admitted to the hospital on February 15, 1903. Ten days before, the mother had first noticed some reddish blotches on the abdominal surface of the child. Two days later, beginning with the left hand, the fingers became yellowish-red in color and much swollen. Gradually, the involved digits assumed a darker hue. A physician was summoned on the third day, who incised the tumefaction between the fingers, with the result of liberating a "watery fluid." On the fifth day of the disease, eruptive lesions appeared on the back, the feet became swollen and much discolored. At the time of admission, the child's temperature was 104° F.; there was considerable stupor and the child moaned occasionally. The abdominal surface was symmetrically and rather thickly overspread with superficial, globular, discrete pustules, as large as split peas, well defined and distended, and having a grayish-white color. They were neither umbilicated nor superimposed upon papules of similar size. On the extremities they were less numerous and conspicuous. The back was equally involved with

the abdominal surface, but the lesions were obviously more abundant in the regions of pressure. On the eleventh day a marked change occurred in the eruptive phenomena, superficial papulopustules cropping out among the pustulobullous lesions, and these were decidedly more numerous and more deeply encroaching gangrenous areas where the lesions were large and threatening. The parts about the radial border of the left hand were in a gangrenous state. The left foot was swollen, cold and blackened; the right foot was similarly involved, though less extensively. Several of the digits of both the hands and feet were attached to the limb merely by tags of gangrenous tissue, and eventually one of them became practically separated from the limb by the morbid process. Death occurred on the fifteenth day of the disease.

**Report of a Case of Symmetrical Gangrene.**—Dr. E. B. BRONSON of New York reported a case of symmetrical gangrene affecting the lower extremities. The patient was a girl who had always apparently enjoyed good health. She was thirteen years old when the affection was first noticed. The family history was fairly good, although it showed some gouty and neurotic tendencies. The patient had had no severe illness, and though of a nervous temperament, she possessed good self-control and normal mentality, and had never given the slightest indications of hysteria. The disease began some eight years ago, and from beginning to end had occupied the same regions. The lesions were exactly symmetrical. There were areas over the shins, at the juncture of the middle and lower third of the legs and on each side of both ankles behind the malleoli. The first attack came on in summer and for several years the succeeding attacks occurred in that season. About five years ago they began to occur in the winter also. Their most important feature was pain, which was both burning and lancinating in character, and at times intense. This was accompanied with a dusky redness, heat and swelling, and occasionally excoriations; the latter the patient thought were usually the result of the severe treatment to which she was subjected, namely, caustics, and at times curetting. There was never any ischæmia nor coldness of the affected parts. The attacks lasted usually about six weeks, and there were seldom more than two or three attacks in the course of a year. At one time, some two years ago, there was an intermission of eighteen months between the attacks. Commencing last May or June, there was a continuous attack lasting until the middle of October; it was the severest of all, and attended by the development of deep gangrene—usually on the shins. After the gangrene had reached its fullest extent, the pain rather suddenly ceased, but the dry, black sloughs showed very little tendency to separate, and after waiting a month or more they were removed by the knife, it being necessary to cut almost to the bone before reaching healthy, living tissue. Since then (six months ago) there had been no recurrence of the disease.

*Thursday, May 14—Third Day.*

**A Case of Multiple Angioma.**—Dr. ABNER POST of Boston reported this case. The patient was an undersized but apparently healthy girl of sixteen who bore upon her right arm a series of curious outgrowths or tumors which practically occupied the whole of the palm and extended in scattered nodules to the sternum. The first growth appeared on the arm when the patient was one year old. The arm gradually became swollen, of a bluish color and an irregular, lumpy outline. Shortly afterward a puffiness of the hand was noticed, which also underwent the same change. During the past six or seven years similar spots had developed on the chest. Six years ago a number of the superficial elevations were cut away, but they recurred in practically the same locations. A microscopical examination of the tumors proved them to be hæmangiomata.

**The Present Status of Phototherapy.**—By Dr. FRANK HUGH MONTGOMERY of Chicago. The paper was based on the author's recent observations in the Copenhagen and other light institutes, on published reports, and on the personal experience of Dr. James Nevins Hyde and his own. He stated that in lupus vulgaris no other treatment was so uniformly successful or gave such good results from a cosmetic standpoint. The *x*-rays had given equally good results in some cases, but were more dangerous, and the resulting scars were not always so good. Phototherapy was also of great value in the treatment of lupus erythematosus. It had given good results also in some cases of rosacea, vascular nævi, alopecia areata, indolent ulcers, acne and superficial epithelioma. In the two last named diseases, the *x*-rays were, however, equally efficacious, more convenient and less expensive. In Finsen's Institute (Copenhagen), as the result of improvements in the apparatus, the time (and, therefore, the expense) of the treatment had been reduced to one-fourth that required in cases treated prior to 1901. A new and inexpensive lamp for the treatment of a single patient had been devised by Professor Finsen and Dr. Reyn. It was built on the same principles as the larger apparatus, and was equally effective. Of the many other small lamps on the market, some were of value in the treatment of superficial lesions, but, as shown by clinical and laboratory tests, none had the penetrating power of the concentrated Finsen light, and all were therefore ineffective in deeper-seated disease. The most refrangible ultraviolet rays, which were highly bactericidal for surface cultures, penetrated the epidermis less than one millimeter. The effective light was found in the visible blue and violet, with possibly a few of the immediately adjacent ultraviolet rays. Finsen believed that the reported failures of the red-light treatment of smallpox were due to imperfect technique. He hung in the room with the patient a number of sensitized photographer's plates: if, at the end of the treatment, these plates showed the influence of white light, the technique had been defective.

Dr. GEORGE THOMAS JACKSON of New York showed one of the small lamps devised by Dr. Piffard, which was very rich in ultraviolet rays. The London lamp had been used at the Presbyterian Hospital during the past year, with varying success. In one case of epithelioma of perhaps six months' standing, the lesion, which was a superficial one, disappeared after three exposures of the light. Regarding the length of the exposure, Dr. Jackson said he had no fast rule. Sometimes an exposure of five minutes gave rise to an intense dermatitis, while in another case there might be no reaction after an exposure of twenty-five minutes.

Dr. WILLIAM A. PUSEY of Chicago said he had been interested in comparing the effects of phototherapy and radiotherapy, and it seemed to him that there were one or two conditions in which the former was preferable. There was a field of usefulness for phototherapy in the treatment of flat nævi and in conditions in which it was desirable to produce an inflammatory reaction and be on the safe side. It was safer than radiotherapy.

Dr. E. B. BRONSON said the effective agent in phototherapy was not the ultraviolet rays alone or even chiefly. Finsen had demonstrated very effectively, by experiments on rabbits, that there was a wide disparity between the penetrability of the different lamps. The penetrability depended not on the ultraviolet rays alone, but on the visible rays as well.

Dr. MONTGOMERY, in closing, said there was no question that light rays were highly bactericidal on the surface; the vast majority of bacteria were destroyed very rapidly by the ultraviolet rays.

**Some Precancerous Affections of the Skin, More Particularly Precancerous Keratoses.**—Dr. M. B. HARTZELL of Philadelphia read this paper. He stated that a small number of diseases of the skin, after existing for a longer

or shorter period as benign affections, exhibiting neither the clinical nor the histological features of malignancy, might terminate in epithelioma. This termination, although far from being the rule, occurred in a sufficient number of cases to exclude the probability of mere coincidence, and to warrant the application of the term precancerous to such affections. These diseases did not belong to a single pathological group, but included inflammations, neoplasms, hypertrophies and such alterations of the skin as might result from previous disease or injury. In this list of precancerous affections Dr. Hartzell included the following: Paraffin dermatitis, a peculiar inflammation of the skin occurring in workers in tar and paraffin; the dermatitis of the scrotum met with in chimneysweeps, due to the irritation of soot; lupus vulgaris, in a small proportion of cases; other forms of cutaneous tuberculosis, such as tuberculosis cutis verrucosa; rarely after lupus erythematosus; new growths of the skin, congenital or acquired; pigmented nævi; chronic leg ulcers; cicatrices arising from any cause, but more particularly those resulting from burns; various forms of circumscribed keratoses, such as cutaneous horns and callosities; arsenical keratoses; the so-called senile seborrhœa, a better name for which was the senile keratoma of Besnier. The latter Dr. Hartzell regarded as the most frequent and perhaps the most important form of precancerous keratosis.

Dr. JAMES C. WHITE of Boston mentioned a case of epithelioma of the hand following a prolonged *x*-ray dermatitis.

Dr. PUSEY said he had recently had the opportunity of studying a remarkable case of chronic *x*-ray dermatitis in a man who manufactured apparatus for producing the rays. He was burned from the middle of the trunk upward, the lesions resembling those of xeroderma pigmentosa. Subsequently he developed an epithelioma, for which his hand had to be amputated.

Dr. STELWAGON said he had seen a number of examples of chronic *x*-ray poisoning in which there were decided keratoses that pointed suspiciously toward the development of epithelioma.

Dr. MARTIN F. ENGMAN of St. Louis said he thought that sunlight might possibly have something to do with the development of senile keratoses. The lesions occurred most frequently on exposed parts.

Dr. L. A. DUHRING reported a case of typical lupus erythematosus followed by the development of a carcinoma. He had never seen a similar case.

Dr. S. POLLITZER of New York thought that epithelioma following lupus, whether of the vulgaris or erythematosus type, might depend upon the mechanical methods of treatment employed. Otherwise it was difficult to see why an inflammatory process like lupus should result in epithelioma more frequently than any other inflammatory disease.

**Paludides with the Histopathology of a Case of Malarial Purpura.**—By Dr. MARTIN F. ENGMAN of St. Louis. In using the word paludide, the author followed the suggestion of Verneuil and Merklen and also Brocq to express the probable origin of certain familiar eruptions associated with malarial infection. In the cases he reported, twenty-four in all, the malarial plasmodium was demonstrated in the blood. The list included herpes simplex, herpes zoster, pompholyx, urticaria, angioneurotic œdema, trophic changes in the skin (non-inflammatory pityriasis), erythema multiforme, purpura, and gangrene. He did not attempt to express an opinion as to why so many different types of eruption should emanate from the same source, nor did he wish to be understood as claiming that these eruptions were peculiarly malarial in origin; therefore the term paludide was not used in the sense that one employed the word tuberculide or syphilide. The object of the paper was to point out the necessity of blood examinations in eruptions with any semblance of periodicity of their symptoms. Many of the paludal dermatoses were not accompanied by any constitutional symptoms, pyrexia, chills, etc., the dermal symptoms being the only manifestations of the infection. In the histologic examination of a paludal purpura the lymph channels were widely dilated, the superficial vessels were empty and the deeper ones engorged. There were marked symptoms of œdema, and slight diapedesis of red cells from the deeper vessels. No thrombi were found.

The President, Dr. BOWEN, said he did not think the term "paludides" was an especially fitting one. While malaria was the cause of the eruptions in the cases reported by Dr. Engman, similar eruptions were also produced by other causes.

The following officers were elected for the ensuing year: *President*, Dr. Joseph Zeisler of Chicago; *Vice-President*, Dr. M. B. Hartzell of Philadelphia; *Secretary and Treasurer*, Dr. Charles J. White of Boston. Niagara Falls was selected as the next place of meeting, which will be held early in June, 1904.

## Books Received.

*While the* MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

HIGH-FREQUENCY CURRENTS IN THE TREATMENT OF SOME DISEASES. By CHISHOLM WILLIAMS, F.R.C.S., 8vo, 222 pages. Illustrated. Rebman Co., New York City. Price, $2.75 net.

CANCER AND PRECANCEROUS CHANGES, THEIR ORIGIN AND TREATMENT. By G. H. FINK, M.R.C.S. 8vo, 105 pages. H. K. Lewis, London, England.

CONSUMPTION A CURABLE AND PREVENTABLE DISEASE. By LAWRENCE F. FLICK, M.D. 12mo, 295 pages. David MacKay, Philadelphia, Pa. Price, $1.00.

A COMPEND OF HUMAN ANATOMY. By SAMUEL O. L. POTTER, M.D. Seventh edition, 12mo, 372 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia. Price, 80 cents net.

A COMPEND OF DISEASES OF THE SKIN. By JAY F. SCHAMBERG, M.D. Third Edition, 12mo, 291 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia. Price, 80 cents.

A HANDBOOK OF THE DISEASES OF THE EYE AND THEIR TREATMENT. By HENRY R. SWANZY, M.B. Eighth edition, 8vo, 580 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia, Pa. Price, $2.50 net.

A TEXTBOOK OF THE DISEASES OF WOMEN. By THOMAS A. ASHBY, M.D. 8vo, 661 pages. Illustrated. Williams & Wilkins Company, Baltimore.

**Should the Deaf Be Debarred from Accident Insurance?**—J. A. Spalding, who suffers from deafness and who has been turned down by one of the accident insurance companies, complains of this action, and declares that a deaf person is as good a risk against pedestrian accidents, at least, as one who can hear well, owing to the greater care which the deaf person takes of himself, because of his very defect and owing to his better perception of sounds in the noise of the streets than in the case of those who can hear He bases these conclusions on personal experience supplemented by considerable thought and study. —*Archives of Otology*.

**What Will Tuberculin Do?**—In a paper read before the International Congress on Tuberculosis held in Italy, Gustav Schmidt thus described the effects we may look for from the use of tuberculin: (1) In hereditary or acquired predisposition to the disease tuberculin will establish immunity by increasing resistance to the tubercle bacillus. (2) Incipient cases can be permanently cured and relapses do not follow. (3) In advanced cases without mixed infection the disease may be cured, stayed, or improved. (4) Cases in the last stage are temporarily improved and the distressing symptoms are relieved

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending September 19, 1903:

| | Cases. | Deaths. |
|---|---|---|
| Measles | 62 | 3 |
| Diphtheria and croup | 182 | 23 |
| Scarlet fever | 88 | 6 |
| Smallpox | 1 | ... |
| Varicella | 12 | ... |
| Tuberculosis | 301 | 122 |
| Typhoid fever | 102 | 16 |
| Cerebrospinal meningitis | ... | 4 |

**Attack on United States Census Figures.**—At the Fourth International Congress of Actuaries, recently held in New York, Mr. Frederick Hoffman of Newark seized the occasion to criticise severely the manner in which official statistics of the United States, and especially of the Census Bureau, are collected. "When we are told," he said, "by a secretary of war that the mortality of the army in Cuba was not greater than that of the city of Washington we do not need large actuarial knowledge to smile at the statement, and to dismiss as without statistical value—a misleading item disseminated to an ignorant public for political purposes." Mr. Hoffman asserted that although the United States Census Bureau was not "in such atrocious shape" as it had been before it became a permanent department, yet "it was very far from being such as to give its statistics value as contributions to science." Mr. Hoffman also commented upon the effect of improper drainage on the death rate, and said that until the drainage conditions in the Southern States are improved, the average of longevity there cannot be so great nor the lives so well developed as in the cities of the North.

**London Fogs.**—The Bulletin of the American Geographical Society says, regarding London fogs, that Captain Alfred Carpenter, R. N., who has been conducting the official inquiry into the occurrence and distribution of fog in London, has presented a report to the Meteorological Council of the Royal Society on the results obtained for the year 1901-'02. Among the most important conclusions thus far reached are the following: The commencement of a fog is a general process, depending upon general atmospheric conditions. There is no evidence that fogs formed outside invade or drift into London. London fogs are produced in London. During dense fogs there is a tendency to an indraught of air from all sides to the central parts of the city. No severe fog has occurred with a temperature above 40°. On March 7, during a fog, the temperature in the streets was nearly 10° below that on the roof of the meteorological office, at the elevated stations, and over the surrounding country on the south and west. It is proposed to carry on the investigation, and especially to study the vertical decrease of temperature before and during fogs.

**The Sneeze and Its Diagnostic Value.**—It is reported that Mr. Jonathan Hutchinson has said that "when a man sneezes heartily he may know himself to be in the best of health," and that "no person in poor health was ever known to sneeze." The *Scientific American*, referring to this reported statement, falls foul of the English surgeon for making so dogmatic an assertion when the contrary is so easily proven. The journal in question then goes on to relate many old superstitions with regard to the ill luck attending sneezing, some of which, while proving nothing, are interesting. It appears that many savage and semi-civilized races of the Orient have some curious customs regarding the sneeze. When the Sultan of Monomtopa sneezes, for instance, the fact is made known from the palace by a certain signal. Instantly every subject within hearing of the signal sets up a shout; the cry is taken up by others, and so extends until it rolls through the confines of his empire. When the Sultan of Senaar sneezes, on the contrary, every woman in his harem or within hearing, turns her back on him and makes a sign of contempt by smiting her hips with her hands—disgusted that so mighty a personage should have to sneeze like an ordinary mortal.

**Medical Students at Swiss Universities.**—The Swiss correspondent of *The Lancet* writes that during the winter term 1902-03, 1,696 duly matriculated medical students attended the five Swiss universities, being an increase of 203 as compared with 1,493 in 1901-02. This increase was especially marked with regard to the universities of Bern, Lausanne, and Zürich, whereas the number at Basle remained the same and at Geneva it had decreased. This increase of medical students is principally due to the circumstance that 840 female students are now studying medicine at Swiss universities, whereas there were only 665 in 1901-02. The number of female students of Swiss nationality was quite small, the overwhelming majority being Russians. This is accounted for by the fact that on the one hand it is difficult for women to study medicine and become qualified in Russia, whereas on the other hand the Swiss degree of M.D. is recognized in Russia. It is understood, however, that the Russian Government proposes to diminish the obstacles which female students at present have to encounter in that country. It has been suggested that one medical school in German-speaking Switzerland and one in French-speaking Switzerland (obviously Bern for the former and Lausanne for the latter, where the female students number respectively 66 per cent. and 57 per cent. of the total number of students) should be transformed into faculties receiving only the gentler sex.

**The Application of the Cinematograph Principle to the Study of Serial Sections.**—Mr. Robert E. Kelly of University College, Liverpool, has been making some interesting experiments in the application of the cinematograph principle to the study of serial sections, the results of which he has published in the *British Medical Journal* of August 8. He was struck by the resemblance between the pictures on a cinematograph film and a series of sections in a paraffin ribbon, and determined to try the effect of viewing these sections on the cinematographic principle. Mr. Kelly accordingly mounted, on a clear celluloid film twenty-five feet long, 700 serial sections from the head and neck of a chicken embryo six days old, and he says that the result is extremely interesting and curious, for the impression produced is that of traveling through the embryo. The eye, for instance, appears first as a dot; this changes to a ring, the ring enlarges, then near the periphery another dot appears. This is the lens; it gets larger, takes on its proper shape, then diminishes and fades away; the ring gets smaller, and the eye finally disappears as a dot. The method of mounting is thus described: The tissue is fixed, stained and imbedded in paraffin in the usual way, and a paraffin ribbon formed in a microtome. As the celluloid film is stainable, and as the subsequent proceedings are rendered easier, the tissue has been stained in bulk. The "ribbon" is then floated directly on to warm water and stuck on to the celluloid film by means of an albuminate fixative. At first the larger films were tried, in which the pictures are three-quarters of an inch apart, but these have been discarded in favor of the smaller, three-eighths of an inch. Now it follows that if the paraffin block from which the sections are cut is exactly three-eighths of an inch wide and has its sides perfectly parallel, then the resulting ribbon will be straight and have its sections exactly three-eighths of an inch apart. Practically they never quite float out to this size unless the water is too hot, consequently the block is cut a shade larger than three-eighths of an inch. Having, therefore, properly indexed the sections, the whole film is dried on a barrel, and then the paraffin is dissolved in xylol and the sections fixed on the film by means of a varnish. Covering

is out of the question, and Canada balsam cracks when it is rolled. In future better results will be obtained with a gelatin cover. Oil of cloves cannot be used, as it destroys the celluloid film. When thoroughly dry, the film is rolled up and placed in the cinematographic apparatus. Then the sections are projected on the screen by means of the camera, or the working portion of the cinematographic camera is placed on the stage of a microscopic projection apparatus, or even on the stage of an ordinary microscope. Electric illuminations must be used for projections The greater the care taken in "indexing" the separate units, the less will be the flicker and the higher the magnification employed. The advantages claimed by this method are: (1) The ease with which a series of sections can be demonstrated to an audience. (2) The unique impression of continuity.

**Horse Sickness in the Transvaal.**—It is stated that the Transvaal Government intends to offer a prize of $125,000 for a method of prevention and cure of horse sickness, a disease which works such frightful havoc among the draught animals in South Africa.

**Sir Henry Acland at Home.**—A life of the late Sir Henry Acland, Regius Professor of Medicine at Oxford from 1858 to 1900, has recently been published. In the chapter on his home life it is narrated that Acland used to address his domestic servants at morning and evening prayers on all kinds of subjects. "Sometimes it would be by showing them his sketches of the Seven Churches, at another it might be a description of General Gordon. These addresses did not always have the desired result. One maid, on being asked if she had understood what he had been telling them, replied, 'I never thought of doing that,' and then she added, 'I look across at the dear master, and I think to myself—You poor, dear, gentleman, how you are enjoying yourself!'"

**Radium Rays.**—E. Rutherford brings some interesting information concerning the three classes of rays obtainable from radium, which element certainly deserves its name. There are the *a*-rays, consisting of heavy, positively charged particles; the *b*-rays, identical with cathode rays and negative electrons, and the *c*-rays which are not deflected by a magnet and can penetrate 8 cm. of aluminium as against the 0.05 cm. of the *b*-rays and 0.0005 cm. of the *a*-rays. The author proves that *a*-rays are also deflected by a magnet of sufficient strength, although the radius of curvature of their path is 39 cm. in a field in which cathode rays would show a radius of curvature of only 0.01 cm. radius. The author proves the magnetic deflection by passing the rays through a number of parallel plates with narrow interspaces, in which the least deflection will lead to absorption. He finds that the velocity of projection of the *a*-rays is about one-tenth of the velocity of light. He supposes that the particles projected are intermediate between atoms and electrons. These *a*-rays are identical with polonium rays, but much faster than canal rays. They are the chief agents in the dissipation of matter and energy from radio-active bodies.—*Scientific American.*

**Famous Singer Studying Medicine.**—Frau Laura Hilgermann, one of the singers at the Imperial Opera in Vienna, is devoting her leisure hours to the study of medicine. She began at the City Hospital, and intends to continue her studies at the university. The long years of suffering of her late husband induced her to take this step, and she intends to utilize her medical skill by treating her colleagues at the opera.—*Evening Post.*

**Bubonic Plague in Sydney.**—The bubonic plague still exists in Sydney. An increase in the number of infected rats and mice is reported and one case has occurred in a human being. This is the first case since June of last year. The source of infection has not been traced so far. The destruction of rats is vigorously prosecuted. No case of plague having occurred in Brisbane for several weeks and no rats having been found infected since June 8, that city has been declared to be free from the disease. All the other Australian States remain free.—*The Lancet.*

**The Life of Mosquitos.**—William Lyman Underwood, writing in the *Popular Science Monthly* with regard to the length of life of the mosquito, says that it is not known just how long mosquitos can live, but their average life is much longer than is ordinarily supposed Thousands of them live through the winter, hibernating in dark places in barns or house cellars. In sparsely settled localities, where they cannot find such places for shelter they live through the winter in hollow trees, in caves and holes under upturned trees. Even though the temperature may fall far below freezing, they are not winter killed, but on the approach of warm weather become active again. Mosquitos are frequently seen flying about in the woods before the snow has wholly left the ground.

**Health Report.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U S. Marine Hospital Service during the week ended September 12, 1903:

SMALLPOX—UNITED STATES.

| | | CASES. | DEATHS. |
|---|---|---|---|
| California, Los Angeles | Aug. 29–Sept. 5 | 3 | .. |
| San Francisco | Aug. 30–Sept. 6 | 3 | .. |
| Illinois, Belleville | Aug. 23–Sept. 12 | 13 | .. |
| Chicago | Sept. 5–12 | 4 | .. |
| Indiana, South Bend | Sept. 5–12 | 1 | .. |
| Louisiana, New Orleans | Sept. 5–12 | 1 | .. |
| | | (5 days in city) | |
| Massachusetts, Fall River | Sept. 5–12 | 3 | .. |
| Michigan, Marquette | Aug 29–Sept. 5 | 1 | .. |
| Port Huron | Aug. 31–Sept. 16 | 2 | .. |
| Minnesota, Stearns County | Aug. 31–Sept. 7 | 3 | .. |
| Missouri, St. Louis | Sept. 5–12 | 2 | .. |
| New York, Niagara Falls | Sept. 5–12 | 1 | .. |
| Pennsylvania, McKeesport | Aug. 31–Sept. 5 | 1 | .. |
| Utah, Ogden | Aug. 1–31 | 11 | .. |
| Salt Lake City | Aug. 29–Sept. 5 | 2 | .. |

SMALLPOX—INSULAR.

| | | | |
|---|---|---|---|
| Philippines, Manila | July 18–Aug. 1 | 2 | .. |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Belgium, Brussels | Aug. 22–29 | .. | 1 |
| Colombia, Bocas del Toro | Aug. 25–Sept. 1 | 2 | .. |
| France, Paris | Aug. 15–22 | .. | 1 |
| Great Britain, Leeds | Aug. 29–Sept. 5 | .. | 6 |
| Liverpool | Aug. 22–29 | 7 | 1 |
| Manchester | Aug. 22–29 | 1 | .. |
| India, Calcutta | Aug. 8–15 | .. | 63 |
| Italy, Rome | May 23–30 | .. | 1 |
| Mexico, City of Mexico | Aug. 23–30 | 6 | 4 |
| Vera Cruz | Aug. 29–Sept. 5 | 2 | 1 |
| Russia, Moscow | Aug. 16–22 | 1 | .. |
| Riga | June 1–30 | .. | 13 |
| St. Petersburg | Aug. 16–29 | 18 | 1 |
| Warsaw | Aug. 8–22 | .. | 5 |
| Spain, Barcelona | Aug. 1–15 | .. | 7 |
| Switzerland, Geneva | Aug. 21–28 | 1 | .. |
| Turkey, Constantinople | Aug. 23–30 | .. | 1 |
| Smyrna | Aug. 8–30 | .. | 100 |

YELLOW FEVER.

| | | | |
|---|---|---|---|
| Colombia, Panama | Aug. 31–Sept. 7 | 2 | 1 |
| Costa Rica, Limon | Aug. 27–Sept. 3 | .. | 2 |
| Mexico, Monterey | Sept. 13 | Present | |
| Nuevo Laredo | Sept. 15 | .. | 1 |
| Tampico | Aug. 22–Sept. 5 | .. | 3 |
| Vera Cruz | Aug. 29–Sept. 5 | 50 | 19 |

PLAGUE—UNITED STATES.

| | | | |
|---|---|---|---|
| California, San Francisco | Aug. 9 | .. | 1 |
| San Francisco | Aug. 21 | .. | 1 |

PLAGUE—INSULAR.

| | | | |
|---|---|---|---|
| Hawaii, Hilo | Sept. 14 | .. | 1 |
| Honolulu | Sept. 1 | .. | 1 |
| Philippines, Manila | July 18–Aug. 1 | 6 | 6 |

PLAGUE—FOREIGN.

| | | | |
|---|---|---|---|
| Africa, Cape Colony | July 19–25 | 1 | .. |
| China, Hongkong | July 25–Aug. 1 | 10 | 6 |
| Inkow | Sept. 7 | Present | |
| Egypt, Alexandria | Aug. 8–14 | 8 | 6 |
| Damiette | Aug. 8–14 | 2 | 2 |
| France, Marseilles | Sept. 13 | Present | |
| Japan, Yokohama | July 25–Aug. 15 | .. | 1 |
| Mauritius | June 5–July 2 | 5 | 5 |
| New Caledonia | Aug. 13 | 26 | 18 |
| Straits Settlements, Singapore | July 18–Aug. 1 | .. | 3 |

CHOLERA—INSULAR.

| | | | |
|---|---|---|---|
| Philippines, Manila | July 18–Aug. 1 | 13 | 14 |
| Provinces | July 18–Aug. 1 | 2,141 | 1,438 |

CHOLERA—FOREIGN.

| | | | |
|---|---|---|---|
| India, Calcutta | Aug. 8–15 | .. | 10 |
| Madras | Aug. 8–14 | .. | 2 |
| Straits Settlements, Singapore | July 18–25 | | 39 |
| Turkey, Baalbeck | Aug. 22 | Present | |
| Damascus | Aug. 22 | Present | |
| Hama | Aug. 22 | Present | |
| Tripoli | Aug. 22 | Present | |

# Medical Record

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## Original Articles.

### A CASE OF DIFFUSE GONOCOCCUS INFECTION OF THE ENTIRE UPPER EXTREMITY,

WITH NOTES ON THE OCCURRENCE AND COURSE OF GONORRHŒAL SEPTICÆMIA.*

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IN March, 1901, I was asked by the family physician to see L. R., a man of twenty-eight years, whose history was briefly as follows:

On February 21, never having had a previous gonorrhœa, he applied to his physician for the treatment of a specific urethritis which had just made its appearance in the usual way. At this time the physician examined the discharge and found abundant gonococci. The condition was managed in the usual way. There were no bladder or other complications; the man attended to his business as usual, the local condition pursuing an ordinary course. On March 2, nine days after the onset of the urethritis, he complained of a diffuse pain in and about the right elbow. The elbow was found to be moderately swollen, the swelling and pain rapidly increased. On the following day, March 3, he went to bed, the elbow symptoms increasing in severity and extending up and down the limb. His nights were exceedingly bad, they were restless and with frightened dreams. During the nights of March 4 and 5 one-half grain of morphine, together with considerable codeine and trional, failed to give comfort. The temperature was irregular, running from 100° to 102°, the pulse ran from 80 to 90. He felt definitely ill; he was very nervous and apprehensive.

The patient was first seen by me on March 6. At this time the right upper extremity was greatly swollen from the wrist to the shoulder, the swelling being greatest at the elbow, which was two and one half times the circumference of the opposite limb. It was exceedingly tender on pressure all about the elbow, especially tender just above the internal condyle and just in front of and above the external condyle. Movements at the elbow-joint were moderately painful. Fluctuation was not discovered. There was no history of injury and a minute examination of the entire limb failed to reveal evidence of scratch or prick. On the day of this examination the morning temperature was 100½°, the pulse 86 and of fair quality. The patient was very much depressed, exceedingly nervous and apprehensive, irritable, crying, and moaning when the limb was touched.

I readily concurred with the family physician in the diagnosis of a gonococcus infection of the limb. It was impossible at this time to say whether the inflammation had invaded the joint. The limb was confined and wrapped in copious pieces of gauze, which were kept wet with lead and opium wash. Tonics were given.

*Read at the annual meeting of the American Surgical Association, 1903.

On the following day, March 7, the patient felt somewhat better. The temperature and pulse were both a little lower, the general condition of the limb was about the same. A further delay was advised in the thought that the inflammation might tend to subside.

On the next day, March 8, both the local and general conditions were much worse. The patient had had an exceedingly bad night, suffering excruciating pain. The limb was much more swollen, a reddish blush had appeared about the elbow. The tenderness at the points above mentioned became greater. A suggestion of fluctuation appeared. Joint movement at this time gave excruciating pain. The wrist was more swollen and painful, the hand and fingers were puffy. The swelling extended to but not above the shoulder. The urine showed nothing abnormal. The temperature was 103°, the pulse 90 and of fairly good quality. The heart sounds were clear. There was intense frontal headache.

Free incisions were made under ether, the first just above and in front of the internal condyle of the humerus, this being the point of greatest tenderness and the site of semi-fluctuation. The incision was long and was carried to the periosteum of the humerus. It liberated a considerable amount of a thin, clear fluid. From this fluid, as well as from that obtained at other incisions, coverslips and cultures were made by Dr. W. C. Mitchell, Professor of Bacteriology in the University of Denver. Eight or ten more incisions, each two or three inches long and of varying depth, were made about the joint. All of these liberated thin, clear fluid except one incision just below and in front of the external condyle. Here there was a moderate amount of thin pus. Some of the incisions simply went through the deep fascia, others went deeper. The elbow-joint was exposed but not opened, as it did not seem to be definitely distended. All of the wounds were washed out and loosely packed and the limb dressed in the usual way. Dr. Mitchell reported later that the coverslips and cultures (method of Wasserman) showed gonococcus. Those from clear fluid showed a pure culture of gonococcus, the one from the thin pus showed gonococcus and staphylococcus. Dr. Mitchell also examined the urethral secretion, which was at this time rather scanty, and found abundant free gonococci with exceedingly little of the cellular elements. He said that he had rarely seen so little of the latter. I mention this because of the possibility that the almost pure culture of gonococcus in the urethra predisposed to the specific cellulitis of the limb. The family physician, on examining the urethral discharge at its first appearance, had noted the same condition.

On the following day, March 9, the patient felt better, he was almost free from pain. His temperature was normal in the morning and his pulse was very much improved. He was still much depressed and felt definitely ill. The dressings were kept constantly wet with a weak bichloride solution and covered with rubber tissue. The afternoon tempera-

ture was 100°. During the two days following operation the condition remained about the same. The limb tended a little to lessen in size. It remained exceedingly painful on slight pressure everywhere between the wrist and the shoulder. Two days after operation the throat swelled markedly, the whole neck became enlarged and very tender and painful. The pulse went to 100, the heart sounds became very soft and indistinct, and it seemed that a general gonococcus infection had ensued. The next day the left parotid gland was swollen and painful, the right shoulder and pectoral regions were also involved. The condition of the patient seemed precarious. Under simple local and general measures, however, the swelling of the throat, parotid, shoulder, and pectoral region gradually subsided, while the limb proper rather tended to decrease in size. On March 21, thirteen days after operation, the wounds were healing with the exception of the deep one near the internal condyle. This was drained by a small rubber tube. It exuded a large amount of thin, almost clear fluid. The patient's general health was beginning to improve. His nights were better. The limb was still tender and painful. The hand and fingers were pretty well swollen, they were quite tender. The patient was still exceedingly nervous and apprehensive, he was much depressed. At this time the pulse averaged about 80, the temperature was normal in the morning and 99½° to 100½° in the afternoon. The urethra had been treated daily in the usual way. The urethral discharge had nearly disappeared.

As time went by the limb tended still further to decrease in size but the elbow-joint remained tender and painful. Three and one-half weeks after operation all of the incisions were closed except the deepest one. This did not completely close until the end of three months. It was capricious; the discharge would almost cease, then it would suddenly become profuse. And so it was with the swelling of the limb; apparently without cause the elbow and the adjoining forearm and arm would suddenly swell; in a little time the swelling would go down. The wrist and fingers pursued a similar course. At the earliest possible day after the acute symptoms began to subside gentle massage of the wrist, hand and fingers was commenced and the patient was urged to begin motion. But motion was exceedingly painful; the patient was apprehensive, and in spite of best endeavor little progress was made. Six weeks after operation the patient was up and about, a little later he sought suitable baths. Not until the end of three months was the limb in condition to undergo systematic massage. At this time the joints were pretty stiff. For months afterward massage and hot air baths were given; every encouragement was made to increase motion, but in spite of all that could be done the limb remained pretty stiff.

At this time, something over two years having expired, the condition is as follows: The circumference of the limb at the middle of the arm and at the middle of the forearm is considerably less than on the opposite side. The shoulder-joint is free and useful. The elbow-joint is nearly fixed, it is at an angle a little within a right angle. Flexion and extension can be made over an arc of perhaps ten degrees. Pronation and supination of the forearm are nearly complete. There is a pretty good range of motion at the wrist-joint. The index-finger is fairly useful. The other fingers are pretty stiff. Motion in the thumb is good. The thumb can be made to approximate the index-finger very well and the middle finger quite well. The back of the hand is still a little puffy. There has been little or no improvement during the last few months. Th general condition is excellent, the urethra has give no trouble.

At this time we are in possession of sufficient da regarding the secondary manifestations of gonorrh to know that practically all of the tissues of t body may be affected. Most often the proc invades the joints, but the gonococcus has be recovered from the peritoneum, the pleura, t pericardium, myocardium and endocardium, t meninges of the brain and spinal cord, the peri teum, the perichondrium, muscles and tend sheaths, bursæ, fascia, the skin, distant lymph glands, the parotid gland, the kidney, the blo current. It has been customary to group the manifestations under the general term "rheumatism It would seem wise to discard this and substitu septicæmia. It would be quite as rational to spe of a metastatic streptococcus infection of the kn joint as rheumatic as to apply the same term to metastasis due directly to the gonococcus. Wh more absurd than to speak of a gonococcus pleuri or parotitis as rheumatic?

The designation septicæmia covers all. In employment, however, it is necessary to differentia gonorrhœal complication by direct continuity, cystitis, prostatitis, Cowperitis, epididymitis, pe urethral abscess and the like, and reserve the te for true metastatic inflammation. While the on positive cases are those in which the gonococcus c be demonstrated in the tissues at the seat of t metastasis, it is as rational to consider the ordina manifestations consecutive to gonococcus urethrit gonorrhœal as it is to assume a joint affection co plicating a staphylococcus or streptococcus infecti as being due to the same microorganism. The rul which apply to the one govern the other.

Joint affections supposedly due to the gonococcu but not microscopically confirmed have been re ported by numerous observers; with especia emphasis by Claisse,[4] Clarke,[5] Perrin,[8] (diaphragasti pleurisy, femoral phlebitis), Edington,[10] Emery an Glantenay,[11] Halle,[13] Ranzier,[21] Raymond,[22] Thi bierge,[25] Malherbe,[26] Batut.[28] During the past decad an increasing number of observations have bee recorded giving cultural proof that the gonococcus may infect distant tissues in great variety. Thus, Bousquet[8] communicates two cases, the second of which concerned a man twenty-seven years old with gonorrhœa of a month's standing who developed at the level of the internal part of the clavicle a painful swelling which did not extend to the joint. There was no fever, no general reaction, but a week later the joint was seen to be invaded, and on the eighth day fluctuation was discovered. This was incised and about a spoonful of pus evacuated which contained the characteristic microbe of gonorrhœa. Some days later the head of the clavicle was enlarged and there was a partial dislocation above the sternum; spontaneous movements were impossible. Immobilization of the arm brought about a cure; but seven months later there developed a swelling, quite large, of the internal extremity of the clavicle and the corresponding part of the sternum. The subluxation was not reduced, and there was no movement in the sternoclavic joint. The clavicle had a diameter of 3½ cm. and was covered with bony knobs. Houzé[7] states that the nature of so-called gonorrhœal rheumatism has long been discussed; certain authors admit a reflex action, of which the point of departure is the urethra; others think it an accidental complication which they liken to ordinary rheumatism; others that the affection develops from an attack of gonorrhœa but is due to microorganisms other than the gonococcus; others

ely admit the specific character of gonorrhœal umatism. The last theory seems to be the true . Lindemann, Pétrone, Kammerer, and others e found the gonococcus in the exudate of the cted articulations, and Wertheim has observed existence of the microbe of Neisser in the blood illaries of the vesical mucosa; the gonococci were he capillaries and the little pre-capillary veins of the mucous tissue; they were not in the little arteries. is would seem to indicate that the microbe of orrhœa acts as do the ordinary infectious agents.) ley[14] reports an infected elbow-joint in which teriological examination showed abundant gono- i. Moynihan[16] says that of twenty-seven of his s in which a joint effusion was examined, the ococcus was discovered in only eight, the infer- being that the infection is a mixed one. In a of Paldrock's[17] a man of twenty-eight years eloped exudative pleuritis after an attack of orrhœa. Many gonococci were found in the ral exudate. Paulsen[18] reports the case of an nt boy who two days after birth developed ulent ophthalmia. In a few days the left knee affected and two weeks from birth the meta- ophalangeal joint of the right forefinger as as that of the first phalanx was involved. The eral condition was but little disturbed. The ion from the knee showed only gonococci. lsen says that joint metastases in the new-born to gonococci are very rare.

orter[20] states that it is probable that between d 5 per cent. of the cases of gonorrhœa are plicated by arthritis. From the circulating d gonococci have been recovered several times, hat we have absolute proof that this organism cause a general septicæmia or pyæmia and may duce pus wherever localized. The gonorrhœa cause metastases in various distant parts of the y. Such localizations are numerous; in the ts, tendon sheaths and bursæ, pleura, peritoneum, inges, sheaths of nerves, heart wall and valves, en, lungs, kidneys, periosteum, lymphatic glands, cutaneous tissue, skin and parotid gland. A ient of Porter's—coincident with confinement— d acute swelling of the metacarpophalangeal nt, ankle and knee. The gonococcus in pure ture was recovered from the knee-joint contents. another case a man of forty-two years, who had tracted gonorrhœa eight weeks before, developed derate fever, swelling of ankle, shoulder, and ist. In a few days the inflammation subsided in joints except the wrist, which continued swollen. e hand and forearm were much swollen, the ex- ation firm and boggy; there was no redness, tle heat; motion at the wrist, was impossible ithout great pain. In the anatomical snuff-box d over the extensor tendons at the wrist two pparently fluctuating areas existed. On incision e subcutaneous tissue was "porky," the sheaths of e tendons were filled with a gummy, slightly emorrhagic exudate. Communication with the int could be made out. Gonococci were recovered om the pus and granulation tissue in smear and ulture. Recovery followed very slowly, with marked endency to ankylosis. Another case gave the ppearance of an ordinary palmar abscess over the ead of the fifth metacarpal bone, with superficial edness of the skin and great tenderness. At opera- ion no pus was found, but the adjacent joint was filled with a seropurulent material in which were diplococci decolorizing by Gram's stain. No growth on ordinary media. The girl had contracted gonor- hœa four months before and the organisms were still present in the urethra.

Porter says that the gonococcus apparently localizes itself in the subendothelial tissue, there proliferates, and is carried into the joint cavity by the migrating leucocytes or the desquamated epithelium. In the first few days the organisms are infrequent in the joint fluid. At the end of three days the leucocytes and endothelial cells appear in about equal numbers and the gonococci are most abundant. yet are conspicuous for their relative scarcity, occurring in twos and fours within and without the cells. The joint fluid is not a favorable medium for their growth. Young[22] states that all cases of joint effusion in which the gonococcus could be demonstrated at the Johns Hopkins Hospital seemed to demand incision and irrigation.

Considering the early disappearance from the joint cavity the relative scarcity of the organisms, and the well-known difficulties attending their successful cultivation. it is easy to understand why so many aspirations may be sterile. This may show the necessity for early puncture of a joint for diagnostic purposes.

In another article Porter[19] states his belief that the gonococci are capable of living and propagating in the blood. They may be carried by the blood or lymph stream to any of the tissues or organs of the body, and lodging there, produce inflammation, which may be purulent or non-purulent, owing to circumstances which as yet are not understood. True progressive septicæmia is not infrequently due to infection by gonococci.

Senn[23] says that gonorrhœal arthritis occurs in about 2 per cent. of all cases of gonorrhœa. Gonococci may cause general infection and localize in joints without being germinated in a specific urethritis. He believes that the gonococcus does not, as a rule, leave its habitation, the mucous membrane of the urethra or conjunctiva, while it is exerting itself in acute inflammation. It is only when the acute symptoms have subsided that the latent microbe finds its way, through some secondary cause unknown at present, into the general circulation or into the lymphatic system, and subsequently reaches a distant seat.

Ward[24] states that it is obvious that any localized inflammation or sclerosis must be due to toxin locally formed by microbic metastases, while degenerative lesions are due to the general toxæmia, whether absorption takes place from a mucous tract or from such a focus together with secondary metastatic foci. Gonorrhœa is a general toxæmic affection, but the microbes which form the toxin are generally localized on or around a mucous tract. The microbic infection may extend to the organs communicating with the infected tract, or it may penetrate into the tissues, either by direct extension, as in the invasion of the peritoneum through the uterus and Fallopian tubes, or by a process of growth through the mucous membrane affected.

Smith[21] reports the case of a girl nineteen years old in whom a metastatic abscess developed at the middle of the right arm. There were no signs of inflammation save the swelling. Ten days later another abscess appeared beneath and to the inner side of the right scapula. It, also, was unaccompanied by pain, heat, or redness. Gonococci were found in the pus. Hallé[42] reports the case of a woman of thirty years who entered the hospital with generalized gonorrhœal infection with obscure symptoms, going on to hemorrhagic metritis, phlegmonous œdema of the left elbow, endopericarditis and death. The limb early took on the appearance of a phlegmon of rapid course. The skin was tense, red and tender on pressure. There was no sensation of deep fluctuation, but a doughy resistance, especially about the olecranon. A serous fluid was with-

drawn; it was not frankly purulent. The gonococcus was cultivated from this. An incision was made, and serous fluid, turbid and mixed with blood, escaped. The local trouble subsided, but later a hectic fever marked the invasion of the heart and pericardium. Vegetative endocarditis was the lesion predominant at autopsy.

Braquehaye and Servel[44] say that myositis is not so rare a complication of gonorrhœa as has been thought. They have seen two cases in two years. Colombini[45] reports a case of localization of the gonococcus in the right parotid gland; he thinks the gonococci were carried to it by the blood stream. Johnson[48] reports a case (a baby) in which one of the lesions began as a slight inflammation on the right thumb, spreading over the dorsal surface and around to the palm. The left thumb became involved at the metacarpophalangeal joint, the swelling extending to and over the vola. An abscess of the right elbow joint developed. Gonococci were found in the pus. The origin of the infection was possibly a gonorrhœal infection of the umbilicus. The author says that it is generally considered that in order to have a general infection there must be (1) a local infection; (2) a predisposition, as certain patients having a general infection once, have it again with each fresh attack of gonorrhœa.

Prochaska[49] reports the case of a gonorrhœal man of twenty-four who developed a swelling in the region of the left supraclavicular joint. From blood withdrawn from the left vena basilica cultures were made showing gonococci. Thayer and Blumer[84] as well as Wertheim[85] have taught that the gonococci force their way into the epithelium, the connective tissue, and especially into the deeper layer of tissues, where they can cause capillary thrombophlebitis. Perchet and Paolucci believe that they wander by way of the blood and lymph channels. Finger[54] in reporting on 376 cases of joint complication following gonorrhœa speaks of blennorrhagic myositis, periostitis, phlebitis, adenitis, and exanthem. Positive cultural demonstration of gonococci proved a portion of his cases. Finger quotes Ghon and Schlag, who affirm that by migrating into the blood vessels, hidden in the pus corpuscles, the gonococci can cause the various articular, periarticular and perichondritic metastases, and that they can set up suppuration in connective tissue. Drobny, quoted by Ward,[66] states that the gonococci are often extracellular; they are found free as well as in the pus cells. Ward says that in exceptional cases the gonococcus can make its way into the circulation and so reach the cardiac valves and other remote situations. In an individual whose phagocytes are exceptionally susceptible to toxic influences the urethral infection would be imperfectly restrained and thus become very acute. Much toxin would be formed and absorbed. The invasion of the tissues by the microbe would also be very active and the resistance of the guardian wall of inflammatory cells imperfect. The microbes would thus grow into the lymphatics and small veins, and by one route or the other gain the circulation. Here the toxin would have preceded them and already inhibited the leucocytes generally, so the microbes would be enabled to grow in the cardiac valves should they offer a suitable nidus, or might be carried to the peripheral circulation, and there be stranded like sticks and leaves in a back water, in the looped terminal capillaries of the synovial membranes and the slender vessels of the periosteal tissues and tendons. A case of gonorrhœal arthritis of the wrist of an infant (new-born) in which the microbe was found, occurring two weeks after gonorrhœal ophthalmia, gives added evidence of the possibility of a general infection by the gonococcus arising from a local focus other than the urethra. Drobny thinks it possible that the extracellular position of the cocci may be due to paralysis of the leucocytes by toxins, thereby rendering them incapable of surrounding the cocci.

Breton[68] quotes Leloir, who insists on the various infectious forms of gonorrhœa. In a healthy individual the local effects are sometimes the only ones noticed. The general phenomena are unimportant. But if for any reason the vitality of the patient is below par—from hereditary or acquired diathesis, poor hygienic conditions, etc.—the means of resistance are diminished and conditions are favorable for the receptivity, penetration, and multiplication of the organisms. According to the degree of physiological decadence the disorganization of the cells is more or less extensive and the development of the infectious agent more or less rapid. Soon the blood, the organs, the whole economy will be invaded by its toxins, and there will be a general gonorrhœal infection. Breton cites two cases: The first, that of a young man, twenty-one years old, whose gonorrhœa was followed by a generalized infection manifesting itself in ganglionic and splenic adenopathy, endocarditis and infectious periarthrites and a polymorphous erythema (maculo-papulo-vesicular). The attack threatened life, but recovery ensued after two months. The patient suffered from vague pains especially in knees and elbows, swelling and redness at the level of the metacarpophalangeal joint of the right ring (fourth) finger, myosalgia. At the level of the olecranon and over the internal malleoli there were small ulcerating pustules. The gonococcus was demonstrated. The second patient was a man of twenty-five years, whose gonorrhœa was followed by epididymitis, infectious periarthritis and slight general infection. The evolution of these symptoms took three months. There was no fever, but a definite localization in the testicle first, and then in the synovial membranes of the joints. Breton says that organic lesions are the more tenacious the more insidious their appearance, and the duration of the discharge seems directly proportional to the intensity of the general phenomena.

Robinson[71] notes six fatal cases of gonorrhœal origin; four were under his care, while one was communicated to him by De Fleury and one by Hawkins. In five of these endocarditis caused death; meningitis killed the other. The case which Robinson here especially reports is that of a man of thirty-two. The attack at first seemed like the onset of some acute infectious disease. Delirium developed, then coma; death occurred within four days of the time when he was first taken ill. There seemed to be a condition of general hyperæsthesia. The temperature varied from 99° to 105°. On the third day the whole body was dotted with purpuric spots, and it became evident that the patient was suffering from intense blood-poisoning, although no source of infection could be detected. At autopsy gonococci were found in the urethral pus, and the writer is satisfied that the urethra was the original source of the infection. The fluid in the joints was not examined.

I saw a similar case at the County Hospital in Denver some years ago. A woman of thirty-four years was admitted with general arthritic pains and a swollen right knee-joint. There was a gonorrhœal history, gonococci were recovered from the vaginal discharge. On the day after admission she developed symptoms of endocarditis and died within forty-eight hours. An autopsy was not permitted. While the case lacks bacteriological confirmation, I made no doubt at the time that death was due to gonorrhœal

fection. Councilman[52] reported a death from gonorrhœal myocarditis in 1894.

Gershel,[74] in reporting a case of subcutaneous abscesses due to the gonococcus in a child two years of age, looks upon it as one of infection by way of the lymphatics. He found but eleven cases in literature in addition to his, most of them having been collected by Young,[68] who, in a most interesting and valuable article, cites cases of pyonephrosis (single and double), and of diffuse peritonitis culturally confirmed by the presence of the gonococcus.

Kienböck[77] reports on a twenty-six-year-old woman in whom gonorrhœa was followed by paralysis of the right arm, with infiltration of the region of the olecranon, crepitation in the shoulder, changes in the skin and nails. Nobl[78] reports on twenty-three cases of severe gonorrhœal synovial metastases. Of these, eighteen underwent bacteriologic investigation. In thirteen of these the gonococcus was proven, while eleven times a serofibrulent effusion was sterile.

Hunner and Harris[80] report on seven cases of acute gonorrhœal peritonitis, in four of which gonococci were found. All seven cases underwent operation. There were two deaths. Barbiani[81] on polyarthritis with fever, as well as multiple erythema, follow an acute urethritis in a thirty-six-year-old man who was diabetic. Gonococci were recovered from the venous blood.

Seelig[41] believes that muscular atrophy sometimes follows gonorrhœa, and divides the so-called gonorrhœal nerve affections into three groups: (1) neuritis or polyneuritis; (2) Affections of the nerve roots; (3) Meningomyelitis, (*a*) acute, (*b*) chronic.

Balzer[26] refers to the researches of Moltchanon and De Christmas in demonstrating the intensity of the action of gonotoxin on the spinal cord and brain.

Brewer[65] says that gonorrhœal adenitis shows but slight tendency to suppurate, and that when suppuration does occur it is probably due to a mixed infection. The question as to whether the gonococcus alone can produce pus seems to be unsettled. A few cases gathered from literature by Young, together with added instances studied by him in the clinic and laboratory of the Johns Hopkins Hospital, point to the probability that it may. Welch[66] says it is a genuine pus producer.

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## THE MANIC DEPRESSIVE PSYCHOSIS AND SOME OF ITS ETIOLOGICAL AND PATHOLOGICAL PHASES.

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BEFORE narrating the history of a case of manic depressive insanity, it may not be amiss for me to review certain points relative to the statistics, etiology, and pathology of this disease.

From the large number of statistics, it has been learned that about 15 per cent. of admissions to insane hospitals are in reality none other than the class known as the manic depressive state. From these statistics we also learn that men do not have the disease as often as do women, and of the etiological features, hereditary defectiveness plays a most important rôle, 70 to 80 per cent. of all cases having an hereditary legacy handed down to them through the avenues of mental bent toward this disease. Previous to the exact breaking down, these patients display certain peculiarities, such as being abnormally bright or showing a tendency toward eccentricity or over-piety, but in quite a different manner to that of dementia præcox.

As to physical stigmata, they may be present, although such symptoms do not seem to be pathognomonic of the disease in any way. Individual attacks usually occur quite independent of external causes, with the exception of the first breakdown, which, in the vast majority of instances, does seem to be connected in some way with such external stimuli. Of these external stimuli or predisposing factors, alcoholic excess and parturition seem to be extremely caustive, and in other cases mental shock or trauma and improper nutrition during acute disease appear to have considerable bearing in bringing on attacks.

In by far the larger number of cases the first attack usually begins about the twenty-fifth year, and in somewhat less than 10 per cent. about the fortieth year; in these two periods the female sex predominates.

In taking up the distinctive meaning of the term manic depressive psychosis, it is now applied to that form of mental disease which is distinctly recurrent as definite forms appearing at varied intervals throughout the psychic life of the individual and, as has been said previously, has hereditary defectiveness as the most prominent factor. By far the greater number of the cases usually diagnosed delirious mania, simple mania, periodic mania, simple and recurrent melancholia, and circular types, really belong to this group of mental diseases. When these cases are reviewed according to the old conception they present diagnostic difficulties on account of the too frequent occurrence of conflicting symptoms, which would be in keeping with a diagnosis according to the older conception.

It also sometimes occurs that a typical picture of circular insanity may be mistaken for this psychosis, and therefore the diagnostic picture be marred by the appearance of distinctly maniacal or melancholic attacks. One has only to review any series of cases of periodic mania or melancholia, noting these varying features, to be forced to conclude that on account of such inharmonious manifestations they are not accidental but in reality are certain phases within one distinct symptom-complex.

On account of the frequent recurrence of the fundamental symptoms in all of the different attacks, the oneness of their course and result in the occasional relation with different forms of the disease, wherein one form may run over gradually into another, these conditions have gradually led alienists to the conclusion that manic depressive insanity appears in at least one of three types, viz., the maniacal, the depressed, and the mixed type. The maniacal form is usually characterized by great motor and psychomotor restlessness, frequent flight of ideas, word salads, formal associations, distractibility, inharmonious emotional attitude, varied delusions, hallucinations, pressure of activity, and usually very little clouding of the consciousness. On the other hand the depressed form presents, instead of psychomotor restlessness, psychomotor retardation and a distinctly depressed emotional sphere with abscence of spontaneous activity. Instead of the flight of ideas there is a dearth of ideas, the prominent delusions and hallucinations are of such a character as to be in keeping with the resultant emotional attitude, and a clouding of the consciousness is usually present. The mixed form, as the word implies, is simply a combination of the two previous types, the characteristics of which I have outlined. By such a conception of the case, it is possible to make a diagnosis immediately at the onset of the disease without having to wait for the next attack, as was thought several years ago by prominent alienists.

In regard to the pathology of this psychosis, no characteristic anatomical or pathological changes worthy of note have yet been found. As I have said before in speaking of the etiology of this affection, the pathology necessarily rests upon a neuropathic basis, and this, in a great majority, on hereditary defectiveness. The theory presented sometime ago by Adolph Meyer, explaining the disease as due to a trophic vascular disturbance has already been proved improbable. The theory advanced by Meynert, that the attacks were due to an accelerated pulse of great intensity, and usually with hyperæmia of the extremities, inferred that such a state of congestion also was present in the brain; however this may be true of the maniacal state, the theory does not suit the depressed type, for in this type we have no such vascular or arterial disturbance, the hands and feet being cold and the face pinched and drawn. The theory also would not fit the mixed type.

The longer I am associated with the study of such types of mental disorder, I am more than ever

convinced of the effect of an hereditary *anlage*, and a neuropathic constitution. In order to give some idea of the nature of such cases as they are admitted to the hospital, I will report a case which has recently come under my observation:

April 29, 1903. A woman twenty-nine years of age, with hereditary history of psychosis in the paternal grandfather, grandmother, grandaunt, and two granduncles, and father. The sister is now in this hospital. Maternal heredity is denied by the mother, but consanguinity asserted by neighbors. The anamnesis of the disease is negative in character until the year 1894, when patient is said to have had a slight fall, after which she became unconscious for "a few minutes"—no apparent sequelæ were noted until nineteen days afterward, when she became suddenly insane. She recovered after five months (character of attack unknown). She was always a quiet, tractable girl, strong physically; was married and had one child nine months old at time of the second attack, September, 1898. At the onset she was depressed, worried, and at times confused; after a few days began to talk loudly on awakening in the night, answering voices and "reacting to strange delusions."

Admitted here September 21, 1898, on following physician's certificate: "*Facts observed:* Violent mania, delusions, foul language, attempt of violence upon herself and members of the family. *Facts learned:* Same as stated above."

When brought into hospital office she was wearing a camisole, and threw herself on the floor, refusing to get up; she reacted to auditory hallucinations, also delusions of persecution, saying she was going to be killed, her body cut into pieces and burned; also wove considerable religion into talk. After being taken to the ward she pounded her head, ran about, threw herself on the floor, crying and shrieking. From then until removed from the institution, March 15, 1899, she was alternately excited and depressed, but suicidal in either state—was restrained to bed part of the time—at times violent, striking and resisting nurses. She was emotional, laughing and crying alternately, distractable, irritable, and sullen most of the time—refusing to speak part of the time—practising masturbation on herself and other patients—occasionally smearing room with fæces; somatic delusions were constant—thinking she had no right lung and was losing the left. She was taken from hospital against advice of the staff, and after a time improved so that she got along at home until June 2, 1901, when she was readmitted. She had been violent about a week, but for five weeks previous had been nervous, depressed, emotional, had insomnia and worried for fear of another attack—was maniacal at times—had no fixed delusions—visual hallucinations were admitted, but auditory ones were denied. She had menstruated every two weeks and as the attack occurred was menstruating. Physician's certificate states:—Patient said: "On one occasion threatened to throw herself out of the window of her chamber, said that she saw strange objects and persons in her room, that her friends and neighbors tormented her, that she would not take food because it was poisoned, that she sees and converses with diseased friends, and much more of the same character. *Facts learned:* She sleeps but little, is violent, noisy, prays and sings in a violent manner, attacks members of family violently and refuses to be restrained to prevent her from doing herself or others violence. *Appearance and manner:* excited at times and at others quiet and refuses to speak at all. *Other facts:* She has had two former attacks lasting about six months, in 1895 and 1898 respectively, and was during the latter attack confined in the asylum at Waterbury."

When taken to ward she kicked the doors and walls, talking loudly and irrelevantly—rhyming at times—"I'll smash that door ,damn this floor, Jennie Blood, a precious bud"—said she had "had a great deal of trouble, was in total darkness, without any heaven or God." She was resistive, but after being in the ward a short time became quiet, was quite stupid, but would suddenly spring up, throw herself around, cry, scream, and try to commit suicide. She was well oriented, had partial insight, memory good for recent events; had delusions of poisoning, and auditory hallucinations. She remained in this condition until about August 15, varying between stuporous and excited conditions, sitting with eyes downcast for hours at a time refusing to speak, then having maniacal outbursts, rhyming, with flight of ideas, word salad ("temperance, geography, Mary, Grace, dead, no truth"), also desultoriness ("yes, sir; no, sir; slow, sir; now, sir; white coffin, sir; rough on rats, sir; dead, sir; right, sir"), spelling words, then repeating backwards. The excited period usually lasted about fifteen minutes, very suicidal—after August 15 she improved, and was taken home in October, but returned December, 1901, on following certificate:

"*Patient said:* That she contemplates suicide and continually is designing ways and means for its accomplishment—that she has been deterred from it only by means or because of restraint—that she sees moving objects, particularly at night—that "she hears voices whispering names of persons to her—on one occasion commanding her or suggesting that she jump into the cistern—states that on one occasion she had thought it best to put her young son out of the way, to save him trouble, etc. *Patient did:* She appeared very melancholy—walked back and forth, wringing her hands and apparently in great mental distress. *Appearance and manner:* Quiet, during this examination, but she is talkative and unable to apply her mind or hands to any duty. *Other facts:* She has been twice before committed to the asylum—on both occasions, at times very violent and destructive."

Was quite suicidal, feeling depressed because she had to return to the hospital; had good insight, said if she could not recover she had better be dead; was not excitable, had auditory hallucinations—"a voice said if you try to do better you can; there is some way you can do better"—marked introspection, trying to control impulses and very depressed when unable to do so. She was quiet after admission, said she had no hallucinations after coming to hospital, and after a few weeks appeared to regain her normal condition, remaining in this state until January 10, 1902, when she had a stuporous attack lasting about one hour, during which she refused to speak. There was conjugate deviation to the left, the jaws working convulsively; there was no paralysis, and the woman was able to move all parts of the body and limbs voluntarily. From then until September, 1902, she was generally in a stuporous condition, with maniacal outbursts and suicidal attempts. When excited she was resistive, violent, noisy, talking rapidly, barking, crowing, mewing, bleating, but always well oriented; had good insight, delusions of self-accusation, reacting to auditory hallucinations by standing on her head and jumping about the ward. When depressed she sat with downcast eyes, refusing to speak. She was apparently in a normal condition for about a month, when, on October 28, 1902, the present attack came on with symptoms similar to the others. She is now quite depressed; her temperature is about normal.

*Physically.*—July 15, 1901. Linea albacantia on abdomen, left lobule of ear larger than right, high and narrow palate, reflexes somewhat diminished, slight mitral regurgitation, slight retroversion of uterus, several urethral caruncles, ovaries somewhat tender.

*Uranalysis.*—June 17, 1901, excess of chlorides, phosphates normal, few urates and phosphates. December 7, 1901, diminished phosphates.

*Etiology.* Heredity
Trauma (?)
Pelvic abnormalities (?)

Paternal:
- Grandfather insane.
- Grandmother insane.
- Grandaunt insane.
- Two granduncles insane.
- Father insane.
- Aunt insane after injury to head.
- Two uncles insane.

Maternal: Consanguinity.
Sister in hospital (dementia præcox).

*Duration.*—First attack five months; second attack six months, under observation; third attack seven months, under observation; fourth attack, nine months, under observation; fifth attack began October, 1902.

*Treatment.*—Hospital routine; restraint from self-injury; special diet; hot packs for excitement with good result; syr. hypophos. co. for tonic; exercise outdoors when consistent; hypnotic for persistent motor and psychomotor restlessness with insomnia.

*Diagnosis.—Manic depressive insanity* (mixed form), fifth attack, characterized by a sudden onset; alternating periods of stupor and excitement, either of which predominates at varied intervals; continuous phases of depression, self-accusation, motor and psychomotor restlessness as well as psychic retardation, mutism, refusal of food and somatic delusions during the apices of maniacal phases presented the characteristic symptoms, such as rhyming, word salad, pressure of activity, inharmonious emotional sphere, together with considerable destructiveness. The patient showed no disorientation as to place, persons or time, and had considerable insight even during excitement.

Dementia præcox was excluded immediately upon learning of the anamnesis, and was further ruled out on account of the absence of the usual symptoms complex displayed while in the hospital.

*Prognosis.*—Will probably recover from this attack, but will undoubtedly have subsequent attacks of like character, recovering from each with a shorter period of lucidity between attacks, so that finally there will be considerable amount of dementia mixed in with a more or less continuous maniacal stupor.

In connection with the foregoing summary and notes, I wish to acknowledge the valued aid of my co-worker Dr. Upton, who was intimately associated with the care and treatment of the case.

As we look at the subject of heredity, which is not by any means an uncommon feature, in connection with these and many other cases, we at once realize or give more or less theoretical speculations concerning that peculiar quality or property of organisms which enables them to transmit their essential characteristics to their decendants. Its action appears to be universal and covers all forms of life, whether vegetable, animal or human. Its roots reach down into the very element of all living structures, and appears to be one of the fundamental essentials of life itself. It passes beyond the bounds of healthy functions into morbid conditions of both mind and body. Stearns says "the *modus operandi* of this marvelous process—this universal biological law—has always hitherto remained, and perhaps still does remain, a sealed book. By what process or method this influence may extend over several generations, manifesting itself in some particular form or disease in one or more persons, and not in others; affecting one member of the family and not another of the same family; how a peculiar character, such as the color of an eye, the hair, the skin, the size and form of the mouth, the teeth, the hand, the foot; the mental and moral characteristics, and even peculiar movements of hands and body, may all appear in one or more individuals in a generation and in no others, these physiological processes have remained a mystery, while observers have been obliged to occupy themselves with the study merely of certain phenomena and characters in organisms, which we say are due to hereditary influences."

Within comparatively few years, however, the study of this subject has received a new impetus. It now relates not so much to the character of the results, as it does to the intricate and delicate arrangements which nature has provided for securing these far-reaching results. This part of the subject, however, is too technical to be introduced into a treatise of this kind. My present purpose, in presenting this subject, has to do with another phase of heredity, viz., that relating to mental disorders.

In a condition of ordinary health the thought process occurs automatically, except during the hours of sleep, and even then it may take place in what we call dreams, the character of which the person has a sort of subconscious realization. Its activity, however, during dreams is not subject to the will of the individual. During our waking hours, the impressions received upon the end organs of the five senses, and from the revival of the stored-up experiences of the past, give rise to mental activities which express themselves in the form of speech or motion, if they are presented in outward manifestations at all. But it is frequently the case that these thought activities do not pass from the brain and discharge themselves in any form of outward manifestation. They can be arrested and examined by the personality; be approved or disapproved; be analyzed or modified and formed into new combinations which commend themselves more or less fully to the personality and thus become opinions and beliefs; or they can be disapproved and rejected.

Such a belief is the physiological action of that portion of the brain, the function of which relates to sensation, perception and thought when it is in a state of normal and conscious activity. But when by reason of unfavorable influences and experiences, such as over-exertions, long-continued anxiety, uncertainty and worry, ill health; or from the effect of poisons acting upon its delicate structure, such as foul air, alcohol, opium, and the products of disorganized tissues of the system which have been eliminated from it; or, again, from the influence of unfavorable inheritances; these physiological activities of the brain become deranged and changed in character so that the actions and reactions are no longer normal, the effects are manifested in states of mind which we call insanity. In other words, that condition of mind which we term insanity, arises from or consists in the morbid and disordered activities of certain portions of the brain and general nervous system.

Now, when the brain has once become deranged in its normal action, or has passed through a storm of excitement in connection with an attack of mania or the profoundly depressed condition usually seen in melancholia and other forms of insanity, its cell structures do not readily return to a state of healthy function. On the contrary, there is likely to remain for a long time a supersensitive condition of it, and more or less probability that from the experiences of the past in uncertainty, trouble

and disappointment, there will again occur a disorder of mental function. Habit of action in the normal condition becomes a sort of second nature to most persons—much more does a habit of action which has been established in a disordered state of the mind tend to become permanent or liable to return again if recovered from. It is this very thing, *i. e.* the acquired or inherited tendency of the brain toward unstable and morbid action, that is more likely to be transmitted than almost any other morbid condition.

I must also add that in this condition it is not necessary that the peculiar condition in the parent should be developed into actual insanity to insure its doing so in the offspring. It is not infrequently observed that qualities of mental action in one parent which have been regarded as nothing more than eccentricities or peculiarities—sometimes developing in periods of degression and morbid irritability—when crossed with certain characteristics in the other parent, the nature of which may not be known—these not infrequently develop into one of actual insanity in succeeding generations.

Again—a tendency toward some one diathesis or form of disease in one generation may assume in a succeeding generation a very different form of disease or diathesis. For instance, a consumptive or rheumatic parent may have children who are quite free from tendencies toward that particular form of disease, and yet inherit a brain of such an unstable organization that it has attacks of insanity; or, *vice versa*, a patient who has been affected with insanity may have children who have scrofulous or consumptive diathesis.

On the other hand, if one of the parents has a vigorous constitution and a nervous system unusually robust, and is endowed with a tendency to longevity, these qualities may prove sufficiently potent to overbalance any weakness and tendencies toward disease in the other parent and the offspring may be healthy, though in some degree affected by the infirmities of the weaker parent. Some persons and families seem to be endowed with unusual ability in transmitting healthy characteristics of race and nationality, and this may prove an important factor toward eliminating tendencies to disease on the other side of the house. In these two characteristics or qualities, which we may assume exist to some extent in all healthy persons, there is contained a power of incalculable value to the human race—indeed, one essential to its continued existence—that is, a tendency on one side to overcome weakness and disease on the other which might otherwise continue to increase, especially under the influence of unfavorable environments.

From these considerations, the danger from consanguinous marriages becomes apparent. Numerous tables of statistics present abundant evidence going to show that intermarriages result very disastrously. The children are not infrequently deaf mutes or idiots, scrofulous, phthisical, insane, or otherwise deficient in mind and body.

In this way we see how much more danger there is that a morbid heredity will increase. Like tends to beget like, and if two persons with a tendency toward the same constitutional diathesis or disease are unfortunate enough to marry, the tendency toward this disease becomes double in the offspring. In case only one parent has a morbid tendency, the influence of the other, if healthy and strong, may be sufficient to overcome and eliminate it in the offspring.

You all know that persons and animals of the same family necessarily inherit the same tendencies toward health and disease to a greater or lesser extent, according to the degree of consanguinity. Persons with no blood relationship are much less likely to have like tendencies. Indeed, they are likely to have characteristics which would have a counteracting influence upon such unfavorable tendencies in others.

We readily, therefore, perceive the danger of unfavorable results from marriages among blood relations, not because of the mere fact of relationship, but because of the probability of increasing tendency toward any special form of diseases which may exist in both parties.

The question arises whether a person who has passed through an attack of insanity should contract marriage. It would not be easy to formulate a rule which would cover all cases and never be set aside; but in view of the fact that when one has been insane he will ever afterward be in great danger of another attack, it is of the greatest importance that all parties concerned should have a full understanding of the case. The practice more generally pursued of keeping the fact that a person has had such an experience, especially when that person is a woman, cannot be too strongly censured. If, after a full explanation, and the other party has consulted friends and obtained a professional opinion, he or she chooses to go forward and consummate marriage, it is in some respects a matter of his or her own concern. *However, the infliction of the State with children having such an inheritance, is criminal.*

If, however, the female is past the period of childbearing, the objections to marriage, so far as they relate to children, would, of course, be *nil*. But when there is a reason to anticipate progeny, persons contracting marriage assume a responsibility which we, as physicians, will not be willing to assume. In case the insanity has been the development of inheritance and has existed in either immediate or remote direct ancestors, the risk becomes even greater. If, on the other hand, the attack can be attributed to some accidental experience or physical disorder, and the other party has a vigorous constitution and good inheritance, the danger becomes less. In such cases there exists a reasonable probability that the stronger and more stable qualities of nerve tissue will triumph over and eliminate the weaker ones.

In taking up further the pathogeny of this affection, I am at present conducting tentative inquiries concerning the causative factors in bringing on the different attacks. Leucocytosis, anæmia, and alternate decrease and increase of weight seem to have some connection with this state. Therefore until a sufficient number of such cases have had skilled "blood-counts" made and an hæmoglobin curve averaged, I am unable to give an exact statement concerning the relation of those factors.

If, however, I have succeeded in enlightening any of my professional brethren in regard to this psychosis and its relation to the mental and physical condition, together with speculations as to its pathogenesis, I will have accomplished the object of this effort.

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**The Danger of Being Alive.**—Drink water and get typhoid fever. Drink milk and get tuberculosis. Drink whiskey and get the jim-jams. Eat soup and get Bright's disease. Eat meat and encourage apoplexy. Eat oysters and acquire toxæmia. Eat vegetables and weaken the system. Eat dessert and take to paresis. Smoke cigarettes and die early. Smoke cigars and get catarrh. Drink coffee and obtain nervous prostration. Drink wine and get the gout. In order to be entirely healthy one must eat nothing, drink nothing, smoke nothing, and even before breathing one should make sure that the air has been properly sterilized.—*South-Western World.*

## CAUSES, CONSEQUENCES, AND CARE OF THE INJURIES TO THE PARTURIENT CANAL.*

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It is no exaggeration when I claim that a large portion of the work of the operating gynecologist is but a consequence of, or a sequel to, the inefficiency of the general practitioner in obstetric work.

This paper is based principally on a long personal experience, and if I succeed in convincing the general practitioner that he should feel his responsibility more in cases of obstetrics, and exert every effort to forestall the gynecologist, I shall have accomplished something which will redound to the satisfaction of every physician, who in the triumph of having delivered into this world another human being, will not have to face well-deserved blame subsequently.

I do not care to burden you with a recital of histories, and I cannot include lacerations or ruptures of the uterus above the cervix, as that would make my paper too lengthy for the time allotted.

The varieties and causes of tears in the various portions of the genital tract are many. In the cervix we have the slight unilateral or bilateral lacerations, which occur in primiparæ consequent upon a rapid second stage, when the first stage was of too short a duration properly to encourage or complete dilatation.

The lacerations of the cervix may be multiple, especially as a result of manual or instrumental dilatation or other interference. Cases of annular laceration, in which a complete ring of the cervical margin was torn away by forceps, are on record. Cervical laceration may extend in any direction and any distance upward and outward.

Application of forceps, or even spontaneous delivery, while the patient has a full bladder or rectum, may produce injury. In the hands of the general practitioner undue haste in the forcible dilatation and application of the forceps probably causes the largest number of cervical injuries.

Certain forms of dystocia, among which we may mention disproportionate size of the head and shoulder and breech presentations, are responsible for them.

High and medium forceps applications may produce quite extensive injury to this part of the uterus; the tears sometimes extending into the fornix or the lateral ligaments.

I recently saw one case of medium forceps delivery, the second traction position having been assumed too early, in which the resulting tear extended through the cervix on the left side, the lateral wall of the vagina, and all the neighboring tissue, so that upon introducing the hand, one could feel the external surface of the entire rectum, which had thus been exposed.

Injuries of this nature are due either to unskilful instrumentation or bad judgment. By the latter I mean that, when the dystocia existed, version with the head still above the pelvic brim, or some other procedure would have been more advisable. Insufficient dilatation at the time, of the upper part of the canal and cervix may be the cause of injury.

These severe lacerations extending beyond the vaginal attachments are most frequently the result of pulling out the after-coming head-in breech deliveries, when the cervix is insufficiently dilated, or when it has retracted around the head after the shoulders have escaped. Wedging in of the anterior lip between the os pubis and the child's head may be a factor in the production of the cervical tear.

*Read at a meeting of the Manhattan Clinical Society.

In occiput posterior positions one should always look for cervical lacerations, although this variety is usually not complicated by hemorrhage.

Dr. J. Duncan Emmet has reported a case of double laceration of the cervix and laceration of the anterior and posterior vaginal walls. This was probably produced by forcing a hip through the cervix, when only one leg was delivered. In placenta prævia pulling the hip through too rapidly severely lacerates the cervix. A flexed knee, wedged in one side, if forcibly withdrawn, may produce a severe injury to the cervix.

Among the unavoidable causes are tumors in the lower uterine segment, or protruding through it, and atresia of the os externum and cervical canal, due to inflammatory processes or to the old-fashioned method of cauterizing the cervix and from scar tissues.

The consequences of injuries to the cervix are immediate and remote, both of which place the patient's health and life in jeopardy. Postpartum hemorrhage is a frequent immediate result, sometimes exsanguinating the patient, and it may even prove fatal.

Even with a thoroughly contracted uterus, the cervical laceration may bleed sufficiently to warrant the condition being characterized as an extensive postpartum hemorrhage, on examination the blood being felt trickling along the finger. If this tear extends into the parametrium, there may be bleeding into the peritoneal cavity. Another, and pathologically more important consequence, is the exposure to infection, to which the puerperal woman is liable. It is a question whether the cervical tear is more frequently the point of entrance for infection than are lesions in another part of the canal.

In my experience, more sepsis has developed in cases in which the floor of the pelvis was involved and in complete perineal rupture.

Every practitioner has encountered those well-known results of cervical laceration, such as endometritis, subinvolution, hyperplasia, and the consequent prolapsus. We may get subinvolution without inflammatory changes.

In recent years our best gynecologists have come to recognize cancer of the cervix as one of the remote results of cervical laceration, if the same is not remedied by plastic operation, which also removes the scar tissue. H. J. Boldt, in Keating's work, page 604, with reference to the etiology of uterine cancer, says: "We may consider a long continued cervical catarrh, with erosion and also cervical laceration, causing such pathological changes, as direct etiological factors."

Before proceeding to any consideration of the next portion of the parturient canal, I wish here to impress upon the physician engaged in obstetric work the great importance of making a thorough examination of the canal, after the placenta has been delivered, even if there is no unusual amount of hemorrhage. The aseptic fingers can positively do no harm in the puerperal vagina. I cannot be too emphatic in advising this procedure.

The tears occurring in the fornix and the upper part of the vagina are generally continuous with those of the cervix; yet isolated lacerations of this part of the vagina do occur; especially do the blades of the forceps occasion these rents, if they are not properly applied. They are of considerable importance on account of their proximity to the peritoneum, and thus they lay bare the parametrium to the dangers of infection.

These tears may result in fistulous communications between the bladder and the rectum, in vesico-

vaginal fistulæ, or in tearing away of the vagina from the bladder, which means a vesical prolapsus.

Hedra, in the first volume of the *Medical Register*, says, "Many of the ill results following delivery are due to injuries in the vaginal fornix and the upper part of the parturient canal and are consequently overlooked." They are overlooked because they give rise to no special symptoms.

A rare variety of injury to the anterior vaginal wall is well described by Hedra, in the article just mentioned. "The impacted head, in its further progress, tears loose the upper portion of the anterior vaginal wall from the bladder and from the anterior surface of the cervix, turning it into a loose pouch, which the bladder will have to follow on account of gravity."

The impacted head may do similar damage posteriorly, separating the posterior wall from its adhesions to the surrounding tissue. There may be a longitudinal, oblique, or antero-posterior laceration of one side of the upper vagina, caused by the forcible introduction of the first or second blade of the forceps. A transverse laceration of the posterior wall of the upper vagina may be due to a transverse head position, with contracted pelvis.

Lusk, in his "Science of Midwifery," states: "In contracted pelvis, when the head is embedded in the brim of the pelvis, the overdistended vagina may give way, in which case the laceration occurs in the transverse or oblique direction, and usually upon the posterior wall."

Among other causes are vesical calculi of large size, which may tear into the anterior vaginal wall by becoming impacted during the descent of the child's head, and the presence of unyielding cicatricial tissue from atresia vaginæ, the result of constitutional disease or former injuries.

Dr. F. W. N. Hazelton, in the *Journal of Obstetrics and Gynecology*, February, 1902, reported a case of lacerated vagina, in which a dermoid cyst of the ovary was forced through the posterior vaginal wall by the head of the child. The rent was large enough to admit a strip of iodoform gauze two inches broad and four feet long.

Deep tears posteriorly or laterally in the vagina will, on exposure with a speculum, show small jets of blood, which account for constant bleeding, and they sometimes lay bare a large vein, especially if the patient has piles. Injuries in this particular locality do not necessarily occur or become apparent at the time of delivery. The parts undergo considerable pressure in dystocia, and the resulting necrosis goes on during the puerperal week, at the end of which time it begins to produce characteristic symptoms.

Postpartum pelvic exudates and pelvic abscesses are but septic infections, due to the absorption of the micrococci through the break in the tissues, although they may also occur as secondary to septic endometritis and gonorrhœal infection. Cystocele, rectocele, and atresia are frequent sequelæ.

The pelvic floor is the bane of the accoucheur's life. Not only in difficult labors, but in comparatively mild cases, we are often surprised to find, when the patient first leaves her bed, or at the usual postpartum examination six weeks later, that there is quite a relaxation of the vaginal outlet—in fact, a sinking of all the supporting parts. One should always think of the possibilities of this condition when making an exploratory examination for injuries immediately after delivery, and not be surprised at finding how thin the tissues are between the vagina and the rectum. On this examination a postvaginal injury to the muscular group can be demonstrated, which is usually ascribed to overstrain or distension at labor. We find no surface evidences of the lesion, unless it results in the formation of hæmatoma, which betrays itself by the postpartum vaginal pain it produces.

The later consequences of these relaxations can easily be recognized, and are of common occurrence. This condition of relaxed vaginal outlet is principally found in elderly primiparæ, over thirty-five years of age. In this class of patients I expect this condition, although the examination did not divulge it, if, during their childbed week they complain of pain in the region of the sacrum.

Some authorities estimate the frequency of lacerations of the pelvic floor and perineum at 35 per cent. of all cases, in first labors and 10 per cent. in subsequent labors. We have several degrees and varieties.

The injury may involve only the posterior commissure of the vulva and about one inch of the vagina, tearing through the congested and œdematous mucous membrane, or it may extend almost to the sphincter ani, involving fascia, fibers of the sphincter vaginæ, transversus perinei and levator muscles, and possibly even the sphincter ani muscle and the skin, and also from one to two or more inches of the rectum. This last-mentioned variety is the complete perineal rupture.

Many cases of central perineal rupture are recorded. Dr. Zangenmeister, in the *Centralblatt für Gynäkologie*, 1901, reports two forms of central rupture which are very interesting. The first patient was a young primipara: "At the time of the crowning of the occiput the vulva became more and more drawn to the front, the perineum became thinner and thinner —before an incision could be made, the perineum tore in the central part; immediately another tear extended forward to the frenum and to the anus." The second patient was also a primiparæ: "As the head crowned, it pushed the whole vulva forward, the perineum became greatly stretched and the anterior margin of the vulva came close to the pubis. A crescentic tear appeared in front of the anus, followed immediately by a tear of the perineum anteriorly, through the frenum. This case exhibited, as a result, an ordinary tear of the perineum, and between it and the anus was a transverse tear, extending in front of the latter."

In my last case of central rupture, the child forced its way through the rent, continuing the tear anteriorly toward the fourchette. The mode of tearing in perineal lacerations varies with the causes operating. They usually proceed from above downward, or from within outward. We rarely find an external laceration without a coexisting internal tear, yet how often in our obstetric experience do we discover a most serious internal laceration without any external manifestations.

In primiparæ and in forceps cases, there is no doubt that the head of the fœtus is the only cause of perineal injury, and not the shoulders.

Dr. Herman, at a meeting of the Obstetrical Society of London in 1901, described an interesting perineal rent, in the case of flat pelvis, in which, after the head had been extracted, the child's hand protruded through the anus; the uninjured perineum being between the anus and the head—the next pain drove down the shoulder, tearing through the rectovaginal septum, from above downward. In breech presentations, the introduction of the hand to relieve an arm, may extend a light perineal tear.

A few other causes for perineal injury are malpositions and malpresentations, scarred or rigid perineum, flat sacrum, a narrow pubic arch causing over-distention, and some reflex impulse causing a sudden violent uterine contraction which forces

the entire child and instruments out with one pain.

In a case of the last variety, in which the contraction or labor pain occurred just as the blades of the forceps were being locked, a complete perineal tear resulted, extending up two and a half inches on the rectal wall.

Perineal injuries may give extensive bleeding with sloughing of tissue, may afford an entrance for infection, and later, if they are not properly repaired, may entail such consequences as prolapsus of all the pelvic organs. The almost fatal hemorrhage which may occur, with injury to the clitoris or vestibule, is, fortunately, very rare.

Prophylactic measures should be begun during the latter months of pregnancy. Hemorrhoids should be treated during pregnancy, especially in primiparæ over thirty years of age. Atresia vaginæ needs gradual dilatation. Bands of mucous membrane extending across the lumen of the vagina should be cut. During labor, especially when the accoucheur is pressed for time, the temptation to hurry matters is very strong, and it often leads him into making matters more difficult.

The amniotic sac should not be opened until dilatation is complete, although in vertex cases, if the position is not faulty, and there is no apparent disproportion between the head and maternal parts, the accoucheur may venture to cut the first stage short, after having satisfied himself as to the dilatability of the os uteri, yet in breech presentation, and still more in footling cases, it is absolutely necessary to prolong the first stage as long as possible, even if the bulging sac comes down to the vulva. The bag of waters must not be broken until the dilatation of the cervix is complete beyond peradventure, as this is the only chance we have of preventing the cervix from contracting around the child's neck, and thus interfering with the delivery of the after-coming head; I will not call it retraction, for the condition must not be confounded with true physiological uterine retraction.

In cases in which the anterior lip of the uterus is wedged in between the pubic bone and head, and acts as an obstacle to the progress of labor, it should be pushed up with the side of the index-finger, in the interval between labor pains, and kept there until the contraction is completed.

Before a resort to forceps, the accoucheur must not fail to have the patient's bladder and rectum empty.

The employment of high forceps, I consider a capital operation, always a dangerous procedure, and it should never be done by the general practitioner, unless he has had considerable experience, for even in expert hands, the destructive results are sometimes unpleasant, although by the use of Tarnier's latest traction forceps we may reduce the degree of injury which may be occasioned.

Version is a wiser procedure, especially if the head is not yet engaged, or even if it is so engaged, but yet movable above the brim of the pelvic inlet.

Before applying medium forceps one should make a thorough examination for diagnostic purposes—the patient being anæsthetized, and the whole hand being introduced if necessary. Having made a diagnosis, the operator should follow the mechanism of labor in that particular position, so that in the extraction he may closely imitate the natural process, never forgetting that a rapid extraction does not signify skill. The grasp of the blades should be occasionally relaxed, thus allowing for rotation, which generally occurs spontaneously.

The alternate descent and recession of the head are the best means of overcoming rigidity, especially if the parts are small and the head is above the moderate size.

Great caution is necessary in the application of forceps in contracted pelves; when the head has been wedged in for some time, before attempting to introduce the blades, one should always examine to see if a laceration does not already exist.

Version should not be undertaken until the dilatability of the cervix and upper part of the vaginal canal has been determined, and even with a dilated cervix there is probability of a tear, if the amniotic fluid has escaped prematurely.

As the head reaches the pelvic floor, the rapidity of its progress should be at the command of the operator, who should use chloroform, certainly in primiparæ, to control the strength and the frequency of the uterine contractions, and thereby the rapidity of the expulsion, as it is just at this time that unforeseen injuries in the rectovaginal septum begin.

As a preventive of laceration, one physician recently advised placing adhesive straps, two inches broad, on the perineal skin, extending from the labium majus on each side to the hip on the opposite side and another transverse strip over the perineum. This cannot be kept in an aseptic condition, nor can it save a perineum, which usually tears as a continuation of the rent started above on the post-vaginal wall.

Dr. Weston has advised the introduction of a deep suture into the perineum, from side to side, when a complete rupture before the head descended upon the perineum is anticipated, so as to bring the parts into accurate apposition.

In two cases of elderly primiparæ, in which I was certain that an extensive laceration would result, I introduced two strong catgut sutures in a curved fashion deeply into the pelvic floor, anterior to the rectum. The first traversed the tissues just within the nympha near the lower end, one-half of an inch in front of the anus, and came out at the same point in the nympha on the opposite side. The second started about a half inch lower down, closer to the posterior commissure, and followed the same course, anterior to or above the first one, but more deeply situated. The loop thus formed was elliptical and included the sphincter vaginæ and transversus perinei muscles, perhaps some anterior fibers of the sphincter ani muscles, and, possibly, also fibers of the levator ani et vaginæ muscle as well as some of the pelvic fascia. The result was gratifying in both cases, as it gave full control over the lacerated and retracted muscles, bringing them in close coaptation, and simplified the subsequent steps in the repair of the vaginal injury.

I fully recognize the importance of securing union of muscle and fascia separately, to assure a strong pelvic floor. This method does not produce a bundling of these tissues, but only holds the parts together until the other sutures are introduced, both perineal and vaginal. The method is of value in inevitable laceration, but the exercise of ordinary care will save many cases from injury if the obstetrician will control the advance of the head, thereby preventing too rapid extension of the same, and also caution the patient against applying too much expulsive effort while the occiput is passing through the distended vulva.

The forehead should not be allowed to slip over the distended perineum until the occiput is expelled. If this precaution is observed, it will rarely be necessary to "shell out" the head by pressure through the rectum.

Hofbauer, in the *Centralblatt für Gynäkologie*, No. 5, 1901, describes the following technique for the preservation of the perineum: "The right hand is laid flat on the perineum, the frenulum is left

plainly in sight, and exerts a pressure forward upon the head through the perineum." When the posterior angle of the large fontanelle appears and the greatest circumference is passing, the head is rotated to one side to throw the strain off the perineum. This "anticipated external rotation" is about 40 degrees. The results, he says, are very good. After the use of forceps, the instrument is removed, when the large fontanelle appears and then the method described above is followed.

In occiput posterior positions, the head should not be extended, the anterior fontanelle not delivered, until the margin of the perineum rests in the nape of the child's neck. As this is the time when haste to deliver will do damage, it is better to allow half an hour to pass, after the head has reached the pelvic floor, before it is permitted to be expelled.

The instructions given in works on obstetrics are, support of perineum, pressure on advancing head, chloroform, forceps, and episiotomy. With the careful and patient obstetrician these mean very much, yet in some cases any and all of them are of no avail.

In breech presentations undue haste will give considerable annoyance, and if the breech seems too large for the canal, Malcolm MacLean's method of dilating the latter by withdrawing the closed fist several times is excellent.

We should use every effort to keep the head flexed, by well and properly directed abdominal pressure. When the cervix has closed around the neck of the aftercoming head, the extent of the injury is influenced by the amount of traction power exerted.

The methods of operative repair of postpartum injuries of the genital canal are so variously described by authorities, that I will confine myself to the treatment adopted in my own practice, and I believe my technique differs but slightly from others.

Lacerations of the cervix which are not extensive are not to be repaired immediately, but left for secondary operation, for spontaneous repair sometimes occurs in very bad cervical tears. If hemorrhage is excessive the uterovaginal tampon of sterile or 5 per cent. iodoform gauze left in for twenty-four hours, usually controls it.

In one case in which the laceration was quite severe, the tampon did not control the bleeding, and it was necessary to press down the uterus, grasp the lips with large bullet forceps and run a catgut ligature around the angle of the tear before hemorrhage was stopped. I used vaginal retractors, and had the patient placed on the table, in order to render these postpartum manipulations less difficult, for it is this inconvenience which interferes with the proper obstetrical work in private practice.

Immediate repair of the cervical laceration is rarely successful, whereas a trachelorrhaphy two months later gives excellent results. Injuries to the fornix and vagina are treated according to their depth. If superficial, they will heal quite readily, leaving more or less scar tissue, if strict aseptic care is employed until the tenth day.

In cases in which I can put in a fine catgut stitch, without leaving any small pockets, where the accumulating and putrefying lochia may act as a commencing nidus for producing sapræmia, or what is much worse, puerperal septicæmia, I do so, but if they are deep, I begin on the second day by irrigation, and with the aid of a speculum place in them iodoform or sterile gauze, which is renewed daily. In this way they heal by granulation.

The two-bladed speculum is not applicable in shallow vaginal tears, as distension of the mucous membrane prevents recognition of them.

When I encounter cases of relaxation of the pelvic floor, in which the submucous muscles and fascia have been lacerated without any surface injury, I fully explain the situation before I finish my attendance, warn the patient of the probable consequences if it is not attended to at a subsequent time, and advise the appropriate operative treatment before the uterine displacement and prolapsus have begun to develop.

When the pelvic floor and perineum are torn, my treatment varies with the degree of rupture. If but slight, hardly necessitating a single stitch, I advise aseptic cleanliness, bathing the vulva with an antiseptic solution at regular periods and also after each micturition.

The toilet, after an evacuation, should always be made in a downward direction away from the vulva, and finished with a local bath of antiseptic solution.

In cases of rupture of the second degree, I do an immediate perineorrhaphy, unless the patient is too weak from loss of blood or from shock after a difficult accouchement, in which case, I insist upon its being done within twenty-four hours. This is very important, and even if the result is not perfect, at any rate the likelihood of septic absorption through the broken surfaces is reduced.

As kind as nature may be, we cannot rely upon her entirely, for simply keeping the knees tied and depending on surgical cleanliness will not bring about primary union in these cases, but sutures will, if they are properly placed, and are at all effective.

Although the Peaslee needle is recommended by some, and I used it until ten years ago, the three-sided curved needles, with a carrier, give me more satisfaction. The carrier enables one to use silver wire, which I prefer for external work, because it can be more easily removed, and there is no danger of the knot opening.

Silk worm gut, although it has a tendency to cut through the tissues, has been highly recommended and much used in this work, but my results have been so uniformly good in immediate perineorrhaphy with silver wire that I still adhere to it.

It is not always convenient, but for this work my preference is to have the patient on the table in a dorsal position, with a twisted sheet to hold up the legs, even if the operation is done immediately after delivery.

The vagina is first irrigated, I then introduce a ball of sterilized absorbent cotton, placing it close to the cervix, then a Barnes' bag into the rectum; this, when inflated, causes the floor of the wound to stand out more prominently, and enables me to carry my needle around to the opposite side with more ease, and also gives warning, by its collapsed condition, if I have, in the attempt to take a deep bite in the muscular tissues, perhaps entered the rectum. My sutures are interrupted and buried in their entire course, although it is allowable to have them come out at the base of the wound and re-enter on the other side. They are introduced through perineal skin principally. I place catgut sutures in the vagina, when I find it necessary to strengthen the vaginal margins of the closed wounds, to avoid pockets, and even introduce them deeply, if necessary, to grasp the muscles again more securely in their original relationship, instead of having them grouped.

The first suture is placed near the anus; the others one-half inch or less apart, until I reach the nymphæ, thus the topmost suture includes the lower

ends of the labia majora. The vaginal sutures are first tightened, and then the silver wire twisted and cut off. If the two large catgut sutures mentioned above have been inserted, they are now withdrawn, as they were used only for controlling purposes.

Examination intravaginam will show the entire length of the wound closed, and possible pockets in which lochia may accumulate must be searched for. The pledget of cotton is then removed slowly, and following the axis of the vagina; then the Barnes' bag is emptied and withdrawn. After thorough cleansing, strips of iodoform gauze are placed on each side and over the shortened, twisted ends of the protruding wire to protect the thighs.

The limbs are not tied, nor do I advise catheterization; aseptic cleansing and frequent renewal of the dressing constitute the after-treatment until the sutures are removed on the tenth day.

In complete rupture I have several times sewed the rectum with catgut sutures pointing into the cavity. I pass two stout catgut ligatures (I use the chromicized ten-day catgut) into the retracted ends of the severed sphincter muscle, and after tying these very tightly, proceed as in the operation for second degree rupture, except that a Barnes' bag is not advisable. My experience teaches me, however, that most cases do not heal by primary union, and the patient is, therefore, more liable to infection from the gut. Should septic symptoms occur it then becomes necessary to open up and remove all the sutures. Therefore I simply direct that the bowel and vagina be kept as clean as possible, and I keep the patient under observation until such a time as a complete plastic operation can assure a good result.

The length of the paper compels me to omit many details, and prevents a proper consideration of injuries of the vulva, labia minora, and majora, and the urethral orifice, yet, as they do not bleed much, except when the bulbi vestibuli are involved, and as they should, if deep, receive the same surgical repair, they are not very important.

In closing I wish to reiterate and earnestly advocate that the general practitioner approach his parturient case with patience, never hurry except when the saving of life makes urgency in action a necessity, and never fail to learn exactly, by examination, the condition in which this physiological process has left the genital canal, and to remedy any unfortunate result by prompt attention and repair.

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## THE SELECTION OF THE ANÆSTHETIC IN CHILDREN.

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In selecting the anæsthetic to be given to children, the anæsthetist and surgeon are confronted with a problem of grave import. It is here proposed to demonstrate that the generally accepted use of chloroform with children should not be adhered to. The advantages claimed for it are few as compared with its dangers, and although, as generally stated in textbooks, it is safest in children, my experience does not bear out this contention.

Those who use chloroform continuously are most emphatic in warning against its dangers generally, and especially in the hands of the inexperienced. The many operations to which children must frequently submit and which the general practitioner performs himself, with the aid of another no more qualified in its use than himself, cause the lives of these little patients to be endangered by the unhesitating acceptance of this too generally advocated procedure.

Among the various conditions in which chloroform is indicated, it has been found to be comparatively safest in obstetrical practice when the condition of pregnancy has hypertrophied the heart wall and increased the vascularity of the nervous system and when the woman, welcoming the relief afforded, *gladly* accepts the anæsthetic.

While it is true that the greater vascularity of the nervous system in children, combined with their inferior muscular development, as compared with the adult, would seem to render chloroform safe, yet the element of fear with its series of vasomotor phenomena is more than enough to counterbalance this. Children over two years of age are invariably frightened. Of five hundred cases anæsthetized by the writer at the Gouverneur Trachoma Hospital fully 70 per cent. exhibited phenomena of fright. They struggle with a strength born of desperation, they fix their thoracic muscles in a tonic spasm, and when, exhausted, finally take a breath, they inhale an overdose of the chloroform which has been faithfully dropped on the mask during the entire procedure. Not only is it extremely easy thus to give an overdose, but the struggle, as stated by Hare, exhausts the vasomotor system, strains the heart, and may cause its dilatation. Again, children are more easily brought under and consequently more easily given a fatal dose. Add to this the tendency to push the anæsthetic so as to get the child under as quickly as possible, and you have the elements which in many an operation, substantially devoid of danger, jeopardize the patient's life; notwithstanding the fact that a child can be resuscitated after accidents from chloroform under which an adult succumbs.

St. Germain stated that he anæsthetized six thousand infants with chloroform without a single death. For the same period of life, that is, up to the twelfth year, there is not one death recorded from ether, while from chloroform there are twenty-one deaths found in literature, as reported by Weir in 1900. Nor must the testimony of those employing only *one anæsthetic* habitually, be given too much weight; naturally enough, employing but one anæsthetic, they become so proficient in its use that results obtained by them are not borne out in fact by others whose experience is with a larger field of anæsthetics. And it must certainly be regarded as antiquated to employ one anæsthetic for all cases, even in subjects whose vital organs are normal.

The danger from chloroform is greatest in the very early stage of its administration, due to its action on the vagus-inhibitory mechanism, and a failure in respiration will happen as frequently before as after the stopping of the heart, as was shown by Embley. With chloroform, vomiting is sometimes accompanied by symptoms of severe cardiac depression. Cases are on record in which fatal syncope has arisen both during and after chloroformization, and in one of the cases the autopsy showed no lesion of the heart. This may occur quite a time after the anæsthetic has been stopped. At the Gouverneur Trachoma Hospital I witnessed one such case in which, about ten minutes after the anæsthetic had been stopped and the operation completed, vomiting set in, followed by syncope. Fortunately the nurse in charge was alert, and prompt measures afforded relief. I may note in passing that chloroform was given to this child because of an albuminuria found at the time of operation.

In the administration of the ether we are met at

the outset with a series of objections. It is most disagreeable to administer. The irritation caused by it excites a flow of mucus which in the smaller bronchi of children is apt to cause obstruction and consequent danger. Its administration requires more time and its rapid evaporation may cause an ether-pneumonia.

In recent years the view has been advanced that the mortality of ether was as great as that of chloroform when the after-effects of the former were taken into consideration. Cases in which pneumonia followed the administration of ether have been reported repeatedly, some of which developed but a few hours after etherization. Yet Dudley Buxton, in criticising these reports, states that few are found to be really due to ether, but rather due to the removal of the patient through cold halls into cold wards, to shock, etc., suggesting the possibility of pulmonary congestion and subsequent infection. J. F. W. Silks states "that there is no evidence that lobar pneumonia occurs after ether with greater frequency than might be expected from the normal rate of incidents of the disease." It is true that the intense cold produced by the rapid evaporation of ether-vapor in the lungs and the consequent chilling of the blood-stream there, predisposes to congestive conditions, but with a *closed* inhaler this evaporation can be controlled, and by mixing the expired air with the ether inhaled through the use of any one of the many apparatuses on the market this condition will not occur. Over twenty thousand children were anæsthetized at the Gouverneur Trachoma Hospital by the nitrous-oxide-ether method with a closed inhaler, and not one case of ether-pneumonia developed.

The safest anæsthetic known is nitrous-oxide. Neither deaths nor bad after-effects have been reported from its use. We are indebted to Clover for the valuable suggestion of preceding ether with it. Supplying what is deficient in ether, it is particularly appropriate for inducing anæsthesia. It is agreeable to take, and with children one or two breaths are sufficient to cause loss of consciousness. This is not attended with excitement or struggle and is free from risk to life. In children, from 5 to 10 per cent. air may be given with it. Thus administered, the cyanosis, jactitations and opisthotonos do not occur. If oxygen be given in greater quantity, struggling does occur, but it is not attended with those dangers which the anæsthetist fears when the struggle takes place under chloroform. Its peculiar adaptability to the continuance of anæsthesia with ether is based on the fact that paucity of oxygen is a benefit rather than a danger. It lessens mucus flow and does not produce circulatory phenomena of dangerous kinds.

When we follow the administration of nitrous-oxide with ether, the surgeon has at his command an ideal anæsthetic for children. It combines the rapidity of chloroform without its dangers, with the safety of ether. With its use vomiting is lessened, since the quantity of ether taken in a given case is smaller and consequently the after-effects are correspondingly less. I have seen but two cases of respiratory irregularity in five hundred when this method was resorted to.

To recapitulate: That to use chloroform is safer than to employ ether with children, is not borne out by close observation, and especially is this true with robust and healthy children. Chloroform is dangerous because an overdose may be too easily given. Cardiac failure may set in at the very beginning of the anæsthesia, because of the violent and dangerous struggle which takes place in frightened children.

Death occurs suddenly and without warning. The tendency to push the anæsthetic is too tempting. Cardiac syncope following vomiting may occur at any time during or after the administration of chloroform and result fatally.

On the other hand, nitrous-oxide induces anæsthesia rapidly and without any dangerous symptoms, and when followed by ether from a closed inhaler, rapid evaporation from the lung is avoided and ether-pneumonia does not occur. By preceding ether with nitrous-oxide, the amount of ether required is lessened, diminishing the after-effects. With chloroform, any departure from the depths of anæsthesia which is proper in any particular case is attended with difficulties more or less grave, while with ether we may err on the side of too light or deep an anæsthesia with but small risk to the patient.

In conclusion, I wish to sound a note of warning against the practice of commencing short operations on the nose, throat or eyes, before complete anæsthesia is induced; and the practice of some operators in these specialties, of using chloroform with the patient in the upright position, cannot be too strongly condemned.

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## AN OPERATION FOR REMOVING THE TONSILS.

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For operation on those diseased masses known as hypertrophied tonsils, various tonsillotomes have been devised, any one of which will serve a more or less useful purpose in certain cases. These various instruments are advocated by individual operators, as early instruction and subsequent use have made the particular instrument seem most desirable in his individual case. Yet, in the majority of cases, other instrumental interference than can be accomplished with the tonsillotome alone, is necessary.

For the removal of such hypertrophied tonsils as are not attached to the faucial pillars, and which project abruptly into the throat, the tonsillotome is an ideal instrument, working quickly, with a minimum of shock, and without anæsthesia. But in those cases in which a considerable portion or all of the tumor is enveloped in the pillars of the fauces, and in those cases in which adhesion bands pass from the pillars to the tonsil, the tonsillotome is unsatisfactory; either entirely failing to grasp the tumor, or slicing off a portion only.

The reasons for operating on these masses, I take it, are: (1) To furnish sufficient space for deglutition and respiration. This is a reason in extreme cases only. (2) To afford free action to the palatoglossus and palatopharyngeus muscles, including those fibers of the palatopharyngeus known as the salpingopharyngeus; where loss of such action, due to these masses, has impaired audition or phonation. (3) To remove a useless mass, which serves merely as a culture ground for disease germs.

If a portion only of the mass is removed, the first

and generally the least important of these objects will have been attained, but the second and third, which are by far the most important, will not have been accomplished. The remaining tonsillar tissue, infiltrated with cheesy deposits and alive with germs, becomes inflamed as often as before, and will in many cases, rapidly enlarge to its former or even a larger size; and the patient will have been subject to the inconvenience and dangers of an operation without any permanent gain.

In consequence of this inapplicability of the tonsillotome alone, to a majority of cases, I have during the past six or seven years used almost exclusively the simple knife and forceps according to the following method; which may be satisfactorily employed in all cases.

In addition to the knife and forceps I also employ a hook-like knife which I modeled from the lines of a strabismus hook, making the handle longer and stouter, and giving a knife edge to the concavity and end of the hook.

The patient being anæsthetized, and on a table, the foot of which is elevated, is placed on his side, his mouth held open by a gag, and his tongue pressed downward and forward with a depressor.

The finger of the operator is then passed over and around the tonsils to detect any pulsating vessels. The under tonsil, which, if the patient is on his right side, will be the right, is then seized with a volsellum, preferably of the pattern known as Kelly's, and drawn toward the opposite side. The described hook-knife is then passed between the tonsil and the anterior pillar of the fauces, just beneath what I term the basement membrane of the tonsil, which is probably nothing but the mucosa between the pillars of the fauces. The tonsil is thus almost completely separated from the anterior pillar.

Some care is here necessary, that the knife be passed not into the tonsil mass, but beneath its basement membrane.

The finger of the operator is then introduced into the wound, and making sure that pulsating vessels cannot be felt, and using the finger as a blunt dissector, the mass is turned out, thus leaving it attached only to the posterior pillar, and by mucous membrane only, which is divided by the ordinary blunt-pointed tonsil bistoury.

Hemorrhage is free at first but ceases promptly. Should any bleeding vessels present, they are seized with forceps and treated as in any other situation.

When removed, it will be found that the base of the tonsil is covered by a thin membrane, and that the dissection has been carried on entirely outside of the tonsil which has thereby been entirely removed.

Without turning the patient the other tonsil is then removed in the same manner.

After the wounds have healed, it will be found that the pillars of the fauces stand out in their proper position, and that their muscles act freely.

When this operation is properly done there will be no return of the tumor.

The dangers of any operation on the tonsils are, first, severe hemorrhage, which may be primary or secondary, and, second, infection.

Ordinary cleanliness will guard against the latter. But the first, as a perusal of the literature of the subject will show, has occurred in the practice of the most skilled.

Fatal hemorrhage has been reported from division of a misplaced internal carotid artery.

Severe hemorrhage, primary or secondary, may occur from the section being made through the diseased tonsillar tissue, thus leaving a portion of the mass, and dividing blood vessels whose contractile power is impaired.

By the above-described procedure—that is, careful palpation and dissection outside the tonsillar tissue—I believe we are in a measure guarded against this danger, which, remote though it be, is to be considered, and at the same time we have done that which is logically indicated, namely, completely removed the tumor.

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**Is Atrophic Rhinitis Always Autochthonous?**—In a paper read before the Madrid Congress, W. Freudenthal reviews our present knowledge concerning this form of nasal catarrh. Ozæna, says he, is an atrophic rhinitis influenced by atmospheric conditions, and he proposes for the general clinical condition the name xerasia. In the commencement of the malady the osseous turbinals are attacked, and the condition is aggravated by the dryness of the air making itself felt on (1) the nasal fossæ, causing simple septal ulcers, epistaxis, etc.; (2) parts adjacent to the nose, as head, ears, lips, and teeth, and (3) probably on distant organs. In order that there may be a true ozæna, there must be present a bacillus analogous to the pneumobacillus of Friedländer. This bacillary invasion occurs in growth. In certain cases it may be that the bacillus is conveyed from the vulva to the nose. In ozæna the sinuses are often secondarily involved. Finally ozæna can be looked on as a specific and autochthonous malady resulting from an atrophic rhinitis.—*Revue Hebdomadaire de Laryngologie.*

**The Upper Respiratory Tract as a Source of Systematic Infection.**—F. DeHavilland Hall states that though typhoid fever is almost invariably propagated by means of the stools and urine, there is sufficient evidence to show that the Eberth-Gaffky bacillus may find its way into the system through the respiratory tract. This is the more likely if the vitality of the laryngeal mucous membrane is lowered owing to previous inflammatory mischief. Budd holds the view that under certain conditions typhoid fever is infectious, and they should lead to the expectoration being disinfected. Though definite evidence is wanting, clinical experience points conclusively to the poison of measles and whooping-cough being received via the respiratory tract. In influenza the trouble in many cases has appeared to start in the nasopharyngeal space. The writer believes that adenoid vegetations and enlargement of the faucial tonsils render the individual more liable to contract influenza and many other infectious diseases. In diphtheria, in the majority of cases, the Klebs-Löffler bacillus implants itself in the tonsil, and probably enters its substance through some abrasion of the epithelium. At the onset the disease is a purely local one. Two cases were mentioned in which, after the application of the galvanocautery to the nasal mucosa, scarlet fever attacked the individual. The writer believed that the germ entered the system through the wound caused by the cautery. The intimate connection between the throat and acute rheumatism was emphasized. Notes of two cases were read showing that septic and pyæmic processes may be the result of infection through the upper respiratory tract. The important part played by chronic nasal affections in the production of facial erysipelas was insisted on. Primary nasal tuberculosis and primary laryngeal tuberculosis sometimes occur. The tonsils are liable to tuberculous infection. The recognition of the tuberculous nature of some adenoid vegetations, and the possibility of the system becoming infected through them, should constitute an additional reason for the prompt and complete removal of these growths.—*Medical Press and Circular.*

# MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

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## DETERIORATION IN PHYSIQUE OF THE BRITISH RACE.

THE lay and medical journals of Great Britain have alike been eagerly debating the point as to whether the national physique has deteriorated. The question has been discussed in all its phases, distinguished authorities have given their views on the matter, and the outcome is that much light has been thrown on this very important subject. Sir Frederick Maurice was one of the first to draw attention to the fact that the physical qualifications of recruits for the army were steadily declining, and he has followed up his first criticisms by others which are still more adverse. The Boer war and the report of the commission which sat thereon, and the memorandum of the Director-General, Army Medical Service, both of which state that a large proportion of the men who volunteered for the South-African campaign were weaklings, have aroused the keenest interest among all classes of British society. General Maurice asserted, in an article contributed to the *Contemporary Review*, January, 1903, "that only two out of five men enlisting remain in the army as effective soldiers at the end of two years service," or, in other words, that 60 per cent. of the men offering themselves for enlistment are not in a fit physical condition to complete their term under colors.

Those who look upon the dark side of life argue that these facts show that the British race, as a whole, has physically deteriorated, while the optimists declare the gravity of the situation is grossly exaggerated, and that if there has been a deterioration in physique of recruits, it is mainly owing to the enlistment of mere boys who in days gone by would never have thought of offering themselves as soldiers. There is yet another and more reasonable body of debaters who regard the rush in recent years of country people to the towns as the chief cause of the physical decadence of volunteers for the army; at the same time it is contended that this does not prove that the British race generally is inferior in bodily vigor and endurance to its representatives of fifty years ago. Statistics, indeed, would seem to show that the average height and weight of the population of the United Kingdom have increased within the past thirty years. The well-to-do inhabitants have undoubtedly added to their stature, and are probably as good physical specimens of the human race as can be found anywhere, but this improvement is counterbalanced by the deterioration in physique of a considerable portion of the working classes, who have abandoned country life with its health-giving properties, in order to live in towns often under conditions the reverse of hygienic. The inquiry, therefore, that the British Government is said to be about to request the chiefs of the medical profession to make is, so far as the national physique is concerned, perfectly justified by the circumstances.

The London *Spectator*, the most brilliant, and perhaps the sanest of the London weeklies, takes a common sense view of the matter, and while refusing to be alarmed, or even greatly disquieted by the prognostications of evil at the present time so freely scattered about, allows that an inquiry into the loudly proclaimed British physical deterioration is eminently fitting. This journal points out that two immense changes are passing over the population, and it is necessary to ascertain in a definite, and for the time final, way what the effect of these changes upon the health of the population really is. The people are rapidly quitting the country for the towns; it is not merely that great cities are growing till it is becoming a serious difficulty to supply them with good water, but the minor towns are growing till in other countries they would be accounted cities. The Earl of Meath recently illustrated in a convincing way the manner in which the exodus from country to towns has been going on in England. He supplied the following figures: "In 1881 the urban population of England and Wales was 8,990,000 out of a total population of 17,927,000, or 50 per cent.; in 1891 it was 25,000,000, out of a total population of 32,000,000, or 77 per cent."

The mode of life in a busy town does not only tax brain and nerve power much more severely than does country life, but the diet of the urban working population is not nearly so nourishing as that of their rural brethren. The *British Medical Journal* in a recent issue rightly emphasizes this point. The working classes of towns do not compare favorably as cooks with those of the country, and perhaps the greatest drawback to their physical welfare is that they consume a far larger quantity of spirits and tea than the laborers in rural districts.

The *Spectator*, however, thinks—and with this view the *British Medical Journal* is more or less in agreement—that one of the most potent causes of physical degeneration among poor of towns is the strict attention which is paid to the education of the young. In Great Britain growing boys and girls are compelled by law during nine years to remain in school for several hours a day. This confinement and strain upon the brain bears with especial weight upon the children of the poor. Ill-fed, and descendants of illiterate and untaught persons, the effect of mental development cannot fail to effect injuriously their bodily health. The tendency of the age has been too much toward mental training, and physical improvement, which is quite as important, has been neglected. The *Spectator* urges that gymnastic training and a quasi-military drill should make a part of the compulsory education in every school, and then goes on to say: "We want to be rid of 'nerves' as well as of typhoid fever, and to give the young conditions of health other than pure water and well-trapped drains. . . . What is wanted is clear information on two points—whether the transfer of the population

to towns and the new practice of educating the children of the poor on a purely literary basis do or do not deteriorate the public health."

In the *Journal of the British Royal Army Medical Corps* is an editorial dealing with the question of national physique and military service. The writer of this article, of course, cannot deny that there is a very large number of rejections of recruits for the army on account of physical defects, but states that the annual tables concerning recruits show no marked changes in recent years, either in respect of the social stata from which recruits are drawn, of the proportion which various occupations or groups bear to the whole number examined, or the ratio rejected in each of such groups.

It is, nevertheless, manifest that the supply of human material to the army is not satisfactory in quality, and it seems also to some extent certain that the poor population of Great Britain has deteriorated physically, owing undoubtedly, in the main, to the transfer of so large a proportion of the inhabitants to towns. Insufficient and unfit diet is also an important factor in the case, as is the present-day custom of overstraining the mental capacity of the young, oftentimes under insanitary conditions. The inquiry to be instituted by prominent British medical men into the matter will be of interest to the world at large, for it must be borne in mind that although in England and Scotland the situation as regards town population is most accentuated, yet the tendency in every civilized country is to desert the country for the towns. The problem then to be solved is how to render city life as healthy as possible.

## CANCROIN TREATMENT OF CANCER.

Dr. A. Adamkiewicz defends, in the *Deutsche Aerzte-Zeitung* for June 15, his method of treating cancer by injections of cancroin. The damage done by the disease and the disease products, are threefold, local-anatomical, local-functional, and general. The action of cancroin takes place in the reverse order, and cancroin fulfils its special task if it hinders the injurious influence of the cancer products upon function and the general condition of the patient. The "cure" of cancer (that is, the elimination of the dead cancer and its replacement by formative tissue) is exclusively a question for the reparative powers of the organism. It is consequently not reasonable always to demand such "cure." After these preliminary observations the author gives the details of the results obtained in eight cases, the first four of which we abstract as illustrative:

*Cancer of palate.* Male, aged fifty-two years, attacked in January, 1902, with pain on swallowing on the right side, in the right ear, and extending to the whole right face. Examination showed cancer of the right side of the soft palate, which was operated upon the same month but recurred two months later. January, 1903, the patient showed dysphagia, great tenderness over the styloid process, and the jaws could not be separated. Through a cleft between the teeth a fungoid cancer, larger than a crown piece, could be seen on the soft palate just behind the right end of the upper alveolar process and in front of the anterior palatal arch. Cancroin injections, begun January 16, relieved, first of all, the pains; then the growth became metamorphosed into white fat, the lower jaw became movable, and toward the end of the second week the patient showed how he could introduce a finger between the teeth, and the use of solid food could be resumed; and by the beginning of February he could already chew meat on the healthy side and, a few days later, upon the right side also. About February 4 nothing was left of the tumor but a clean, granulating ulcer, which healed completely by the beginning of March. By the end of April pains returned in the original focus, and here, unfortunately, the record ends.

*Cancer of tongue and cervical glands.* Man, aged fifty-two years; violent pains in tongue, leading to examination September, 1902, which revealed cancer already extending over the whole tongue, and to the bottom of the mouth cavity and the neighboring glands; operation. January 18, 1903, the tongue was a blue-red, tumor mass, knotty, immovable, grown to the bottom of the mouth cavity, which it filled, forming only an appendage to a tumor mass larger than a fist formed from the bottom of the mouth cavity. There was, besides, a tumor bigger than a fist on the right side of the neck just behind the right ear, connected with the first tumor through an infiltration filling out the space behind the ascending ramus of the jaw. Speech was completely unintelligible, food was confined to an insufficient quantity of liquids, and the attacks of pain led to wild outbreaks, followed by the patient's falling to the ground unconscious; attacks in which much trouble was experienced in reviving him. Under cancroin the tongue regained somewhat its motility, the infiltration decreased markedly and the tumor behind the ear softened so much as to permit of the evacuation of its contents by successive punctures. By the middle of March it had almost completely vanished, as had also a great part of that of the lower jaw region.

*Cancer of stomach and liver.* Man, aged fifty-two years; anorexia, August, 1902; October 20, on examination, induration of whole anterior wall of stomach with painfulness on pressure; increase in size and resistance of the liver; high-grade anæmia, and œdema of both ankles; weight 71 kgms. Under cancroin the stomach induration vanished, except one walnut-sized, hard spot on the greater curvature; the liver decreased considerably in volume and retained an uneven surface (infiltrated tissue sinking in, leaving carcinomatous patches as elevations), the tuberosities of which gradually diminished in number and size; at one place, close to the costal border, a depression the size of a hen's egg was noted. The patient regained appetite, and on November 19 weighed 73.75 kgms. Adamkiewicz has repeatedly observed the vanishing of cancerous infiltrations and tuberosities from the liver, and the consequent reduction in a short time of the increased volume acquired through the disease.

*Cancer of intestines.* Woman, aged fifty-two years, sick since September, 1902; pain in left hypochondrium, increasing, especially violent upon the region being touched, and unbearable upon defecation. Soon the clothes could not be borne, and defecation was accomplished only artificially and with the greatest agony. The patient weakened and became bedridden, waiting for death. In November a

tumor in the left upper abdominal region was found but declared to be inoperable. December 15 Adamkiewicz found a large tumor, the size and shape of a pear, to the left of and above the navel, about in the mamillary line, a hand's breadth below the ribs, evidently in the transverse colon. It had the hardness of cartilage. The day after the first injection the tumor was smaller and the pain less. After a few days the patient dressed, ate, and, aided by simple remedies, defecated. By the end of the second week the stools came naturally and had a normal appearance. January 8 only a slight thickening remained, which did not hinder the patient in her household or other work, and Adamkiewicz often met her on the street as late as March.

The author concludes that patient's treated according to his method live longer and in greater comfort, even when not "cured," than those who are given over to their fate without treatment. Certainly his detailed report of cases is sufficiently striking (in spite of the fact that both his diagnoses and his results have repeatedly been called in question by his colleagues) to lead one to await with interest the appearance of his forthcoming work, "Die Heilung des Krebses," of which his article is an advance sheet.

## CARDIAC ARRHYTHMIA AND INDICANURIA.

INTERMITTENCE of the pulse has often been noted in connection with gastrointestinal disturbances. In the *Comptes Rendus de la Société de Biologie* (seance of May 23), however, Prof. Charles Féré relates experiments upon himself which go to show an increase in the frequency of the intermittence in association with indicanuria, indicating the toxic region of the cardiac disturbance. The frequency of the intermittences, observed in the course of a study on the influence of sensory stimuli upon the circulation, varied from day to day; they might be altogether absent during the half or three-quarters of an hour that the experiment lasted. This happens after a laxative or after diminution of the generally too abundant alimentation. Generally the intermittences occurred every five or six minutes on the average; at other times not more than an average of two minutes separated them. Exceptionally they were more frequent following errors of diet or constipation. In general they occurred at irregular intervals, though at times a sort of rhythmic grouping was observed—that is, successive pairs of intermittences were separated by the same number of normal pulsations. The conditions mentioned suggested that the condition was due to an intoxication from the alimentary canal, variable in intensity from day to day with variations in the hygienic state. Thinking that the verification of this hypothesis should be furnished by the urinalysis, this was made sixteen times. The estimation of the indican was always made in the same way (hydrochloric acid, Labarraque's solution, chloroform). Nine times the characteristic reaction was obtained; seven times it was lacking. The days when it was lacking there were no intermittences, or only two or three, in the course of the experiments. Where the reaction was obtained the intermittences were more frequent (at least every two minutes). While in the absence of quantitative estimations one cannot say that a constant relation exists between the amount of indican and the frequency of the intermittence, nevertheless there was evident a relation between the presence of the indican and the frequency. Twice along with the indican the presence of urobilin was noted.

## OVERCROWDING IN CITIES AND ITS REMEDY.

At the annual conference of the Royal Institute of Public Health recently held in England, one of the most important matters discussed was that of city congestion. So far as this matter is concerned, Great Britain presents the situation in its most accentuated aspect. The country is thickly studded with towns, some of which are overgrown, and whose inhabitants are massed together in an area so circumscribed as to be inimical to health and especially deleterious to the upbringing of the young. How to enable the town population of the civilized world in general, and of Great Britain in particular, is, in fact, far more important, though, on the face of it, not so spectacular as any of the burning political questions of the hour. As to whether England is to have free trade or protection, the subject which is now convulsing that country, sinks into comparative insignificance when contrasted with the problem of city congestion and the most effective mode of relieving it.

The speakers at the conference referred to advocated several remedial measures. Mr. Austin Taylor, M.P., "suggested that municipalities should be allowed to buy land three miles outside their boundaries where streets could be laid out on model lines, trees preserved, and a general style of architecture insisted upon. There must be expansion to cure congestion, and for that purpose he also advocated the compulsory acquirement of suitable areas on moderate terms, the reduction of interest on public loans for demolition and rehousing, and rating of vacant sites on their capital value, by which model dwellings could be erected at not greater rent than one shilling (twenty-four cents) per room weekly."

Dr. James Niven, medical officer for Manchester, made a speech on similar lines, and said "it was generally recognized that an effort should be made by the sanitary authorities to house as many as possible of the poorer working-class families on the outlying parts of these districts under the improved conditions of light, air, space, and construction of dwellings. So far, efforts in this direction had been the result of private enterprise and confined to persons above the laboring classes. A great impulse had already been given to the movement outward by the development of electric trams.

The speaker then described in detail the steps which had been taken in Manchester to improve the sanitary surroundings of the poor by transferring the working population to outlying districts. From a consideration of the system of building up and developing colonies at a distance from the city, initiated by Manchester and some other large centers of population in Great Britain, it would appear that the authorities of these places have shown a wiser appreciation of the facts o the case than have those who are responsible for the local governing of London and, it may also be said, of New York.

Of course, London is so large and unwieldy that it can hardly be compared with any other large city of the world, unless it be with New York, while the conditions in New York, owing to its conformation, make its comparison with London somewhat difficult.

The tendency, however, of the inhabitants of all civilized countries to move into towns renders the question of housing them properly and of enabling them to live under good hygienic conditions, perhaps, quite the most important of the present age. The United States, immense country as it is, is faced with a city housing problem, aggravated in New York especially, by the continuous influx of indigent immigrants who, in their own lands, have lived in a state which should not be tolerated in highly civilized and self-respecting communities. The matter of overcrowding in New York and in other large towns of this continent must be energetically dealt with by the city governments.

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PILOCARPINE IN THE TREATMENT OF PNEUMONIA.

Dr. E. Curtin in the *Lancet*, May 16, discusses this subject from the standpoint of his own experience. Pilocarpine as diaphoretic is well known and widely used, but its therapeutic value in the treatment of other diseases, and especially of pneumonia, has been rarely tested. Pelzyl has recorded in the *Lancet* of a recent date his experiences in an Austrian military hospital, where he gave, with good results, 0.0125 gram—equal to one-fifth grain in solution—of pilocarpine hydrochloride by the mouth to patientssuffering from pneumonia

Curtin states that he made use of the drug in several cases under his care in the South-African war during 1901–'02. The administration was by means of hypodermic injections of one-tenth grain of pilocarpine nitrate in solutions of tabloids of that strength. He draws attention to the fact that the disease in colored races exhibits some differences from that seen in Europeans. In the latter there is more of the toxæmic character than in the former. The high mortality—no less than 50 to 60 per cent.—in cases of pneumonia occurring in the colored races of Africa has been frequently remarked upon. Dr. Curtin gives several instances of treatment by pilocarpine of white and colored patients under his care, in which the results were far more satisfactory among the colored than among the white; this he attributes, as already stated, to the toxæmic symptoms, which were such a marked feature in soldier's affected with pneumonia during active service in South Africa. Two cases of pneumonia in white soldiers impressed the writer in an especially convincing manner that the prognosis in pneumonia does not depend so much on the extent of lung affected as on the amount of toxic symptoms present, and the absence of a healthy reaction in the individual attacked. A low range of temperature is not, thinks Dr. Curtin, necessarily a favorable sign, particularly if accompanied by delirium, scanty expectoration, little cough, and a dry brown tongue. The writer sums up the beneficial effects of pilocarpine as follows: "It relieves pleuritic pain and breathing within a few hours of its administration and also seems to hasten resolution, probably by exciting glandular secretion. Its administration is, in the majority of cases, followed by a rise of temperature of from one-half a degree to one and a half degrees. One-tenth grain hypodermically does not cause profuse perspiration, but rarely fails to reduce the temperature within an hour or two. It also cleans the tongue and stimulates the flow of saliva. One precaution, however, is necessary, and that is, to keep the patient warm, and especially the feet.

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**Reaping the Reward.**—The Substitute-selling Druggist: Great Pluto! Give me a drink of water to cool my parched tongue! Demon: We haven't any water, but here's something of our own make that's just as good.—*Life*.

TUBERCULOUS INSANITY AND PULMONARY TUBERCULOSIS.

Dr. H. Timbrell Bulstrode, in the Milroy Lectures, said that "Material collected by Drs. T. S. Clouston, F. G. Crookshank, and Eric France, and by a committee of the Medico-Psychological Association, goes to show that the incidence of tuberculosis upon inmates of asylums is very great compared to the general population. Very considerable numbers who die from pulmonary tuberculosis contract or, at any rate, develop the disease within the walls of the institution." Statistics bearing on the subject are quoted. For instance, "Among 70,958 lunatics treated in Prussian asylums during 1901 there were 5,128 deaths, or a fatality rate of 7 per cent. The incidence of tuberculosis was heaviest upon the idiots, as out of 12,212 idiots treated during 1900, 462, or 4 per cent., died, and of these 259, or over a half, died from lung diseases." Statistics from asylums in France reveal a similar state of affairs. "In the report of the Committee on Tuberculosis, it is stated that the annual populations of the asylums from 1894–98 was 57,424, and of this number there were 6,726 deaths, *i.e.* 117 deaths from tuberculosis per 10,000 patients, as against an annual mortality for the whole of France of 43.8 per 10,000, *i.e.* the contribution of the asylums is nearly three times as great as that of the outside population.

Although Dr. Bulstrode has not been able to determine the age-distribution of the asylum population, there is little doubt but that the asylum rate is altogether excessive. It seems too, judging from the final report of the commissioners, that this excessive death rate is artificial, and not what may be termed natural—not of necessity due to a greater tissue proclivity on the part of the insane.

The prevalence of pulmonary tuberculosis among those mentally affected and who have been placed in institutions, has been commented on several times in the editorial pages of the MEDICAL RECORD. It has been pointed out that such a result is almost certain to occur among individuals massed together, with the habits which almost always accompany insanity and idiocy. It may be that persons bereft of reason have a special predisposition to pulmonary tuberculosis, but even if this be so, the situation cannot but be greatly aggravated by the close contact which prevails in asylums. Strict segregation would appear to be the most effective mode of checking the spread of tuberculosis in institutions for the insane, and it is gratifying to learn that this view of the matter has been taken by many enlightened alienists in this country.

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INCREASE IN SUICIDE.

According to statistics recently published by Mr. Frederick Hoffman in *The Spectator*, suicide is increasing in the United States, the increment having been 4 per cent. for the last year. Among 14,456,183 persons, representing the population of fifty American cities, there were 2,452 suicides in the year 1902. Of this number New York (Boroughs of Manhattan and the Bronx) contributed 456, Chicago 439, Brooklyn 242, Philadelphia 176, St. Louis 142. For the ten years from 1892 to 1902 St. Louis had the highest ratio, namely, 25.7 to every 100,000 inhabitants. In this connection it is pointed out that the statistics may be misleading in so far as some, if not many, of those who commit suicide in the large cities have come from elsewhere, perhaps to seek employment, or for some other reason, and, failing, have ended the struggle by death. The fact remains, however, that

suicide has increased in the United States, and in view of the conditions of stress and ceaseless agitation under which Americans live is likely, for some time to come, to continue to increase.

## News of the Week.

**New Hospital for Philadelphia.**—The announcement is made that the John B. Stetson Company will build a new hospital in Philadelphia, which will be known as the Union Mission Hospital. The building will be a three-story, fire-proof structure, 65.2 by 102 feet, and it will be fitted out with an *x*-ray room, receiving-wards, storage rooms, morgue, laundry, boiler room, and laboratories in the basement; waiting-rooms, office, orderlies' room, pharmacy and dispensary-rooms for diseases of the skin, surgical disorders, diseases of the eye, gynecological disorders, nervous diseases, medical affections and diseases of the ear, nose, and throat on the first floor; rooms for the resident physician, a semi-private ward, rooms for nurses, a woman's ward, and private rooms on the second floor; an operating and etherizing room, a men's ward, kitchen, dining room, a semi-private ward, and private rooms on the third floor; while a roof garden will surmount the building.

**Dr. J. G. Adami and the American Congress of Tuberculosis.**—Dr. Adami of Montreal writes that the publication of his name as one of the honorary presidents of one of the bodies styled American Congress of Tuberculosis was entirely unauthorized by him, and that under no circumstances would he have consented to allow his name to be connected with the organization in question. The congress which he repudiates is the one which announces a meeting in St. Louis in 1904.

**Dr. L. Harrison Mettler** has been appointed consulting neurologist to the Norwegian Lutheran Deaconesses' Home and Hospital, Chicago.

**Behring on Tuberculosis.**—Prof. v. Behring read a paper at the meeting of German Naturalists and Physicians at Cassel on September 25 in which he attacked the view advocated by the Institute for Contagious Diseases in Berlin that bovine tuberculosis is not transmissible to human beings. On the contrary, he agreed with those who think that milk from tuberculous cows is the chief cause of consumption in infants. The digestive organs of the infant, he said, like those of the young of all animals, lack the digestive apparatus and protective tissues which in adults prevent the entrance of infectious bacilli, the mucous membrane of an infant being like a porous filter. He said that he had found inoculation successful in preventing tuberculosis in cattle, and he based on these experiments the hope of being similarly successful in protecting human life, though he referred to the matter with the greatest caution, saying that his experiments were still incomplete and that he did not wish to arouse hopes which might never be realized. His theory is that when cows have been sucessfully inoculated certain immunizing substances pass into the milk and these can be transferred to human beings as an antiserum.

**The King's Sanatorium for Consumptives.**—The first steps in the actual work of erecting King Edward's Sanatorium for Consumptives at Easebourne near Midhurst were taken on September 15, when work was begun on the foundations. The building, which, it is estimated, will cost between $250,000 and $300,000, will probably be opened for the reception of patients in two years, if not earlier.

**The Duties of a Surgeon on a Revenue Cutter.**—It is stated in *The New York Times* that a suit to determine the right of a captain of a revenue cutter to order the ship's surgeon to perform other than his professional duties, has been set down for trial before Judge Andrew Kirkpatrick in the United States District Court in Newark, N. J., on October 5. The action, in which no damages are specified, is brought by Dr. R. N. Sheppard, a surgeon formerly employed on a United States revenue cutter, against Captain Voelker, the commander of the vessel. According to the surgeons'contentions, the ship was detailed to carry a party upon a geological survey to foreign coasts, and he was asked by the captain to take part in making the soundings. He demurred, whereupon, he alleges, he was ordered to do so and refused. When the cutter returned to American waters he was discharged by the Government authorities upon representations of the captain.

**Another Discovery at the University of Chicago.**—The latest newspaper bulletin regarding the usual weekly medical discovery in Chicago states that a professor in the University of Chicago "announces a general conclusion that the physical causes of hydrophobia, vaccinia, smallpox, and yellow fever are not toxic,or from inherent poison, but are infectious. These transmissible diseases, says the doctor, are caused by 'minute living organisms capable of proliferation,' bacteria so small that they work their way through the best-made filters of the laboratories, and so minute that they cannot be detected by the strongest microscope in existence."

**A Medical School on the Midway.**—The University of Chicago has purchased the entire south frontage of the Midway Plaisance between Cottage Grove and Madison avenues, at a cost of $1,000,000 for the land and $450,000 for the buildings. It is announced that the purchase will be utilized in the erection of buildings for the medical department of the university. Rush Medical College will form the nucleus of the institution, and it will be supplemented by the McCormick Memorial Institute for infectious diseases.

**Sale of the Brooklyn Memorial Hospital.**—The Memorial Hospital for Women and Children, Brooklyn, was sold last week under foreclosure proceedings. There was a mortgage on the building of $50,000 and the hospital authorities were unable to pay the interest which was in arrears for several years. There were also other claims against the institution. The property was purchased by the Jewish Hospital Society, which, it is said, will use the building for hospital purposes as soon as the present occupants can find other quarters.

**Chicago Sewage for St. Louis.**—The State of Missiouri has brought an action against Illinois and the Sanitary District of Chicago to restrain the latter from polluting the water supply of St. Louis through the Chicago drainage canal. According to the Attorney-General of Missouri, the morbidity of typhoid fever in St. Louis has increased 70 per cent. since the construction of Chicago's drainage canal. He characterizes "the reckless disregard of human life shown by the City of Chicago" as most criminal.

**Dr. Albert E. Sterne** has been elected by the Board of Directors of the journal editor in chief of *The Medical and Surgical Monitor* of Indianapolis. "Dr. S. E. Earp retires from the editorship after several years of faithful and efficient service with the confidence and gratitude of every member of the directorate." The associate editors are Drs. L. F. Page, William C. White, and Thomas B. Noble.

**A Study of Food Requirements.**—Prof. Russell H. Chittenden of the Sheffield Scientific School at Yale University is about to undertake a series of experiments to determine whether physiological economy in diet cannot be practised with distinct betterment to the body and without loss of strength and vigor. It is, of course, generally conceded that much more food is ordinarily consumed than there is any real necessity for, and that this excess of food is in the long run detrimental to health and defeats the very objects aimed at. It is with a view to gather as many facts as possible on this subject that the study is undertaken. Through the courtesy of Secretary Root and Surgeon General O'Reilly of the army, twenty men have been detailed from the hospital corps and will be sent to New Haven, under the charge of Lieut. Wallace Dewitt, Assistant Surgeon U. S. A., and three non-commissioned officers. The Scientific School has fitted up a house where the men will be cared for during the period of the experiments, which will probably continue for about nine months. The investigation is merely a continuation on a larger scale of observations made in the Sheffield Scientific School last year, and bears directly upon the question of a possible physiological economy in nutrition.

**Medical Department of the University of Illinois.**—By a recent ratification of the articles of affiliation between the College of Physicians and Surgeons and the Chicago College of Dental Surgery, the University of Illinois has established what is claimed to be one of the largest medical schools in the world. The university has purchased the College of Dental Surgery for $200,000.

**The Grant Home for a Hospital.**—Brig.-Gen. Frederick D. Grant and his brothers and sister, wishing to preserve the Grant homestead in Galena, Ill., have given it to the city authorities, who will probably convert it into a hospital.

**Dr. Thomas Gill Nock** of Rome, N. Y., was recently nominated by the Republican convention for Mayor of that city. Dr. Nock is a graduate of the Medical Department of the University of Syracuse in the class of 1883, and is a member of the Oneida County Medical Society and one of the visiting staff of the Rome Hospital.

**A Municipal Drink Cure Institution.**—On October 1 the city of Dresden opened the first governmental institution for the cure of drunkenness on the continent. Patients must be examined as to their sanity and be diagnosed as curable, and must voluntarily submit to a regimen of healthful living, such as farmwork. They will have good moral surroundings and must pay 45 cents a day. Patients may stop three years in the institution.

**Medical Society of the State of New York.**—The semi-annual meeting of this society will be held in the hall of the New York Academy of Medicine, on October 13 and 14, 1903, under the presidency of Dr. A. T. Bristow of Brooklyn. The sessions will begin each day at 10 A.M. and 2.30 P.M. The beginning of the morning sessions will be devoted to miscellaneous subjects. The first afternoon session will be given to a symposium on the Röntgen Ray; the second afternoon session to a symposium on Typhoid Fever. Members of the society and others in the profession are cordially invited to attend. The secretary of the society is Dr. F. C. Curtis of Albany.

**A Health Lesson in Manila.**—In an article on the opposition manifested to the Manila Board of Health, the *Boston Medical and Surgical Journal* says that the work of the board has been hampered chiefly by the action of the Spaniards and wealthy natives, who resent any effort to make them spend money in improving the sanitary condition of houses for which they exact a relatively enormous rent. As a result of their neglect to obey sanitary regulations, a number of prominent Filipinos and Spaniards have lately been sent before the courts and fined. One wealthy banker who had been fined ten dollars appealed his case to a higher court, where the decision of the lower court was not only confirmed, but the sentence increased to one hundred dollars fine, with thirty days in jail in addition; but sentence was suspended for fifteen days on condition that the banker place his premises in good sanitary condition. As this case had been largely regarded as a test case, a reversal of the verdict of the lower court would have seriously impaired the efficiency of the Board of Health. As it is, the opposition has been effectually disposed of, and the eagerness manifested on all sides to comply with any sanitary requirements imposed by the Board of Health is somewhat amusing.

**Degeneracy in Europe.**—At a recent meeting of the Nationalist Congress at Cassel, Dr. Moritz of Alsberg, speaking on inherited degeneracy through social influences, asserted that physical degeneracy in European countries is becoming more and more evident, as marked by a decrease of physical resistance and a tendency to illness and weakness. Alcoholism he declared the chief cause of inherited degeneracy, to cure which alcoholism must be wiped out. He borrowed an idea of the members of some of our State legislatures in the suggestion that a legal certificate of health should be required before a person is allowed to marry.

**A Swindler.**—Dr. Irving Townsend writes that one of the many rascals who prey upon the too confiding doctor is again at work in this city. His story is that the publishers of an illustrated weekly, the regular price of which is $5. are offering a year's subscription for $3 to a physicians, so that patients will find the journal in the reception rooms and may thereby be induced to become subscribers. He exhibits blanks that are apparently official, and accepts checks payable to the publishing company, as well as cash, in payment for the subscription. Inquiry of the publishers has brought the information that the man is a swindler, and that no offer of reduced subscription rate to physicians has been made by them.

**Association of Assistant Physicians of the Ohio State Hospitals.**—The second annual meeting of this association will be held at the Toledo State Hospital on October 7 and 8, 1903. The subjects to be discussed are: delirium tremens, dementia præcox, chorea insaniens, thyroid extract in the treatment of insanity, and general and special methods in the post-mortem examination of the brain and spinal cord. The officers of the association are: *President*, Geo. T. Harding, Jr., Columbus; *Vice-President*, J. F. Kelly, Cleveland; *Secretary*, Isabel A. Bradley, Columbus; *Treasurer*, Nelson H. Young, Toledo.

**The First Woman Physician in the United States.**—A reader calls our attention to an error of fact in a recent issue. In the obituary notice of Dr. Emily R. Robbins of Philadelphia it was remarked that the deceased "is said to have been the first woman physician in the United States." Of course this is not so, for this distinction, we believe, belongs to Dr. Emily Blackwell of this city, who was graduated from the Cleveland Medical College in 1854.

**Obituary Notes.**—Dr. CALVIN SKINNER died at his home in Malone, N. Y., on September 25. He was born in Royalton, Vt., May 29, 1818, and was a

graduate of the University of Vermont and of Dartmouth College, taking his medical decree at Dartmouth with the class of 1841. Dr. Skinner was an enthusiastic Republican in politics, and in 1860 was an alternate delegate to the Chicago convention which nominated Abraham Lincoln to the presidency. When the Civil War broke out he enlisted as surgeon in the One Hundred and Sixth New York Volunteers. In 1884 he took a prominent part in founding the Northern New York Deaf Mute Institution, and acted as trustee and surgeon for many years.

Dr. WILLIAM E. NAUGHTON of this city died of pneumonia on September 23, at the age of twenty-nine years. He was born in Brooklyn and was graduate of the Long Island College Hospital Medical School.

Dr. FREDERICK J. Halton of Brooklyn died at his home in that borough on September 24, of valvular disease of the heart. He was a graduate of the Long Island College Hospital Medical School.

Dr. CHARLES GARDINER of Emporia, Kan., dropped dead on September 24 while performing tonsillotomy. He had just completed the operation and was in the act of arresting the hemorrhage following the excision when he was seen to turn pale and stagger from the room to an adjoining one, in which he fell to the floor dead. In the meantime the wound was steadily bleeding and the patient was almost exsanguine by the time another physician was obtained. Dr. Gardiner was a graduate of Jefferson Medical College, Philadelphia, in the class of 1879, and was widely known for his intellectual and professional attainments.

Dr. ROBERT NEWMAN of this city died at Monument Beach, Mass., on August 28, at the age of seventy-three years. He was born in Germany, but came to this country with other political refugees. He was graduated in medicine from the Long Island College Hospital in 1863, and soon after went to the front as surgeon in one of the New York State Volunteer regiments. In 1869 he took a second M.D. degree from Bellevue Hospital. He was one of the founders of the Medico-Legal Society in 1867. Dr. Newman was widely known through his sturdy advocacy of electrolysis in the treatment of urethral stricture, a method which he preached and practised for a third of a century. He was a prolific writer, having contributed some eighty articles to medical periodical literature. He was a member of the Physicians' Mutual Aid Society; Society for Relief of Widows and Orphans of Medical Men; New York County Medical Association; New York State Medical Association; Society of Medical Jurisprudence; New York German Medical Society, and American Electro-Therapeutic Association.

Dr. MICHAEL C. KREITZER died in Philadelphia on September 24 at the age of seventy-seven years. He was graduated from Jefferson Medical College in 1850. He was an expert metallurgist.

Dr. JOSHUA G. ALLEN died in Philadelphia on September 26 at the age of seventy-three years. He was graduated from the medical department of the University of Pennsylvania more than fifty years ago, and was for thirty years visiting physician to the Philadelphia Lying-in, Charity, and Nurses' Home.

Dr. JOHN H. B. AMICK died in Philadelphia on September 26 at the age of forty-two years. He was graduated in arts from the University of Pennsylvania in 1871, and from the medical department of the university in 1874. He had been a member of the Common Council and also a member of the State Board of Medical Examiners.

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

SCIENCE AND RESEARCH—BRITISH ASSOCIATION—CANCER—SLEEPING SICKNESS—BRUSSELS CONGRESS—LUNACY IN IRELAND—VETERINARY CONFERENCE—DEATH CERTIFICATION—SMALLPOX—OBITUARY, JESSOP, DODD, WALTON.

LONDON, September 11, 1903.

THE British Association for the Advancement of Science, to give the full title to the mother of several other societies, including the medical one, is now sitting at Southport. Professor Dewar is succeeded in the presidential chair by Sir Norman Lockyer whose spectroscopical and astronomical work is well known. But in his address delivered on Wednesday evening he did not discourse on any abstruse topic, though he has a special aptitude for expounding such in a popular way. As education is the topic of the time, and as the country is in a state of decadence for want of it, according to the prevailing pessimism of the moment, Sir Norman took the opportunity of pleading for the endowment of our universities. We have only 13 of them, he wailed, against the 22 of Germany and the 134 in the United States. The German government gives more money in one year to one of its universities than the British Parliament votes for our 13. The advent of science in the last century brought great gain to Britain, he said, because she had full possession of those gifts of nature which made her the chief producer and exporter of manufactured goods. But rapid transit and other applications of science have diminished her initial supremacy. Science, which above all things is cosmopolitan—"planetary, not national"—internationalizes all resources. The worst of it all is, he declared, that while our resources were being sapped, our statesmen and our universities were blind leaders of the blind and neglected our great asset, brain power—science for political shibboleths. What, then, is the remedy? We must, declared Sir Norman, organize the national brain power. Trade follows brain. Science must be organized. A British science league, guild, chamber, call it what you will, was his dream until he found he had been forestalled by the founders of the British Association, which is not only a scientific parliament, but has the machinery for influencing all new councils and committees dealing with the subject. It has a membership of 25,000, and no less than 70 affiliated societies. It ought soon to have half a million members. A six-penny subscription from each would produce £12,000 a year to begin with. But more money must be had to create new universities and endow the old ones and promote research. "How is this money to be raised? I reply without hesitation," said the president, "duplicate the Navy Bill of 1888–9; do at once for brain power what we did there for sea power. Let £24,000,000 be set apart from one asset, our national wealth, to increase the other, brain power." This is rather a heavy demand even for the purse of John Bull, and I shall not be at all surprised if that generous old gentleman turns a deaf ear to the protestations of Sir N. Lockyer and the educationists that it would be a paying investment, and is a mere ½-thousandth part of his accumulated capital. He may even, perhaps, remind them that he was cajoled into sanctioning the education rate by solemn promises that it would never exceed three pence, and yet it has reached five times that amount, and is likely to be double that within a short time. From board schools to universities alike the demand is for more teachers at higher salaries.

Mr. W. Waldorf Astor has sent a donation of £20,000 to the Cancer Research Fund in response to the appeal made by Mr. Balfour who presided at the annual meeting in the unavoidable absence of the Prince of Wales. At the meeting in question Mr. Balfour uttered a wholesome warning against expecting immediate results. This was gratifying to earnest workers, inasmuch as many foolish statements have been circulated by the newsapers—such as that we are on the eve of a great discovery as to the cause and perhaps the cure of the disease. It seems unfortunate, to say the least, that influential papers should encourage such anticipations. The public has responded to the appeal for funds for scientific research, and it is particularly desirable that impatience for results should not be called forth, as it could only bring discouragement and check contributions.

The committee of the fund are not disposed to restrict the scope of the investigation in any direction, as is shown by the fact mentioned by Sir Wm. Church that they propose to engage in cattle breeding in a small way with a view to deciding whether the malignant diseases met with in animals are transmissible. The term cancer will be taken to include all malignant neoplasms, whether in man or animals, and whatever the variety or degree of

malignancy. The first report mentions that a great number of specimens have been submitted for examination, among them true epitheliomata from the horse, cow, and dog. Some specimens from the dog presented the histological characters of rodent ulcer. As to this disease the report supports the general opinion that many of the cases even of long standing are amenable to treatment by the *x*-rays. Perhaps here it should be said that many doubt whether it is to the "*x*-rays alone" that the effects of exposure to the focus-tube should be attributed.

The widespread interest in cancer is producing the usual crop of silly suggestions in the newspapers. Perhaps the editors are on their holidays and have left incompetent substitutes, though that cannot account for it altogether, since able editors commonly commit egregious blunders on medical matters. One of them has just circulated that treacle is a cure for cancer. Another class that loves to dabble in physic is the clergy. One of them who describes himself as having been a parson for three-quarters of a century writes to recommend that cancer cases should be made the subject of systematic inquiry by clergymen (of course!), doctors, boards of guardians, and others. No doubt this venerable parson would be willing to serve on the Research Fund Committee.

"If England were as energetic as the United States, then 80 per cent. of the malaria existing in her colonies would be stamped out." So said Major Ronald Ross in bidding good speed to the Congo expedition for investigating sleeping sickness. As an example of United States energy, Major Ross selected the measures taken so successfully in Havana to combat yellow fever, and the share taken in the campaign against the mosquito and the researches as to the yellow-fever parasite.

Speaking of mosquitos, I am reminded that Dr. Schoo has reported that there are some localities in India in which the insects appear to be immune to the malarial parasite. He conjectures the immunity may be caused by feeding on acid fruits. This accords with Professor Celli's observation that in a certain Italian immune area the mosquitos fed largely on tomatoes.

Colonel Bruce, R.A.M.C., and Dr. Nabarro of the Uganda expedition for investigating sleeping sickness are reported to have reached Mombasa on their way home, and to have declared that the ravages of the disease are unabated. These gentlemen, you will remember, went out in February last on behalf of the Royal Society and the Government to study the disease, and information has reached me that they favor the view that the trypanosoma is the parasite, and that it is carried by the tsetse fly.

Prof. Sims Woodhead is the delegate of the British Government at the Brussels Congress of Hygiene, and presided at the discussion on tuberculosis. He pointed out to the members, who were much divided in opinion, that a majority vote could in no wise settle a scientific controversy, and urged that they should not pass any except practical resolutions. Eventually, a large majority "*Resolved*, That human tuberculosis is perfectly transmissible from one person to another. Nevertheless, in the present state of our knowledge, it is necessary to recommend hygienic measures for the prevention of the propagation of animal tuberculosis to the human species."

There is an increase in the number of registered lunatics in Ireland, so noticeable that the inspectors announce their intention of investigating the Irish statistics and furnishing a special report to the Lord Lieutenant on the subject. In their fifty-second report, just issued, the total number on the first of January is given as 22,138, as against 21,630 on January 1, 1902. There is also a table in the report giving the proportion of the insane to 100,000 inhabitants from 1880 to 1902. In 1880 it was 250. In 1890, 344. In 1902, with a decrease of population, the proportion reached 499.

The National Veterinary Association opened its conference on Wednesday, and papers were read on "Anthrax and the Relation of the Veterinary Profession to Municipal Life." The president, Mr. Garnett, endorsed the cry for a health minister. Professor McFadyean was elected a V.P.

According to some, the doctor is always to blame. I told you a fortnight ago how one had been censured by a judge for giving a certificate of death without more evidence, and told he could have left it to the coroner. Now, we have the other side. At the conclusion of several inquests the coroner mentioned as a circumstance to make public that the death of a child had been reported to his officer who, on going to make inquiries, found the child alive. Application had been made at the hospital for a certificate and the case referred to the coroner. A juror at once said there had been great carelessness, and the doctor ought to have made inquiry before reporting to the coroner! Imagine the house surgeons wandering over the metropolis to relieve the coroner's officers of their proper duties! It is an apt illustration of the public's notion of the duties of doctors.

Lord Stanley has agreed to serve on the House Committee of the London Hospital.

Cambridge is not quite clear of smallpox yet. On the 2d inst. the M. O. H. reported 28 cases in the town, 8 in the country district, and 1 in a home. There are now under treatment 29, and 13 have been discharged in the week. At Lincoln 4 cases were discovered in a lodging house and removed to the Isolation Hospital. It is supposed the disease was brought in by a tramp. At Birmingham the Isolation Hospital was unoccupied for a week, and it was hoped that the outbreak was over, but a fresh case was admitted on Sunday. There was an outbreak in one district of Ealing, but it was strictly localized, all cases being at once isolated. The Local Government Board has appointed a committee to inquire and report on the remuneration, costs, and expenses of public vaccinators and vaccination officers, and whether any alterations should be made.

Another surgical veteran has fallen—T. R. Jessop, J.P., consulting surgeon to Leeds Infirmary, and late vice-president of the Royal College of Surgeons and Bradshaw lecturer, 1901. He took the membership of the college in 1859 and the fellowship in 1868. He presided over the surgical section of the British Medical Association at the Leeds meeting (1889) and gave an address on Cancer of the Rectum. He contributed various surgical papers and cases to the societies and journals, among which I may name those on the after-treatment in operations on the urinary organs, a case of extrauterine gestation with recovery of mother and child (Obst. trans. 1877.) Mr. Jessop's health began to fail some months ago. The end came from cerebral hemorrhage. He was in his sixty-sixth year.

Dr. T. Anthony Dodd of Newcastle-on-Tyne met with his death on Tuesday from injuries received by being thrown from his horse through the animal being frightened at a traction engine.

Dr. Luis Walton of New York, who was on a visit here, died suddenly on Wednesday in the Bath Club. At the inquest the verdict was heart failure.

It is sad to report the suicide of Dr. A. G. Merson of Walsall at the age of fifty-two years.

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## OUR BERLIN LETTER.

(From Our Special Correspondent.)

BERLIN CLIMATE—WHEN TO OPERATE IN CASES OF APPENDICITIS—POST-EMBOLIC GANGRENE—PROFESSIONAL SECRECY—SCHOOL DOCTORS—EYE DISEASES AT THE BERLIN SCHOOLS—PROFESSOR FREUND'S ANNIVERSARY—THE KAISER AND THE MEDICAL PROFESSION.

BERLIN, September 5, 1903.

BERLIN has been suffering this week under an unusual heat, the temperature being 92° Fahr. in the shade. It would seem that Berlin's climate must be undergoing some change, as in late years the summers have been rainy and the winters mild, the reverse of what prevailed some six years ago. Metereologists explain this as the effect of some shifting of the Gulf current, the warm water penetrating into the North Sea.

During August the medical societies had no meeting. The medical section of the "Schlesische Gesellschaft für vaterländische Cultur" held a meeting the latter part of July. An interesting discussion took place on Dr. Tietze's paper, entitled "When Is it Necessary to Operate in Cases of Acute Appendicitis?" Dr. Sandberg pointed out that all retrocæcal abscesses have to be treated surgically because of the danger of thrombophlebitis and danger of paranephritic and subphrenic abscesses through infection of the retroperitoneal tissue. In cases of intraperitoneal abscess the indications are given by the symptoms. If the tension of the abdominal muscles, together with the pain and vomitings continue, if the fever remains high as well as the pulse (above 120 a minute), and if there is hyperleucocytosis (beyond 20,000), then the operation is necessary. Dr. Peiser called attention to Professor Sonnenburg's anatomical diagnosis. According to him, three well-known forms of appendicitis exist, appendicitis, simplex, a perforativa, and a gangrænosa. The simple form rarely demands an operation, except when a perforation suddenly occurs. The perforative form is of a more dangerous character, and an operation is always necessary when the pulse remains high while the temperature falls, or when severe pain still exists; a most characteristic symptom is this extreme pain, specially localized in the iliocæcal region. In such cases an operation ought to be performed within twenty-four hours.

Dr. v. Miculicz of Breslau said that he rarely operated

in the acute stage, as during the intervals the operation was more successful. In his clinic 104 cases of appendicitis were operated upon during the interval with no death. At the same time sixty-four cases of uncomplicated appendicitis were also operated upon without a death. In twenty-four cases appendicitis was complicated, and only four of these could be saved. In three cases the operation was performed too late.

At the monthly meeting of the Berlin Surgical Society Dr. Muehsam demonstrated a case of gangrene of both legs. The patient was suffering from heart disease, and as a result of embolism of the iliac artery gangrene of both legs had occurred and had made amputation of both legs necessary. Professor Sonnenburg reported a case of ileus postoperativus. He had seen ileus in three cases of appendicitis gangrænosa when it had happened through strangulation, in two cases of fistula of the bowels, and in one case of appendicitis without gangrene when atony of the intestines had taken place. The cæcum was principally affected. The diagnosis between ileus and pertonitis was reached through a leucocyte count, an increase beyond 15,000 indicating an abscess. Dr. Koerte thought that in all cases of ileus postoperativus infection had occurred.

An interesting legal decision regarding professional secrets has lately been rendered in Berlin. In a divorce suit the plaintiff wished to examine the physician who had treated her husband before marriage. The doctor refused to give evidence, as it was forbidden by law for practitioners to reveal a professional secret. The plaintiff applied to the court to force the physician to testify. But the court refused, saying that the physician would expose himself to punishment under the law if he revealed any secret whatever obtained in the course of his practice.

It is not long since in Germany a new department of public employment has been opened to the doctor. In twenty-two large towns of Germany medical school inspectors have been created, and in Berlin there are seventeen for the public schools, which are under control of the Berlin local government. The duty of these inspectors is to watch the sanitary institutions of the schools, to examine the children when entering the school, and to institute immediately suitable measures when an outbreak of infectious disease occurs, and also to give advice when the boys leave school, if they are fit for the profession they are going to choose. Not content with these school doctors, Dr. Hermann Cohn of Breslau is trying to convince the public and the local authorities that eye specialists also should be attached to the schools. No doubt the matter is of grave importance, as no organ of the human body suffers more at school than the eye, on which constant strain is put. Of 211,347 children in the Berlin schools, 5.5 per cent., *i.e.* 11,600, have been found to be suffering from defective vision. At Breslau, according to Dr. Cohn's statistics, of 52,159 school children 10 per cent. were affected; in the lower classes the number of eye diseases was 8 per cent.; in the highest classes it amounted to 35 per cent.

Two well-known members of the medical profession have recently celebrated anniversaries, Professor von Leyden and Professor Freund. The first celebrated the fiftieth anniversary of the obtaining of his medical degree, which was granted again by the medical faculty of Berlin. Professor Freund celebrated his seventieth birthday; he is ex-professor of gynecology at Strassburg, and is living now in Berlin. His standard work, "Gynäkologische Klinik" appeared in 1885, contributors to which were his assistants, Dr. H. Bayer and A. Homburger. Two of his latest papers on anomalies of the thorax, as affording a predisposition to tuberculosis of the lungs, are of special interest. He has also published several pamphlets of a more general character, on the emancipation of woman, and on the suitability of women to enter the medical profession.

The Kaiser has honored Professor von Behring with the title of "Excellenz," a title which is very rarely conferred on medical men, and up to now has been given only to eminent surgeons, as to Professor von Bergmann of Berlin, and lately to Professor Czerny of Heidelberg.

## PROTECTION TO THE EXAMINER IN CASES OF DIPHTHERIA.

To the Editor of the Medical Record:

Sir: The protection of the physician's own mouth and throat and nostrils during the examination of cases of diphtheria is a matter of quite serious importance. If the patient coughs, or even speaks, during the process, the spray projected into the face of the examining physician is almost sure to contain diphtheria bacilli, as may be shown experimentally by exposing culture material within a foot or so of the mouth of such a patient, and subjecting it to the ordinary processes of examination. The physician thus infected may be immune, and not develope a sore throat, but the bacillus will continue to live in the mouth of such a well person for a variable length of time, and may unconsciously be conveyed to patients in the same manner in which it was received during processes of examination. It would seem that special care should be taken to interpose something between physician and patient during such examinations so as to prevent this. The writer's own practice is to keep at hand a roll of ordinary aseptic gauze, thirty-two inches wide, from which a piece about a foot long may be cut. This folded lengthwise makes a double thickness about six inches wide, and long enough to tie across the bridge of the nose, extending down over the chin, the knot being at the nape of the neck. This leaves both hands free, and is a very effectual protection, the gauze being burned as soon as used, and the face and hands moistened at once with bichloride solution.

M. A. Veeder, M.D.

Lyons, N. Y., September 18, 1903.

## Progress of Medical Science.

*Boston Medical and Surgical Journal, September 24, 1903.*

**A Note on the Association of a Rise in Systolic Blood Pressure with the Onset of Perforative Peritonitis in Typhoid Fever.**—John Bradford Briggs concludes from his study of the subject: (1) That patients with general or rapidly spreading peritonitis have constantly, at least in the early period, abnormally high blood-pressure. (2) That in perforative peritonitis sharp rise in blood-pressure may precede the onset of other symptoms. (3) That in doubtful cases in which perforative peritonitis is suspected, and the general previous blood-pressure level is known, the course of the blood-pressure after the onset of grave symptoms should receive consideration in determining the propriety of an operation.

**Three Cases of Tumor of the Cerebellum.**—John Jenks Thomas presents this paper. In two of the cases reported the symptoms were very indefinite, and in the first case for a long time it was impossible to say more than that we had to do with an intracranial new growth, as none of the characteristic symptoms of cerebellar tumor were present, unless ptosis, which appeared three days before death, can be so regarded. The second case cannot be considered to throw any light upon the chance of success of operation in these cases, as the operation was done in extremis. Still it may not be without advantage to note that in this case the tumor was a glioma of the cerebellum, and yet one that was sharply defined and that could have been easily removed by an early operation if it had been in a more accessible part of the cerebellum. The entire duration of the disease from the first onset of the symptoms was in this case only about fifteen weeks. In two of the cases there was a curious intermission in the symptoms—in the first case for a period of about six weeks, and in the other for a still longer time, though in this case the more troubleome symptoms, the ataxia, and difficulty in walking did not change materially during the course of the disease. As to the knee-jerks, in the first case they were lively, and there was a front tap contraction when the case was first seen, and the knee-jerks remained the same until far along in the course of the disease, when the left one became diminished. In the second case the knee-jerks were persistently absent. In the third case the knee-jerks were increased and there was double ankleclonus and Babinski's sign was present, which the writer considers to be evidence of pressure upon the motor tracts from increased fluid in the cerebral ventricles.

*Journal of the American Medical Association, Sept. 26, 1903.*

**Paraffin Injected Subcutaneously for the Correction of Nasal and Other Deformities.**—Harmon Smith describes his own experience, first on the cadaver and later on the living patient, and figures the apparatus he has found useful. Clinical indications are saddleback noses, depressed scars from mastoid and frontal sinus operations, scars following traumatism and smallpox pits. Dangers are abscess of slough, embolism, and deformity from over-injection. Causes of sloughing are lack of asepsis, excess of pressure, cutting off blood supply, injection into the skin instead of under it, and a constitutional diathesis as Bright's or diabetes. It is possible to use the method to overcome urinary incontinence, to diminish the size of hernial openings, to replace testes, cover stumps of amputated bones in order to prevent wear through flaps, to prevent adhesions in ankylosed joints after first breaking them up, to form plates in trephined skulls presenting dural adhesions, and to fill in malformations around the neck and in attenuated mammæ.

**Multiple Periosteal Sarcomata of the Cranium.**—W. L. Bierring gives the history of a case of this nature, his patient being a girl of five years, whose illness, beginning with anæmia, slight fever, and general malaise, lasted three months. Autopsy findings are slated in full detail. The case offers an illustration of the relationship between changes in hæmolymph nodes and the severe anæmias. According to Warthin, there is a certain amount of normal hæmolysis taking place in these glands, and the hæmolysis of severe or pernicious anæmia differs from the normal only in degree. As the last-named condition is probably due to some circulating poison, the nature of which is as yet unknown, so in the case described it is a circulating sarcoma process, which by reason of its involvement of the hæmolymph nodes led to an increased hæmolysis in these structures. The author believes that it is in this class of sarcoma-like tumors, including chloroma and those of lymphosarcoma and pseudoleukæmic type that a parasitic cause will probably ultimately be discovered.

*Medical News, September 26, 1903.*

**Nourishment, Medication, Hydrotherapy, and General Management of Typhoid Fever Cases.**—W. T. Baker believes that something must be selected which patients can and will eat. The patient must be kept well nourished. He then mentions buttermilk, almost any kind of meat soups, rice, oatmeal, wheatlet, toasted baker's bread in form of toast, with butter or milk or hot water, or the patient may eat it dry from the oven, chewing it well and taking plenty of water at the time; young chicken, rabbit, or bird made with soup; preserves, jelly, the syrup and softer parts of canned fruits; a baked apple, a well-ripe tomato, a baked Irish potato. At first, he gives the mild chloride of mercury with bicarbonate of soda. For high fever and aching, codeine, phenacetine, salol and quinine are given. As an antiseptic, carbolic acid, tincture of iodine, and water are combined. He suggests the careful study of the use of acetozone as an intestinal antiseptic. Hydrotherapy is a most important part of the treatment. Sponges, plunges, and packs are valuable. A good nurse is a necessity. Care of the excretions should be taken. The patient must be kept cheerful. The writer concludes with a report of cases.

**Concerning Some Points in the Treatment of Typhoid Fever.**—Glentworth R. Butler discusses diet, the use of cold, and the employment of drugs in relation to typhoid fever. He considers milk as the best article for the basis of a typhoid fever diet. Its administration can be much varied. We may give milk and mineral waters, buttermilk, koumys, oyster and clam soup with milk, hot milk flavored with a little strong, black coffee, cold milk, and many other forms. In every case, if the person is used to drinking coffee, tea, or cocoa, these are allowed once or twice daily. Various meat broths, as mutton, beef, and chicken, are given in moderation, unless the bowels are moving too freely. Albumen water acidulated with lemon juice is often useful. Plain ice-cream, water ices, and jellies are, as a rule, unobjectionable. Water should be given as regularly as food. The writer commends the following methods in the application of cold: cold mitten rub, towel bath of Baruch, and the ice rub. Flies must be carefully kept from the patient. Probably most cases of typhoid fever are overmedicated. The ordinary putrefactive and fermentative changes in the intestinal tube can be favorably modified by antiseptics. Among these eligible drugs are salol, guaiacol carbonate, creosote carbonate, zinc or sodium sulphocarbonate bismuth, and turpentine. An initial dose of calomel is desirable. In the medical treatment of intestinal hemorrhage, calcium chloride and gelatin are of value; also moderate doses of opium or its alkaloids to quiet the restlessness and to sustain and regulate the action of the heart.

**The Pathology and Treatment of Tardy Postoperative Intestinal Obstruction.**—Ellsworth Eliot says that acute obstruction following laparotomy is not a rare occurrence. In the cases of "tardy" obstruction, the cause is always of a mechanical nature, the lumen of the intestine being narrowed by the contraction of a circumferential cicatrix within its wall or by the constriction of a band without, beneath which the intestine has accidentally passed and subsequent extrication has proved impossible. In other cases the stricture is due to the progressive kinking of a segment of intestine from the contraction of adhesions of organized connective tissue, joining together at one angle those loops of which the segment is composed. In many cases several of these conditions coexist. Stricture due to the constriction of a circumferential scar in the wall of the intestine is of the simple non-malignant variety and presents the usual features of that condition. At the time of laparotomy, there should be careful exclusion of any kind of mechanical, thermal, or chemical irritation from the contents of the abdomen. Ligatures should not be needlessly applied. All stumps should be covered, prior to the closure of the abdomen, with a smooth peritoneal investment. As to drainage, as small an amount of drainage material should be used as is consistent with the patient's safety, and in the event of a capillary gauze drain, by enveloping the same in a cylinder or sheath of sterilized rubber tissue. The drain should be changed early. The position of the patient should be changed often. During the first twenty-four hours, rectal enemas of warm saline solution are valuable. In cases of persistent vomiting, lavage is used.

*New York Medical Journal, September 26, 1903.*

**The Gastric Contents in Gastroptosis.**—T. R. Brown has conducted a series of tests in cases classified according to the severity of symptoms and the amount of stomach displacement and dilatation. His findings in general are that gastroptosis *per se* leads to a very slight diminution of the free hydrochloric acid, and it is the subsequent dilatation which so often complicates gastroptosis that leads to the marked diminution of free hydrochloric acid the diminution apparently being more marked the greater the associated dilatation.

**Some Obscure Cases of Eye Strain.**—The detailed histories of three cases are given by S. W. Marlow. They illustrate first, that the most careful investigation and the apparently accurate correction of all discoverable visual errors may completely fail to relieve symptoms; may, in fact, aggravate them, and yet the symptoms may still be due to eye strain. Indeed, the fact that glasses which are apparently correct aggravate the symptomsis, he believes, in most cases evidence that the latter do arise from eye strain, and that a latent error is present, usually an error in the muscle balance. In the second place, he believes that lapse of time is a very important factor in the elucidation of the true nature of these cases. The action of the accommodation in neutralizing refractive errors is so automatic and persistent that all efforts to annul it sometimes fail to be completely effective, even atropine and other powerful cycloplegics failing to bring about a complete relaxation. The natural relaxation due to advancing years often reveals a hitherto latent error. Similarly the instinctive tendency to see single and not double causes the extrinsic muscles to contract so as to maintain a parallelism of the visual lines. This contraction is so constantly maintained that the muscles get into a condition of tonic spasm, which is extremely persistent. Just as we have a spasm of the accommodation in cases of hyperopia and astigmatism in the interest of clear vision, so we have a spasm of the extrinsic muscles in the interest of single vision, and the latter is far more difficult to demonstrate than the former. He has seen cases in which the lapse of time alone has revealed the true nature of the ocular condition, and occasionally old age is reached before the condition becomes manifest.

*American Medicine, September 19, 1903.*

**The Bacillus of Syphilis.**—Justin De Lisle presents the following conclusions: This microbe is found in all patients during the secondary manifestations of syphilis. This microbe is agglutinated or clumped by the serum of individuals of secondary syphilis, but no reaction takes place with the serum of healthy subjects. This microbe can be grown after having passed through a porcelain filter. The direct inoculation of animals with the blood of syphilitics during the secondary manifestations causes the production of a hard ulcer, involvement of the lymphatic glands, paraplegia, etc. Inoculations of the laboratory animals with cultures of this microbe occasion special lesions comparable to those observed in syphilitics. It combines with the special sensitizing body (sensibilitrice) generated in the organism of animals vaccinated with syphilitic products. Cultures of this bacillus are without effect when inoculated into syphilitics. Like syphilis in man, this microbe dies with the infected animal.

**The Treatment of Chronic Round Ulcer of the Stomach.**—Frank H. Murdock states that in his own series of thirty-two cases, the average duration of this malady was four years and nine months. The first question to decide is that of rest in bed. Women, almost without exception, require this, while men do not. Manual laborers may, as a rule, pursue their ordinary work, and make good recoveries without loss of time, while brain workers must be relieved of all mental work and worry, at least during the early months of treatment. If free hydrochloric acid is found present in normal or excessive quantities, milk will form the principal article of food. Beef juice is also of great value, especially in anæmic cases. If free hydrochloric acid is absent, or if there is achylia, milk is not indicated, and in these cases white of egg in water, beef juice diluted with barley water, rice, vegetable or barley soup, strained, leben, and buttermilk will usually agree well. Buttermilk is easily prepared from

sweet milk by setting it aside for twenty-four or thirty-six hours until it thickens, when it is beaten for five minutes with an egg-beater or with a machine for making whipped cream. The two drugs most commonly used are bismuth and silver nitrate. As a laxative, Carlsbad water or Carlsbad salts are often used. It is not safe to begin the administration of solid food till the epigastric tenderness has disappeared. The most serious complications met in chronic gastric ulcer are hemorrhage and perforation. In all cases of hematemesis absolute rest in bed should be insisted upon, and nothing should be given by mouth but small pieces of ice. An ice-bag should be placed on the epigastrium, and nourishment should be given by the bowel. Other remedies may be tried. When perforation occurs laparotomy should be performed as soon as the diagnosis is made.

*American Medicine, September* 26, 1903.

**Progressive Funnel Chest.**—J. L. Tracy describes a deformity which he has seen in several members of the same family. The ensiform cartilage has retracted toward the spinal column for at least three inches, making a cup-like depression that deep and about four inches in diameter. The heart is a little displaced to the left, the stomach crowded downward, and the liver seemingly is forced up under the false ribs. The trouble is progressive. In the patient's child, now two years old, the depression shows only as a dimple. In his father, aged seventy-nine years, the depression reached nearly to the vertebras. His brother and his grandfather showed the same deformity.

**Personal Experience in Operations upon Diabetic Patients.**—Charles P. Noble has operated upon seven women suffering from diabetes mellitus. Of these seven, six made good recoveries and one died in diabetic coma. In the six remaining cases the healing of the wounds and the general progress of the patients toward recovery were not different from that in patients not the subject of glycosuria. A careful reading of the reported cases would indicate that the proportion of deaths from other causes than coma was not extremely high. The chief cause of death after operations upon diabetics is coma, and apparently this result is the one which is the least possible to guard against. The rule which the writer has followed has been to postpone operation if more than 2 per cent. of sugar is present in a total excretion of three pints a day. In all cases preliminary treatment by diet and the administration of codeine and strychnine has been followed. After operation morphine, codeine, and strychnine have been administered. Salt solution has been freely given per rectum and by hypodermoclysis, and the diet has been strictly regulated. The counterindication to operation is strongest in those patients suffering markedly from the constitutional symptoms of diabetes—poor nutrition, wasting, intense thirst, and morbid appetite

**Spotted Fever (Tick Fever) of the Rocky Mountains.**—John F. Anderson suggests "tick fever" as a name for this disease, on account of the relation of the tick to the spread of the disease, and the fact that there are already two diseases of man, sometimes known as "spotted fever." This disease has prevailed in the Bitter Root Valley for a number of years. Cases occur exclusively in the spring and early summer. Persons from fifteen to fifty years of age more often contract the disease, on account of being more actively engaged in out-door work. The parasite found in the red blood corpuscles of persons suffering from tick fever resembles in a way both the parasite of malaria and Texas cattle fever, but it is not pigmented, but like them it is amœboid. The parasites are never found in very large numbers. The work done on this subject would suggest strongly the belief that the ticks are necessary for the transmission of the disease, but the actual fact cannot be proved scientifically until carefully controlled experiments are made on non-immune persons. Incubation takes from three to ten days. For a few days the patient may have chilly sensations, malaise and nausea, finally there is a distinct chill and the person takes to bed. There is some pain in the back and head, soreness of the muscles and bones, constipated bowels and congested conjunctivas. The pulse is out of all proportion to the temperature, usually running from 110 to 140. There is a progressive decrease in red cells. An eruption appears, usually on the third day. The mortality varies from year to year, some years as many as 90 per cent. of those attacked dying. Death usually occurs between the sixth and twelfth day. Until the past season the treatment of the disease has been purely symptomatic, but since the discovery of the parasite quinine has been given in large doses. As soon as a person is bitten by a tick the insect should be removed and the place cauterized with 95 per cent. carbolic acid.

*The Lancet, September* 19, 1903.

**Tapeworm as a Cause of Chorea.**—J. A. W. Pareira publishes details of the case of a girl of six years who was passing segments of tapeworm, and in whom, two or three weeks later, choreic manifestations appeared. When he first saw her she was in the second grade, or the severe form of the disease, in which the movemens were general, and she could not talk. There was never any suspicion of rheumatism in the case, and her heart remained normal throughout. A dose of filix mas dislodged the parasite, and in a month's time the child was practically well. The tapeworm was, in the author's opinion, the direct exciting cause of the chorea.

**Four Cases of Blackwater Fever.**—These are reported by J. C. Taylor, and are noteworthy for the following reasons: (1) All these cases developed on board ship homeward bound from the west coast of Africa, presumably away from any direct or recent infection. Only one of the cases had suffered from a previous attack. (2) In all the cases there had been a slight chill (malarial), for which one gram of quinine had been taken, and within a few hours the symptoms developed. (3) The last point is the satisfactory use of boric acid, one gram of which in hot water was given every two or three hours, according to the severity of the attack. If there is vomiting, it could be given by rectal or subcutaneous injection.

**A Case of Malignant Disease Following Splenic Anæmia.**—In the case of the patient of C. H. Sedgwick, a man of fifty-eight years, evidences of malignant disease of the abdomen gradually followed, and autopsy revealed deposits in the lungs, mediastinal glands, ribs, liver, spleen, and inguinal glands. No definite conclusion as to the exact nature of the growths could be arrived at, but it was, in all probability, carcinomatous. The author thinks that the malignant disease, wherever the primary focus lay, was not the primary cause of the illness, but that it supervened on splenic anæmia. Another point, which touches on some recent observations on the causation of malignant disease and its relation to arsenical administration, is the fact that the patient for some years previously had been treated with arsenic for psoriasis and with a very considerable amount of relief.

**The Occurrence and Significance of Cutaneous Hyperæsthesia in Appendicitis.**—James Sherren offers the following conclusions: (1) Cutaneous hyperalgesia is probably present at some time during all first attacks of appendicitis, except, perhaps, in the fulminating type, and depends upon tension within the appendix. (2) It may be absent in attacks after the first, if the first attack was of sufficient severity to destroy nerve tissue in the wall of the appendix. (3) When present in attacks subsequent to the first it often persists long after all other signs of the disease have gone, owing to the tension within the appendix being kept up by the presence of a stricture. (4) It gradually disappears during convalescence as the other signs of the disease clear up. (5) Disappearance of cutaneous hyperalgesia without improvement in the general condition of the patient is a sign of perforation or gangrene of the appendix, and should be a signal for immediate operation. (6) The presence of cutaneous hyperalgesia is no contraindication to operation. Abscesses may form and general peritonitis may develop while it is present. (7) Its absence, on the other hand, is of great importance. Absence of cutaneous hyperalgesia, the patient coming under observation early in the first attack of appendicitis, is a sign of gangrene of the appendix unless the case is obviously a mild one and the patient is rapidly getting well. (8) Cutaneous hyperalgesia is, as a rule, absent in cases of abscess of the appendix. (9) The age of the patient and the position of the appendix have no influence upon the cutaneous hyperalgesia. (10) It is occasionally of use as an aid to the diagnosis of appendicitis.

*Münchener medicinische Wochenschrift, September* 8, 1903.

**Tuberculous Infection through the Intestine.**—L. Sorger tried in vain to produce tuberculosis in a fox by feeding the animal for more than six months with material contaminated with tubercle bacilli. No intestinal lesions were produced and the general condition of the animal remained good. This animal is hence to be regarded as immune to the human tubercle bacillus. The author suggests that this natural immunity of the fox may account for the apparent usefulness in the treatment of pulmonary tuberculosis of some of the old preparations, which contained as one of the ingredients certain portions of these animals.

**Influence of Concentration of the Urine upon Tests for Albumin.**—Benno Hallauer shows that the tests for albumin are very deceptive and often fail to give a reaction in markedly concentrated urines which contain albumin. For this reason all concentrated urines should be properly

diluted before the tests are applied. In concentrated urines the acetic acid—ferrocyanide test is most inaccurate, failing to give a reaction when the urine is reduced one-half in volume. The heat and nitric acid test is better, giving usually a reaction until the urine is reduced to one-quarter of its volume. Under the like conditions Heller's test is variable, frequently giving a reaction, but as often failing to do so.

**Does Sugar Metabolism Entirely Cease after Extirpation of the Pancreas.**—Hugo Luthje, by a special process, entirely removed the pancreas in a series of dogs. That the pancreas was entirely removed was demonstrated by the subsequent autopsy findings. These animals were then starved and sugar appeared in the urine until a certain degree of emaciation was reached, when it entirely ceased. If now the dogs were fed upon albuminous matter, the sugar in the urine again reappeared. From this it is probable that when the animal has used up its reserve albumin for its nutrition it appropriated the sugar in the system for nutritional purposes, and hence at this time it disappeared from the urine. When albuminous food was supplied the need for its so doing was at an end and the metabolism of sugar ceased, as evinced by its renewed presence in the urine.

*Berliner klinische Wochenschrift, September 7, 1903.*

**Origin and Properties of Alexins.**—R. Turro regards the alexins as chemical bodies which act upon bacterial protoplasm—the process being known as bacteriolysis. The alexin is a product of the cell protoplasm. It exerts its action when in solution in aqueous physiological salt solution. The properties of the various alexins vary, according to the character of the cell protoplasm which produces them. Hitherto alexins have been found in the thyroid gland, the suprarenal capsules, the kidneys, the lymph glands, the muscles, the liver, the spleen, the blood plasma, and finally in the yoke of the egg after previous solution of the albumin. From a chemical standpoint the alexins are to be regarded as enzymes which digest the bacteria by the means of a progressive hydrolysis. The resistance of an organism against infection (natural immunity) is dependent upon the physiological processes in the cell protoplasm which favor the solution of the alexins, and hence their action.

**"Oat Cure" in Severe Diabetes Mellitus.**—Carl von Noorden gives his further experiences with this treatment, which consists of the following exclusive diet: Daily quantity—oats 250 gr., butter 300 gr., albumin 100 gr. This is prepared in the form of a soup and given in equal quantities every two hours throughout the day. In addition there may be given a moderate amount of cognac, wine, and strong black coffee. When cases of severe diabetes are placed upon this diet one of four results may be expected. In no case can the outcome be prognosticated until ample trial of the diet has been made. (1) In a certain proportion of cases the general condition improves and the sugar disappears from the urine. Furthermore, this improvement remains permanent under a return to the usual diabetic diet and eventually to the diet of ordinary individuals, provided the transition from diet to diet is slowly carried out and carefully watched. (2) In a second class of cases the primary improvement takes place as above depicted, but is not maintained upon a removal of the "oat diet." (3) A third class, when placed upon this treatment, show a moderate improvement, but at no time does the sugar entirely disappear from the urine. (4) A fourth and final class show no improvement as the result of the "oat cure." It might be expected that the results in cases of severe diabetes would indicate that in moderate diabetes the "oat cure" would be uniformly effective. This is, however, not the case, since many of the latter class of cases do poorly when placed upon the treatment.

*Deutsche medicinische Wochenschrift, September 3, 1903.*

**Formation of Specific Antibodies in the Blood after Cutaneous Infection.**—F. Kasten confirms Hoffmann's results in that he has been able to produce specific agglutinins and bacteriolysins in the blood of rabbits, which he had submitted to cutaneous inunctions with various bacterial cultures. In different series of experiments there were used typhoid bacilli, cholera organisms, and staphylococci. Bacteriological examination of the blood of the animals thus treated, together with the autopsy findings, conclusively shows that no infection took place as the result of the inunctions, since the bacteria employed were never found within the bodies of the rabbits.

*French and Italian Journals.*

**The Pathogenesis of Uræmia.**—M. Casters from his researches concludes that uræmia should no longer be attributed exclusively to autointoxication from retention of urine. Changes in the internal secretion of the kidneys, as well as nephrotoxins and nephrolysins, should be taken into account as well. Although we are as yet unable to state even approximately just what part they play in the etiology of uræmia, it is not irrational to attribute to them a prominent rôle in certain cases in which the patient is attacked in apparently perfect health, without any previous warning, especially without anuria or oliguria.—*Archives Médicales Belges*, August, 1903.

**The Diagnostic Value of Tuberculin.**—Emilio Malfatti and Francesco Sarcinelli conclude from their experimentation that injections of tuberculin progressively increased up to one centigram are innocuous. The age of the subject has no influence on the reaction. A febrile reaction follows in forty-eight hours. In advanced cases of tuberculosis a large dose of tuberculin is needed to induce reaction, which is less marked than that obtained with a smaller dose in the earlier stages. On the whole, however, the results of injections of tuberculin do not justify a diagnosis of tuberculosis unless accompanied by other diagnostic signs.—*La Riforma Medica*, August 26, 1903.

**Symptoms Similar to Those Described by Dercum.**—Disma Cecchini reports the case of a woman suffering from pain in various parts of the body, followed by the formation of fatty deposits. Dercum's disease has been attributed to affection of the sympathetic, but the author discredits this theory, and holds that it should be classed as a general trophoneuroses, with a tendency to symmetrical neoformations in certain tissues. Variations in the nature of the pains do not lead to the conclusion that there are several types of the disease, but point to probable changes in the peripheric nerves, which may be of varying forms, while the fundamental morbid entity is the same.—*Gazzetta Medica di Roma*, August 15, 1903.

**Attempted Suicide by Means of Cultures of Eberth's Bacillus.**—Paul Duflocq and Roger Voisin report the case of a young woman in a hospital who, being in poor health and not happily married, so resented pregnancy that her desire was to attempt suicide. Another patient having died of typhoid fever, this young woman cleverly obtained information as to the disease and its cause, and swallowed the contents of two culture tubes of Eberth's bacillus. After a short period of incubation (ten days) she was taken with typhoid fever, which followed its usual course. The patient was given 176 cold baths in all. No abortion occurred, and she left the hospital in good condition, giving birth at term to a living child.—*Archives Générales de Médecine*, September 1, 1903.

*Annals of Surgery, September, 1903.*

**A Case of Ascites Due to Liver Cirrhosis, Treated by Operation.**—R. Morison reports the case, his patient being a man of fifty-two years. He had been treated by the usual methods of limitation of fluid ingesta, purgatives, and tapping. The operation is thus described: An incision about four inches long opened the abdomen between the ensiform cartilage and the umbilicus. The cut subperitoneal fat was vascular, and bled freely. A large amount of clear straw-colored fluid escaped as soon as the peritoneum was divided. A second opening was next made between the umbilicus and pubis, large enough to admit a half-inch diameter glass drainage tube, which passed through it into the pelvis. Some adhesion was present between the liver and the omentum and between the omentum and the abdominal wall. The liver was firm, finely granular on the surface, and of about normal size. The spleen was hard, and enlarged to at least double its normal size. The abdominal cavity was dried with sponges, special care being taken to rub the surface of the visceral peritoneum opposed to them. The omentum was fixed across the anterior abdominal wall by catgut sutures. The upper incision was entirely closed by catgut sutures. The lower was kept open for a drainage tube through which the fluid was pumped out of the pelvis. Over the dressings, broad, long strips of adhesive plaster were applied transversely from the chest above to the drainage tube opening below. This was for the purpose of keeping the upper part of the abdominal cavity empty of fluid and the parietal closely applied to the visceral peritoneum. The patient made a good recovery from the operation. Three weeks after his discharge from hospital, tapping was again necessary. From this time on the fluid gradually diminished, and three years and a half later he was reported as being very well. The history of the operation is reviewed and other reported cases referred to.

**Blood Examinations in Their Relation to Surgical Procedures.**—L. L. McArthur believes that much valuable information can be derived from examining (1) the hæmoglobin content, (2) leucocyte decrease, and (3) leucocyte increase—polymorphonuclear and mononuclear. With a hæmoglobin content of between 40 and 50 per

cent. we are treading on dangerous ground. With a content of below 30 per cent., operation must be avoided unless instantly imperative. We must distinguish between a temporary sudden hæmoglobinæmia, as in uterine hemorrhage, and the gradual form caused by such conditions as gastric ulcers, uterine fibroids, etc. He finds that leucocytes decrease (from the normal 6,500) with certain diseases (malaria, tuberculosis, measles) and most often in typhoid fever. This fact may help us in differential diagnosis, and one illustrative case is given in which the diagnosis was at first made, but the leucocyte count pointed unmistakably to suppuration, which was finally located in the liver. The author also notes that there are two principal forms of white cells, and that the number alone must not be depended on in doubtful cases, but the form and other peculiarities must be noted if all the knowledge to be gleaned is to be utilized. The multinuclear leucocyte is notoriously the one to wander out in the neighborhood of an infected area, and, dead or dying, to constitute the pus formed. What wonder, then, that with increased demand there comes an increased production; the difficulty as yet being to differentiate between the physiological waves of increase and those produced by other factors than infection. Cabot's investigations make a 33 per cent. increase quite within the normal for such changes as digestion, exercise, and other physiological processes may induce. Indeed, the number of causes which may lead to a mild leucocyte increase are so numerous that only when associated with positive clinical evidences of disease should such increase have any influence in the ultimate decision. Again, the absence of such increase should not outweigh clinical evidence sufficient to make a diagnosis, but may, with justice, influence prognosis and treatment.

**Operative Possibilities in Cases of Advanced Carcinoma of the Breast.**—L. S. Pilcher reviews his experience between the years 1888 and 1900 inclusive. His procedures were conducted in accordance with the teaching that the incisions through the overlying skin should go wide of apparent disease and that the breast and axillary lymphatics with the connective tissue and fat in which they were imbedded should be dissected out as one unbroken piece. Classes one and two include complete ablation to apex of axilla, both with and without removal of the pectoralis major muscle. Of the thirteen cases summarized, the later history of all but one being known, it appears that four have remained well to the present time, periods of from eight to ten years having elapsed since operation; that three more enjoyed a period of immunity lasting for six years, and then in each case developed renewed cancerous disease; that in three cases evidence of recurrence, in distant regions, showed themselves within three years after the operation, and that in but two cases did local recurrence take place. In class 3 ablation was accompanied with removal of both pectoral muscles and comprised twelve cases. In one case the later history is unknown; of the remaining eleven, one lived five and a quarter years free from recurrence and died of pneumonia at the age of seventy years. Two others are well at the present time, three years and three years and four months respectively after the operation. One is living five and a half years after operation, but with slowly advancing recurrence in axilla and above the clavicle. One other is still living three years after operation without external recurrence, but with evidence of carcinoma of liver. Six patients have died at periods varying from twelve months to five years and a half after operation. Class four embraced in addition to the procedures named, those cases in which the supraclavicular region was cleaned out. Of this number but two have remained well, viz., six and four and a half years since operation. One other still lives (two years and a half) in good general health, but with a beginning enlargement of the costochondral articulations on the affected side, which indicates recurrence in the ribs. The others all died, generally from intrathoracic metastasis. The author further states that present experience warrants the statement that surgery can promise a very large proportion of absolute cures to cases of cancer of the breast if its resources are employed as soon as the presence of the disease is determined, even though it be acknowledged that the disease is there already in an advanced stage.

**Myositis Ossificans Traumatica.**—A case of this nature is reported by J. F. Binnie, whose patient was a man of forty-one years who received, while boxing, a severe bruise on the right forearm and arm. A tumor gradually developed, which was removed, the wound healing by primary union. Six months later there has been no recurrence, and there was no disability. Microscopical examination revealed the fact that the mass was of the variety indicated in the title. The author discusses the various theories of causation of the condition and appends an extensive bibliography.

# Clinical Department.

## A CASE OF ABSCESS OF THE RIGHT CEREBELLAR HEMISPHERE WITH CARIES OF THE LEFT MASTOID PROCESS.*

By E. GRUENING, M.D.,
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The case here described illustrates a difficulty encountered in the localization of an otitic brain abscess. Retardation of the pulse rate, drowsiness, vomiting, and rapidly developed optic neuritis were the symptoms pointing to the presence of cerebral abscess. As both ears were affected, the question arose as to whether the abscess was situated in the right or left side of the brain. At the time of admission the right ear was in a state of acute inflammation, which rapidly subsided after paracentesis of the drum. The left ear was more seriously affected. The mastoid cells were filled with pus and broken down bone tissue and one of the ossicles, the incus, was carious. For this reason the left temporosphenoidal lobe and the left cerebellar hemisphere were exposed and freely aspirated. The result of the operative exploration was negative. At the post-mortem examination a large abscess was found in the right cerebellar hemisphere.

B. S., a schoolgirl, ten years of age, was admitted to the Mount Sinai Hospital on April 3, 1903.

*Past history.*—In early infancy had measles, scarlet fever, and diphtheria, but no ear complications after these diseases.

*Present illness.*—Acute onset ten days ago, with pain on left side of the head which still persists. Five days ago had chills and fever, severe headache, and purulent discharge from left ear. Child has been drowsy since onset and has been vomiting nourishment for the past three days.

*Left ear.*—Drum head red and swollen. Small perforation in lower anterior quadrant. No discharge. Over the region of the mastoid the skin is red and swollen and pits on pressure. No fluctuation. Tenderness over pit, antrum, and behind the mastoid.

*Right ear.*—Drum is red and swollen. No perforation. Slight tenderness over tip and antrum of the mastoid.

General condition fair. Well nourished. Answers questions readily, but relapses into drowsiness when not spoken to. Tongue dry, heavily coated. Pupils of equal size, react well.

Ophthalmoscopic examination negative. Examination of the lungs, heart, liver, spleen, and abdomen was also negative. Temperature 102.8°. Pulse 108. Respiration 28. Several hours after admission, temperature 104.8°.

*Operation.*—Osteotomy for mastoiditis (left). Nitrous oxide and ether anæsthesia. Bilateral paracentesis of drum. Usual curvilinear incision over mastoid. Periosteum easily lifted. Cortex hard. Mastoid cells and antrum contain granulation tissue and pus. Thorough curettage. Sigmoid sinus exposed. It appears normal. Thorough irrigation. Dry iodoform packing. Dry dressing. Time 45 minutes.

April 4. Patient much improved. Temperature 101°. Pulse 104. Respiration 24. Profuse seropurulent discharge from right ear.

April 5. General condition good. Drowsiness has disappeared. Temperature 100.4°. Pulse 98. Respiration 24. Diminished mastoid tenderness on right side. Discharge from right ear still profuse.

April 7. Wet dressing to mastoid wound. Tem-

*Read before the American Otological Society at the Congress at Washington, May 12, 1903.

perature 99. Slight discharge from right ear. No mastoid tenderness.

April 10. No discharge from right ear. Mastoid wound granulating. Out of bed.

April 16. Temperature 99.4°. Pulse 88. Respiration 24. Wound healthy. Dry dressing.

April 20. Patient vomited. Temperature normal. Right ear does not discharge. No tenderness of right mastoid. Ophthalmoscopic examination negative.

April 21. Vomited repeatedly. Right pupil larger than left. Ophthalmoscopic examination negative. Temperature normal.

*Operation.*—Cleaning out of middle ear. Exposure of dura. Multiple exploratory puncture of brain with aspiration. Nitrous oxide and ether narcosis. Incision extended upward and forward. Superior and posterior walls of external auditory canal, the drumhead, the ossicles, the antral and tympanic roofs, the temporal ridge and a part of the squama were removed. Incus carious. The malleus sound. The dura was normal in appearance. Intracranial pressure not markedly increased. The aspirating needle was introduced into the temporosphenoidal lobe in all possible directions. No pus was found. Wound irrigated with alcohol and dressed dry.

April 22. General condition improved. No headache. Pupils equal. Temperature normal. No headache.

April 25. Temperature normal. Appetite good. Slight drowsiness.

April 26. Temperature normal. Wound covered with healthy granulations. Vomited at four in the afternoon and again at eight. Pulse retarded, 60–68. No headache. No aphasia.

April 27. Temperature normal. Pulse 64. No headache. Slight drowsiness. Ophthalmoscopic examination negative.

April 28. Pulse 66. Frontal headache. Drowsiness.

April 29. Continues to be drowsy. Vomited more. Pulse 60–70. Refuses food. Right pupil larger than left. No aphasia. No papillitis.

April 30. *Operation.*—Exploratory puncture of left temporosphenoidal lobe and left cerebellar hemisphere. Anæsthesia by nitrous oxide and ether. Wound curetted and flushed with alcohol. Upper knee of sigmoid sinus and lateral sinus laid bare. Removal of part of the parietal bone above the knee of the sigmoid sinus and part of the occipital bone below the lateral sinus, exposing a larger area of the temporosphenoidal lobe and of the cerebellar hemisphere. Numerous punctures and aspirations in all directions in temporosphenoidal lobe and cerebellum. Result negative.

May 1. No change in general condition. Remains drowsy. Pulse faster and irregular. Receives nutriment enemata.

May 2. No change.

May 3. Does not retain nutrient enema. General condition not changed.

May 4. Drowsy. Answers when aroused. Says she has no pain. Vomited.

May 5. More drowsy. Involuntary urination. Pupils equal and dilated. Ophthalmoscopic examination negative. General tonic convulsion lasting three minutes. Pupils widely dilated. Vomited after convulsion. Temperature 98.6°. Pulse 50–60. Respiration 16–18.

May 6. Child still can be roused but with great difficulty. Double optic neuritis present. Examination of right ear. Perforation healed. Temperature 97.4°. Pulse imperceptible. Respiration 8.

May 7. Tonic convulsion following enema. After convulsion respiration very slow, three per minute. Pulse can be felt. Artificial respiration kept up two hours.

*Operation* without anæsthesia. Multiple aspirations of left temporosphenoidal lobe and left cerebellar hemisphere, with negative result. Artificial respiration kept up during operation. Child died at 5.35 P.M. Wound inspection and partial autopsy allowed.

*Report of the Pathologist.*—Left mastoid region, site of recent operation found clean. Granulations beginning to form. Dura mater, as far as could be seen, appeared normal. Cerebrum normal on surface and in sections. Recent aspirations in all directions negative. Cerebellum, external inspection, negative on palpation; no softened spot or bulging. Vermiform process negative.

On section, left hemisphere shows sites of recent aspirations. No hemorrhage or abscess. In the right hemisphere near upper surface of lobus clivi, and extending forward and backward, was an abscess cavity the size of a walnut filled with grayish red pus. No odor. Surrounded by a pyogenic membrane of the same color. The external layers of the membrane were fibrinous in character. The surrounding brain tissue is negative in appearance. Culture from abscess. Streptococcus.

In the hardened specimen the abscess cavity measured 3 cm. in the antero-posterior, and 18 mm. in the transverse diameter. The limiting membrane had a thickness of 2.5 mm.

36 East Fifty-seventh Street.

## SYPHILITIC PHARYNGEAL ABSCESS, WITH NECROSIS OF A CERVICAL VERTEBRA.

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Syphilis of the upper respiratory tract may occur during any of the three clinical stages, or as hereditary manifestations. The lesions are inflammatory, with or without ulceration, or there may be extensive necrosis involving the bone and accessory sinuses. The most destructive lesions are to be found in the tertiary stage or in hereditary cases. G. Hunter Mackenzie considers the latter the worst and most intractable.

Postpharyngeal abscess with necrosis of a cervical vertebra, caused by syphilis, is rare, and to the few reported cases I add the following:

W. M., age forty-nine. About three weeks after her last confinement, which was twelve years ago, the first manifestations appeared on the genitals, the nature of which could not be ascertained. Six years later she had an erythematous, papular, and vesicular eruption, appearing on the neck and chest and spreading over the entire body. Under treatment the skin manifestations disappeared and she was free from all trouble for some time, but as to how long I could not definitely learn. Then followed in succession: ulcerations on the anterior and lateral surfaces of both legs below the knee, one over the left malar bone, a severe iritis of the left eye, which left a synechia between the iris and the anterior capsule of the lens, with loss of accommodation.

I saw her first on September 25, 1898. At that time all the above-named lesions had healed, but there were three ulcers on the right shoulder and one on the posterior wall of the pharynx, on a level with the free margin of the palate. She had noticed a swelling in this area for twelve months. The pharyngeal ulcer was about three-quarters of an inch in diameter, surrounded by soft, pulpy granulations

and covered with yellow, foul-smelling pus. At the bottom of the ulcer there was a sinus from which pus constantly exuded. A probe was passed in the sinus down to the cervical vertebra; the bone was hard and resistant and no rough or necrosed areas could be detected.

She had not been able to lie down for six months; the only rest she obtained was by reclining in a Morris chair. But little sleep was obtained on account of the pain, gnawing in character, worse at night and preceding and during stormy weather, and most marked on the left side. She described it as if cords were pulling from every direction toward a common center. When she wished to get up or sit down, she was compelled to steady her head by clasping both hands behind her neck, holding the head rigid until she was erect or the head rested against the back of the chair. Attempts to move without this support caused a feeling as if her neck would break.

*Treatment.*—The ulcer was cleansed daily with a cotton-wrapped probe, dipped in hydrogen peroxide, full strength, and the granulations touched twice a week with a 20-per-cent. solution of chromic acid. From the history it was ascertained that she had been given the iodides and mercury for about three years until the stomach had rebelled and could tolerate it no longer. I was very much puzzled to know what to give her, knowing full well that local without internal treatment would avail nothing. I reasoned thus: the effect of the iodides depend upon the iodine radical and not upon the base. I therefore decided to try temporarily a compound wine of iodine, the formula of which is as follows: Iodine and bromine, $\overline{aa}$ gr. $\frac{1}{8}$; phosphorus, gr. $\frac{1}{100}$; sherry wine, 3 i. One teaspoonful was ordered three times a day after meals. The bowels were kept regular by the use of sodium phosphate and occasional doses of calomel. Early in the treatment, at different times and without the patient's knowledge, potassium iodide was substituted, but each time she said it was the same she had taken before and that it caused pain and nausea.

In about three weeks the ulcer looked healthier and apparently was healing; but soon after it broke down and was as bad as at the beginning, yet no necrosed bone could be detected. About the middle of November—two months after the first visit—a small piece of bone was seen protruding in the sinus. With a probe it could be moved slightly, but was not entirely free. These manipulations caused much pain, referred to the left side of the neck. Not being able to locate the seat and extent of necrosis, no attempt was made to tear the fragment of bone loose for fear of injury to the spinal cord. At each subsequent visit the bone was gently moved, and it gradually became looser and protruded further in the sinus, until December 19, when it was free from all attachment, and with a pair of forceps I removed it. There was no bleeding. The bone was three-fourths of an inch by an inch, and full of holes like worm-eaten wood. The treatment was continued, and again the sinus appeared to be healing, but it did not close nor did the discharge entirely cease. In March the ulceration was worse again and another piece of bone protruded. This was extracted on April 13, 1899. It was half an inch square and full of holes similar to the first piece. On May 1 the ulcer had firmly healed and has remained healed ever since. There is a depression of one-quarter inch deep and an inch in diameter over the area involved. Thus far (four years) there have been no symptoms of other lesions.

During the height of the disease there was much pain in the left side of the neck, extending to the shoulder and down the arm. There was so great pain when attempting to swallow she could eat and drink but very little, but there was no regurgitation through the nose. The symptoms gradually became less severe, the stiffness in the neck and the darting pains subsided; but for six months, like chronic rheumatics, she complained of a dull, aching pain in the neck preceding stormy weather.

Three months after this treatment was begun she was again able to lie down and rest better, and finally slept through the entire night.

The internal treatment was continued for two years and a half, then five days each week. The intervals without treatment were gradually lengthened, and finally discontinued at the end of three years.

This case is of special interest on account not only of its rarity, but also of the result of the internal treatment used. It proves that in this wine of iodine we have a remedy that is efficacious when iodine or the iodides are indicated; besides it is palatable, and in this case was well borne for three years, even after the stomach had rebelled from the use of the iodides.

In a careful search of the literature I can find but few similar cases reported.

Allin[1], in a most excellent review of post pharyngeal abscess, collected and tabulated 58 cases; 6 were due to or complicated by cervical necrosis, 4 of which were syphilitic.

Morell Mackenzie[2] cites a case with severe hemorrhage, which was believed to come from the vertebral artery; more than a quart of blood was lost. She soon afterward expectorated the transverse process of the second cervical vertebra.

S. H. Chapman[3] reported a case in which the initial lesion appeared six years previously. The throat manifestations were: Ulceration and necrosis of the turbinals, septum, gums, and inside of the mouth and pharynx; infiltration and inflammation of the larynx; and an abscess over the third cervical vertebra, with necrosed bone. A piece of the third cervical, and four weeks later two pieces of the fourth cervical vertebra were extracted. The pharynx healed three months after the first operation; the posterior pharyngeal wall remaining concave.

REFERENCES.

1. Allin *New York Journal of Medicine*, November, 1851, p. 307.
2. Morell Mackenzie, Transactions Pathological Society, London, April 20, 1869; and Diseases of the Nose and Throat, Vol. I, p. 67.
3. S. H. Chapman, *Archives of Laryngology*, 1881, p. 183; and Transactions American Laryngological Association, 1880.

1807 CHESTNUT STREET.

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**Perceptions of the Poor.**—A writer in the *Daily News* says that it is not because the nature or senses are duller than that of more refined persons that the poor inhabitants of our unwholesome alleys are only partly conscious of the unpleasantness of their surroundings, but because their circumstances and their constant subjection have deadened their faculty of perception. And it is not so many generations ago that the same was true of the higher classes in an equal degree.

**Training Volunteer Medical Units.**—Mr. William Sheen says that the ideals of a volunteer medical unit should be (1) to be able to render medical assistance in time of war; (2) to render in peace medical assistance to the combatant force to which it is attached, particularly (*a*) in camp, (*b*) on field days, (*c*) at ceremonial parades, dealing with emergencies in crowds when the military guard the streets, and (3) by teaching the men first aid and ambulance work to furnish more useful citizens.

# Book Reviews.

CHART OF THE ARTERIAL, VENUS, AND NERVOUS SYSTEMS. Cleveland, Ohio: Dr. Gustave H. Michel & Co., 1903.

IN this wall-chart we have represented the course of all the large arteries, veins, and nerve trunks, together with their branches supplying the various organs and viscera. They are distinguished by the conventional red, blue, and yellow coloration. The chart offers a convenient work of reference, and might be of invaluable assistance to one called upon to act hurriedly without the time to refer to a textbook or atlas for the information here given at a glance.

THE MEDICAL EPITOME SERIES. MICROSCOPY AND BACTERIOLOGY. By P. E. ARCHINARD, A.M., M.D., Demonstrator of Microscopy and Bacteriology, Tulane University. Philadelphia and New York: Lea Brothers & Co., 1903.

AFTER a general introduction on the microscope and the fundamental principles of bacteriology, the examination, staining, and cultivation of bacteria are taken up. Methods of sterilization and disinfection and animal inoculations are next considered, and then the pathogenic bacteria and micrococci. Several chapters follow, dealing more in detail with the important bacilli and other microorganisms. The closing chapter gives a brief account of the bacteriological examination of water, air, and soil. The book should prove useful to both students and practitioners.

LA CURE DE LA TUBERCULOSE DANS LES SANATORIUMS FRANÇAIS. Par les Docteurs A. F. Plicque et Verhaeren Paris: C. Naud, 1903

TRATAMIENTO CURATIVO DE LA TUBERCULOSIS PULMONAR (Cuatro Años de Experimentación Clínica). Por el Dr. Abdón Sánchez Herrero, Madrid, 1903.

THESE two brochures cover practically the same ground. In the former are chapters on the cure by air, rest, hyperalimentation, antisepsis, etc., and a special chapter on the organization of sanatoria for tuberculous patients, together with illustrations of some of the more noted French institutions of this class. It is an excellent presentation of the civic and ethical as well as of the general medical aspects of the tuberculosis question. Much stress is laid (and properly so) on the personal rôle of the physician. The authors declare that sanatorium treatment, if possible, is preferable to home treatment because of the great personal and, one might almost say, direct moral influence arising from having constantly at hand one who will encourage and gain the full confidence of the patient. Varying results of different institutions are largely, attributable to this personal influence of those in charge.

The work of the Spanish author is more a record of personal experience, which gives in great detail the results following the use of the various measures now in vogue. He frankly states his bad results as well as his good ones. While these publications, perhaps, contain nothing new, they are honest contributions to the great tuberculosis question.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia, etc. Assisted by H. R. M. LANDIS, M.D., Assistant Physician to the Out-patient Medical Department of the Jefferson Medical College Hospital. Volume II, June, 1903. Surgery of the Abdomen, including Hernia, Gynecology. Diseases of the Blood and Ductless Glands. The Hemorrhagic Diseases. Ophthalmology. Philadelphia and New York: Lea Brothers & Co., 1903.

THE contributors to this volume are Clark, Coley, Jackson, and Stengel. Their subjects are Gynecology, Surgery of the Abdomen, Ophthalmology, and Diseases of the Blood and Ductless Glands, the Hemorrhagic Diseases, Metabolic Diseases.

Their work has been as well done as the standard of the publication demands that it should be.

RADIUM AND OTHER RADIO-ACTIVE SUBSTANCES; Polonium, Actinium and Thorium, with a Consideration of Phosphorescent and Fluorescent Substances, the Properties and Applications of Selenium and the Treatment of Disease by the Ultraviolet Light. By WILLIAM T. HAMMER, Consulting Electrical Engineer. New York: D. Van Nostrand Company, 1903.

MUCH interest in the subject of radium has been excited, first among scientists the world over, then in a popular way, and finally physicians have been forced to take, beside the natural popular and scientific interest in a new discovery, a closer professional one because of the reputed therapeutic properties of this new form of energy. The whole question is one of wonder, and fraught with scarcely conceivable possibilities. In medicine, however, where all is hoped for and so little attained one must be skeptical. Liquid air, tuberculin, *x*-ray, have all had more expected of them than could be realized. There is no good reason to believe that radium will prove an exception. It has already been shown to be of value.

Mr. Hammer's book takes up the source, physical qualities, properties, and powers of the new element. There is necessarily little on the therapeutic use, as sufficient time has not elapsed to know much about it.

For so small a volume a vast amount of information has been crowded in. There are additional chapters on Selenium and treatment of disease by the ultraviolet ray. This is very short, still it seems a little out of place in a work by an Electrical Engineer, written from the broader scientific standpoint.

SYPHILIS IN DENTISTRY. By L. BLAKE BALDWIN, M.D., Chicago, Ill. Professor of Dermatology and Venereal Diseases, Post-Graduate Medical School; and EZRA READ LARNED, M.D., Chicago, Member of the American Association for the Advancement of Science. Chicago: E. H. Colegrove, 1903.

THIS is a very important subject and one with which dentists are either strangely unfamiliar or of which thoughtlessly negligent. Much accidental syphilis occurs each year, and a small proportion of it can be traced to fault of aseptic technique on the part of the dentist. Anything tending to increase knowledge and recollection of the possibilities in this direction is welcome, and to this end we commend the present small volume.

A COMPEND OF HUMAN ANATOMY. By SAMUEL O. L. POTTER, M.A., M.D., M.R.C.P. London., formerly Professor of the Principles and Practice of Medicine in the Cooper Medical College of San Francisco; author of the "Handbook of Materia Medica, Pharmacy, and Therapeutics," Quiz-Compend of Materia Medica," "Index of Comparative Therapeutics," and "Speech and Its Defects"; late Major and Surgeon of Volunteers, United States Army. Seventh edition, Revised and Enlarged. Philadelphia: P. Blakiston's Sons & Co., 1903.

THIS is one of the series of quiz-compends issued by the publishers, and the fact that it passed through six editions in the course of twenty years affords satisfactory testimony as to its value. The author states that the present edition has been entirely rewritten, the text being brought into harmony with the most recent anatomical textbooks. About twenty additional illustrations have been inserted and several of the old cuts have been replaced by newer ones. Although intended primarily for students and for others preparing for examination, the little work will serve in a very satisfactory way as a book of ready reference for the practitioner who wishes to jog a halting memory in an emergency and has not the time or the opportunity to consult one of the larger treatises.

CONSUMPTION, A CURABLE AND PREVENTABLE DISEASE. What a Layman Should Know About It. By LAWRENCE F. FLICK, M.D., Medical Director of the Henry Phipps Institute for the Study and Prevention of Tuberculosis. 295 pages. Philadelphia: David McKay, 1903. Price, $1.00.

THIS is a sane study of a great problem. The author is an anti-alarmist, and his words may be profitably read and pondered over by physicians as well as by laymen. He presents his views in simple language, entirely free from the lurid expressions so often found in books on this topic. From a careful examination of his pages our verdict is that they form the best presentation of the tuberculosis problem, socially and ethically considered, that has yet appeared.

DISEASES OF THE EAR. A Textbook for Practitioners and Students of Medicine. By EDWARD BRADFORD DENCH, Ph.B., M.D., Professor of Diseases of the Ear in the University and Bellevue Hospital Medical College. With fifteen plates and one hundred and fifty-eight illustrations in the text. Third edition, revised and enlarged. 718 pages. New York and London: D. Appleton & Co., 1903.

IN commenting on this work, mention need be made only of those features wherein it differs from preceding editions. These consist mainly of the sections devoted to the surgical aspects of modern otology. The advances of the last few years have required the rewriting of a considerable portion of Dr. Dench's treatise. Particularly is this true with reference to the operative treatment of chronic suppurative otitis media and the various intracranial complications of middle ear suppuration. These receive full and discriminating consideration in the present edition. The author notes his failures as well as his successes with each procedure, and his pages bear the impress of frankness as well as of a detailed knowledge of the questions discussed. His standing in the field of otology is too well known to call for any perfunctory praise. The typographical appearance of the book is, in our judgment, more attractive than that of the former editions. Not the least valuable feature is the elaborate index covering some twenty pages and rendering reference to any topic extremely easy.

# Society Reports.

## AMERICAN LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL SOCIETY.

*Ninth Annual Meeting, Held in Lexington, Ky., April 30, May 1 and 2, 1903.*

J. A. STUCKY, M.D., OF LEXINGTON, KY., PRESIDENT.

*Thursday, April 30—First Day.*

**A Case of Lipoma of the Tonsil.**—Dr. CLEMENT F. THEISEN of Albany, N. Y., reported this case. The patient was an eight-year-old girl who had suffered for several years from a paroxysmal cough. A smooth, yellowish tumor about the size of a marble was found attached to the right tonsil by a pedicle, and proved, on examination by Dr. G. W. Blumer, to be a lipoma. He had found only six other similar cases on record, the majority of which had occurred in adults.

**Retropharyngeal Abscess.**—Dr. LEWIS C. CLINE of Indianapolis presented in this paper a report of three cases. The first case was a child of about five years, with a distinct one-sided swelling of the neck, a croaking cough, dyspnœa, and fever. The abscess was incised, and as soon as effective drainage had been secured the case did well. The second case occurred in a man, who complained of a troublesome spasmodic cough, and presented a large swelling on the posterior pharyngeal wall. A long incision was made in the median line from below upward, and some pus and débris evacuated. The man was markedly septic, and died about two weeks later during an attack of coughing. In this case the abscess was thought to be of tuberculous origin. The third case occurred in a child of two and a half years, the abscess developing immediately after an attack of measles. There was a croupy, paroxysmal cough, and examination revealed a large swelling on the posterior pharyngeal wall. Recovery was rapid after a free incision of this abscess.

Dr. C. G. COAKLEY of New York said that although he saw about half a dozen such cases at the clinic every winter, he had only met with one retropharyngeal abscess in private practice, and that was in a man thirty years of age. In that case there was no enlargement of the tonsil or œdema of the faucial pillars, and incision gave prompt relief. The incision should be made in the mouth far down in the median line, and should be coextensive with the swelling. Immediately after making this incision, the patient's head should be lowered, and the escape of pus aided by pressure with the finger. He had never met with any serious complication arising from the passage of the pus into the air passages. The old hatchet-shaped gum lancet was useful for opening these abscesses.

Dr. F. C. COBB of Boston was also of the opinion that there was little danger of the suffocation of the patient by the passage of pus into the air passages. It was important to make a very free incision and to see that this opening did not close prematurely.

Dr. GEORGE L. RICHARDS of Fall River, Mass., believed the condition was often overlooked, and that this explained its apparent rarity. He incised these abscesses both upward and downward, sometimes for a distance of two inches, and then swabbed out the abscess cavity with a strong solution of hydrogen dioxide.

Dr. W. H. DUDLEY of Easton, Pa., recalled a case that had come to him with a history of paralysis of one of the ocular muscles. Incision of the abscess gave prompt and permanent relief.

Dr. J. M. RAY of Louisville said he had not found these abscesses very rare in nursing infants. A case was reported in which the condition had resulted from traumatism.

Dr. CHEVALIER JACKSON of Pittsburgh said that for opening a retropharyngeal abscess through the mouth he used a bistoury or scalpel having the greater part of the blade guarded by wrapping it with adhesive plaster.

**A Case of Tuberculous Laryngeal Stenosis Treated by Tracheotomy.**—Dr. PRICE BROWN of Toronto presented this paper. The patient was a man, thirty-one years of age. Under cleansing sprays and applications of a fifty per cent. solution of lactic acid the patient's condition improved considerably, but the lungs then showed evidences of tuberculosis. Life in a tent for eleven months resulted in great improvement, but finally an attack of œdema of the larynx necessitated the performance of a high tracheotomy. Since that operation the laryngeal symptoms had improved, and at the present time there were no visible ulcers in the larynx, no bacilli could be detected in the sputum and the man had regained his normal weight.

Dr. JOHN A. THOMPSON of Cincinnati said that while admitting the danger of infection of the tissues of the neck by tracheotomy, he could not but feel that this operation was indicated in those rather rare cases of tuberculous laryngitis characterized by extensive infiltration and but little disease of the lungs.

**The Pathology of Ethmoiditis Reconsidered.**—Dr. EDWARD WOAKES of London, England, sent a paper on this subject. He took the ground that this disease certainly had a specific character. In the first stage the changes were only in the mucous membrane; in the second stage the small arteries of the submucosa were invaded and a myxœdema developed, the bone itself becoming thinner by absorption.

**The Import of the Salivary and Nasal Secretions in Hay-fever.**—Dr. D. BRADEN KYLE of Philadelphia presented this paper. He said that his studies of the past eight years had convinced him that the saliva was an index to important changes in the chemical processes of the body. After examining the saliva in normal persons and in hay-fever patients he had become convinced that the irritation leading to the attack of hay-fever often had its origin in a chemical change in the saliva. He had known a teaspoonful of common salt, swallowed at one dose, to abort an attack of hay-fever. In the attacks of so-called hay-fever which came on suddenly without apparent exposure to cold or other source of irritation, he believed that through an alteration in the chemical composition of the saliva substances were formed which, on exposure to the air, decomposed into irritants. Normally the sulphocyanides and ammonium salts were present in the saliva in about equal proportions, but in many of the cases alluded to these compounds were present in excess. When there was diminished acidity the sulphocyanides were not so abundant as the ammonium salts, and the secretion became more irritating.

Dr. NORVAL H. PIERCE of Chicago said that too little attention had been paid in the past to the chemical changes taking place in the secretions of the body. He believed the time would come when it could be demonstrated that heat and light were capable of producing the changes found in hyperæsthetic rhinorrhœa. A case was mentioned in which, after an excess of eating or drinking, the taking of a drachm of phosphate of soda would prevent an attack of pharyngitis; and another in which the taking of bicarbonate of sodium would cut short an attack of rhinitis.

Dr. F. C. COBB said that while this theory might apply to certain cases, it was difficult to believe that a rhinitis resulting, for example, from riding behind a horse, could have such an origin as was suggested by the paper.

Dr. H. HOLBROOK CURTIS of New York was disposed to divide cases of hay-fever into three classes, viz., (1) those due to a systemic condition, *e.g.* explosions of uric acid in the blood or the occurrence of chemical changes described in the paper; (2) those due to a local condition whereby the application of certain pollens or other irritants precipitated an attack of hay-fever, and (3) those dependent upon a neurotic condition.

Dr. C. F. THEISEN said that it was difficult to reconcile Dr. Kyle's theory with the results of the recent investigations of Dunbar of Hamburg. We should distinguish

between typical hay-fever and what the Germans styled *rhinitis nervosa.*

Dr. COAKLEY thought many of Dr. Kyle's statements tended to confirm the results obtained by Dunbar.

Dr. PRICE BROWN of Toronto referred to a long standing case of hay-fever that he had succeeded in benefiting by insisting upon the patient going to the country during the summer and working laboriously. The customary attack of hay-fever did not come, a fact which Dr. Brown was disposed to explain on the theory of a chemical alteration in the secretions.

Dr. S. MACCUEN SMITH of Philadelphia said that it was a tradition in his locality that hay-fever could be relieved by taking a teaspoonful of table salt in one or two pints of hot water on retiring, and it was certainly true that this simple treatment would abort many cases.

Dr. J. A. STUCKY of Lexington said that he had, in a previous paper, called attendion to the dependence of these neuroses on intestinal intoxication, as indicated by the presence in the urine of an excess of indican. He had observed this excess in eleven out of seventeen cases studied. It was worthy of note that hay-fever was extremely rare among the laboring class.

Dr. Kyle, in closing the discussion, said he had not claimed that all cases of hay-fever were dependent upon alterations in the secretions.

**A Case of Bilateral Abscess of the Septum with Well-marked Symptoms of Septicæmia.**—Dr. W. L. CULBERT of New York reported this case, occurring in a man aged thirty-one years. When first seen his temperature was 104° F. and pulse 132; the nose was completely occluded; he complained of an intense throbbing pain, and examination showed two abscesses of the septum. Both were opened by a vertical and horizontal incision, and the cavities were irrigated with hydrogen dioxide and lightly packed. The symptoms rapidly subsided, and five days later the man returned with a quadrangular sequestrum that had been discharged from the nose. The fact that the abscess was bilateral and involved both the cartilaginous and bony septum was of some interest.

**A Case of Epiglottic Abscess with Secondary Involvement of the Cervical Glands.**—Dr. CULBERT also reported this case, occurring in a man of thirty-four years, of gouty habit. The anterior chain of lymphatic cervical glands was swollen and tender. The abscess was opened with a sharp curved aneurysm needle, and the enlargement of the glands rapidly subsided.

Dr. GEORGE L. RICHARDS reported a case of septal abscess with septicæmia occurring in a physician as a result of an injury to the nose. When first seen by the speaker the abscess had already been incised, but the patient's temperature was 103° F. and he was complaining of pain in one knee. Finally it became necessary to open several small abscesses, and convalescence was tedious. Some of these cases of abscess of the septum left marked deformity of the bridge of the nose.

Dr. COAKLEY also spoke of the tendency in these cases of the cartilage to break down suddenly, and suggested that deformity could, to a certain extent at least, be prevented by keeping the parts in position by the use of the Simpson tampon.

Dr. W. L. BALLENGER of Chicago said that the amount of septicæmia present in the case reported by Dr. Culbert suggested that there had been an extension of the infection to a part more richly supplied with lymphatics than the cartilaginous portion of the septum.

**The Relations of the Upper Air Passages to Diseases of the Gastrointestinal Tract.**—Dr. L. A. COFFIN of New York was the author of this paper. He said that he had been impressed with the large number of his clinic patients whose sole complaint was of postnasal catarrh. The circumscribed area affected was against the view that the condition was the result of a general toxæmia. Children, who seldom had great structural deformity of the nose, were quite as frequently affected with this disorder as adults. His own opinion was that the chief cause was to be found in the irritation resulting from the eructation of gases from the stomach, and that better therapeutic results would follow from treatment based on the belief that chronic follicular pharyngitis and nasopharyngitis were frequently secondary to chronic indigestion.

Dr. JOSEPH A. WHITE of Richmond, Va., said that he had not been fully convinced by the author's statements. Years ago he had been taught that all disorders of the upper air passages were dependent upon digestive, and especially liver, trouble. Since then rheumatism, smoking, drinking, and other etiological factors had been brought forward. Mere refrigeration was usually nothing more than defective circulation, though this might in turn be dependent upon digestive disorder. The old treatment, still employed by many physicians, was to give calomel and a saline. He was personally disposed to think that gastrointestinal trouble arose from the condition of the upper air passages, and not that the reverse was true.

Dr. W. L. BALLENGER observed that the lymphoid tissue of children was very prone to inflammation on slight irritation; hence it did not follow that the frequency of postnasal catarrh in young subjects was due to eructation of gases from the stomach or the regurgitation of irritating fluids.

Dr. S. MACCUEN SMITH said that many cases of dry throat would show remarkable improvement if given hydrochloric acid twenty minutes after meals instead of immediately afterward. Coryza and hoarseness were often associated with so-called bilious attacks, and it was his custom to treat such cases by calomel and a saline, and then give half a grain to one grain of mercury and chalk every night for a number of weeks.

Dr. J. A. THOMPSON of Cincinnati said that certain forms of laryngitis often proved most rebellious until gastric hyperacidity was detected and appropriately treated. The regurgitation of irritating secretions during sleep was often the cause of a pharyngitis or a rhinitis.

Dr. L. C. CLINE remarked that if this line of investigation were pursued more generally there would be found less use for the saw and cautery.

Dr. PRICE BROWN thought that if one made sure the nasopharynx was free from hypertrophied tissue, little else would be required further than some attention to the general health.

Dr. L. A. MCCLELLAND of Brooklyn remarked that many cases of acute and chronic pharyngitis would improve very rapidly under large doses of calomel and jalap, followed by a saline, without local treatment.

Dr. DUNBAR ROY of Atlanta said that the chronic nasopharyngitis of chronic drinkers was associated with gastric catarrh and that both conditions would be relieved simply by a withdrawal of the stimulant. However, there were cases of nasopharyngeal bursitis existing independently of stomach disorder, and proving most obstinate to treatment.

Dr. WENDELL C. PHILLIPS of New York said that many of the affections of the nasopharynx were not necessarily dependent upon gaseous eructations or the regurgitation of irritating fluids, but were rather dependent upon an altered state of the secretions. He had found it best to treat such cases by administering half a grain of calomel and half a drachm of bicarbonate of soda every hour for five or six doses.

Dr. Coffin, in closing the discussion, said he had endeavored to eliminate toxæmia from consideration, for the throat that was benefited by calomel was not the kind he had endeavored to describe.

*Friday, May 1—Second Day.*

**Symposium on Otitis Media Suppurativa.**—This comprised the following papers:

**Etiology and Pathology of Acute Otitis Media.**—Dr. NORVAL H. PIERCE of Chicago presented this paper. He said that the microorganisms most commonly met with

were the streptococcus, the staphylococcus and the diplococcus pneumoniæ, and that while mixed infection was the rule, the staphylococcus pyogenes was sometimes present in pure culture. The fact that the mucous membrane of the ear served both as mucous membrane and as periosteum explained the tendency of inflammation in this region to lead to necrosis.

**Treatment of Otitis Media.**—Dr. S. MacCuen Smith of Philadelphia considered this subject. He pointed out that prompt and proper care of an acute otitis media would usually prevent suppuration, or if it had already occurred would lead to recovery without loss of function. The cases arising in connection with pneumonia or grip were usually purulent and required heroic treatment. Both the quantity and quality of the discharge were important in considering prognosis and treatment. An odorless discharge might contain pathogenic micrococci capable of doing great mischief, while a fetid discharge sometimes contained only non-pathogenic organisms. In the case of children suffering from grip, pneumonia or the exanthemata, the physician should be ever watchful for ear complications. When pus was present in the middle ear, it should be evacuated, not through a puncture, but by means of a free incision made sufficiently low to secure good drainage. It was generally well to wait until there was some bulging of the membrana tympani, but this rule should not be observed in cases of otitis complicating pneumonia, grip, or the exanthemata. After securing drainage, the parts should be kept dry and lightly dusted with aristol, and the patient should be kept in bed on a fluid diet and with the bowels open.

**Etiology, Symptomatology, and Pathology of Otitis Media Suppurativa Chronica.**—Dr. Charles W. Richardson of Washington, D. C., presented this paper. The following were enumerated as the most frequent causes of this affection: (1) Improper treatment of the first stage; (2) certain constitutional disorders, *e.g.* tuberculosis, syphilis, and anæmia; (3) an acute suppurative otitis occurring in connection with certain acute infectious diseases; (4) differences in the virulence of the bacilli; (5) local changes, such as the development of granulation tissue, caries of the ossicles or tympanic wall; (6) retention of the discharge, and (7) local changes in the nasal and nasopharyngeal cavities. Caries, with necrosis of the ossicles, was the most common bone lesion. The stapes usually escaped. Otorrhœa was the most common symptom, pain rarely being present except when there was retention of the discharge. One perforation of the drum was the rule, and the border of the perforation was usually of a deeper color than the rest of the membrane.

**The Inefficiency of the Wilde Incision.**—Dr. J. M. Ray of Louisville read this paper. He said that the profession generally was not aware of the change of opinion that had taken place among otologists regarding this operation. Any operation which did not open up a communication with the middle ear and give free vent to the pus was unsurgical. The fact could not be too strongly emphasized that the antrum was involved in nearly every case of acute suppuration of the middle ear, and that the opening up of the one cell communicating with the tympanic cavity was absolutely necessary.

**Treatment of the Complications of Otitis Media Suppurativa.**—Dr. James F. McKernon of New York was the author of this paper. The cardinal principle for the treatment of lesions of the drum membrane was cleanliness and the application of some astringent, such as nitrate of silver. Later on, catheterization and vaporization of the Eustachian tube were useful in adults, and the Politzer bag in children. In such cases it was useful to close the opening in the membrane temporarily with collodion or by a bit of paper held in place by vaselin. If the mastoid were diseased the radical Schwartze-Stacke operation should be done. After the removal of the malleus and incus the tympanic walls and vaults should be curetted, the cavity wiped dry and a wick of iodoform gauze inserted for twenty-four hours. When there was tenderness over the mastoid an ice coil should be used for twenty-four hours. Only in case of improvement was it justifiable to continue the coil for twelve hours longer. Neither cold nor heat should be employed if the mastoiditis had lasted for several days or if œdema were present. To make the primary dressing comfortable to the patient in a mastoid operation, a piece of sterile rubber tissue, buttonholed in places, should be first introduced and the gauze packing placed on this.

**Intracranial Complications.**—Pachymeningitis was the most common of the intracranial complications. Sinus thrombosis most commonly occurred in the lateral or sigmoid sinus. There must be complete exposure of the sinus, and the part above the bend should be opened, for experience had shown that the aspirating needle was not to be depended upon. If a large clot were present it should be removed with the curette and the bleeding be allowed to continue long enough to remove septic matter. If, on opening the sinus, there was present a disintegrating clot, the vein should be resected, and the wound sutured to within a short distance of the bulb, a wick drain being inserted for forty-eight hours. The inferior petrosal sinus was frequently thrombosed in connection with the bulbous portion of the sigmoid sinus. About 37 per cent. of all cases of brain abscess were of otitic origin, and the most common site for subdural accumulation of pus was the inferior and posterior portion of the temperosphenoidal lobe. An aspirating needle of largec aliber might be used for exploring the brain, and when pus was found a sufficiently large opening should be made to secure thorough evacuation of the pus. The cavity should then be cleansed by gentle irrigation with warm saline solution or by mopping with gauze. The operation should be rapidly and gently done, and gauze wicks used for drainage. In exploring the temperosphenoidal region the bone should be removed at a point one inch and a half above, and the same distance behind, the bony meatus. The skull should be entered at a point as near as possible to the floor of the lobe to be explored in order to secure good drainage. When meningitis was present and could not be localized little was to be hoped for from surgical procedures. Metastatic abscesses in different parts of the body should be treated on general surgical principles. Facial paralysis not uncommonly followed middle ear suppuration. When it occurred several days after an operation for the removal of carious bone it was to be explained by concussion or by destruction of the facial branch of the chorda tympani. If it occurred immediately after an operation on the middle ear it was probable that the nerve had been severed. The local treatment of labyrinthian affections consisted in placing the patient in bed and administering hypodermically full doses of pilocarpin for six weeks. Potassium bromide in full doses was useful for the relief of annoying subjective symptoms. When cholesteomata were present, a Stacke operation should be done for their removal.

**The Technique of the Radical Operation for Otitis Media Suppurativa Chronica.**—Dr. Edward B. Dench of New York read this paper. He insisted that the head should be shaved for three inches around the ear and that the field of operation should be most carefully sterilized. The initial incision began one-quarter of an inch behind the insertion of the lobule and ran upward and backward behind the line of auricular attachment to a point just above the apex of the auricle, and then forward and downward. The anterior flap should be pushed forward so as to expose the posterior and inferior margins of the bony meatus. Ordinarily a small portion of the fibrous meatus could be preserved. In entering the mastoid antrum it was better to remove the cortex from below, and use the gouge until the inner wall could be seen. The fibrous meatus should then be divided posteriorly close to the tympanic ring. The partition between the mastoid

antrum and the external auditory meatus was broken down by chiseling upward. As soon as the prominence in the horizontal semicircular canal came into view the parts exposed should be converted into one large cavity. All diseased bone should be removed, but only such pneumatic spaces should be obliterated as were diseased. A small curette should be passed into the tympanic orifice of the Eustachian tube and any softened bone removed. The posterior wall of the fibrocartilaginous meatus should be split into two triangular flaps. Healing might be accelerated by the use of Thiersch skin grafts, the grafts being applied rapidly so as to avoid the filling up of the wound with blood under the grafts. The latter were held in place by packing in pledgets of cotton dusted with aristol. The first change of dressing should be made on the eighth day as a rule, and the pledgets should be gradually removed at subsequent dressings. Out of twenty-eight such operations, sixteen of primary and twelve of secondary grafting, twenty-six had been cured, and two cases were still under treatment.

**Some Unusual Mastoid Cases.**—Dr. H. Bert Ellis of Los Angeles presented a paper with this title. The first case reported was of interest because of the marked mental disturbance and the small amount of disease present. The second case had a right-sided facial paralysis. The mastoid antrum and cells were opened, and in sixteen days the patient was free from paralysis. Another case of paralysis, occurring in a women of thirty, was also treated successfully. Several other interesting cases were reported.

**Some Unsuccessful Cases of Aural Surgery.**—Dr. George L. Richards of Fall River presented a report of six cases, seen between 1897 and 1903. In the first case only a partial operation was done because of profuse hemorrhage, and the patient would not consent to a subsequent operation. The second case was one of cerebral abscess, which was temporarily improved by the operation, but pneumonia supervened and death occurred on the third day with a temperature of 107.8° F. It was thought that death was probably due to pneumonia rather than to the mastoid operation. In the third case there was a history of chronic otorrhœa. There was an abscess cavity found in the temperosphenoidal lobe, which was drained. The child continued to have an irregular fever and remained in a semi-stuporous condition. Death occurred with a temperature of 107° F. No autopsy was allowed, but examination of the wound showed that there was also an abscess of the cerebellum. In the fourth case several operations and explorations were done. A small epidural abscess was found, but no pus could be detected in the temperosphenoidal region. The internal jugular vein was found to be patulous and the lateral sinus contained fluid blood. On exploring the wound after death a collection of seropurulent fluid was discovered a little deeper than the exploration had extended, and he felt that if the knife had been carried forward and inward rather than directly inward the patient might have been saved. In the fifth case, although a mastoid operation was done and on exploring the brain an abscess cavity was discovered and drained, great difficulty was encountered in securing good drainage because of the tube becoming blocked with coagula. After death examination of the wound showed a large cavity communicating with the cerebrum. The sixth case was one of intense general infection. Several mastoid operations and explorations were done, but the man did badly, and eventually died. Dr. Richards said he reported this case because he felt if cold had not been applied and a mastoid operation had been done at the very first sign of trouble further infection might have been prevented.

Dr. Wendell C. Phillips of New York said he did not now use the ice coil once where a year or two ago he employed it in ten cases. His present efforts at abortive treatment consisted in keeping the patient in bed, restricting the diet, cleansing the ear and giving purgatives. The early operation was not only safer as regards the patient's life, but his hearing was likely to be better..

Dr. S. MacCuen Smith said that this instructive paper emphasized very well the need for early and thorough interference. The ear should be frequently examined in children suffering from grip or the acute exanthemata, even in the absence of ear symptoms, and early and free incision of the drum even before there was bulging would often prove to be the most truly conservative treatment.

Dr. Ewing W. Day of Pittsburgh said that the complicated cases referred to were chiefly met with in ignorant hospital patients, and the mischief had usually been done before the case came under observation. Usually the only symptom was pain, often in the frontal region.

**Two Cases of Thrombosis of the Jugular Bulb; Ligation of the Internal Jugular Vein.**—Dr. Norval H. Pierce of Chicago reported these cases. The first case was one of isolated primary thrombosis of the jugular bulb, terminating fatally. In the second case it was thought that the thrombosis had extended up the inferior petrosal sinus, causing secondary thrombosis of the jugular bulb.

Dr. E. B. Dench said that unless it could be demonstrated that there was a very free flow of blood through the sinus the latter should be opened at the primary operation. Puncture of the sinus was not of much value as an aid to diagnosis, and he had not seen a single case in which incision of the sinus under aseptic precautions for exploratory purposes had led to an unfavorable result. He preferred to use iodoform gauze rather than plain sterile gauze in cases in which the normal sinus was surrounded by suppuration.

Dr. Pierce said that even after having exposed the sinus for a considerable distance it was difficult to say whether the sinus might not be entirely occluded by a thrombus; hence he felt that it was proper to wait twelve or twenty-four hours rather than perhaps needlessly sacrifice the sinus. If fever and chills persisted he would open the sinus.

**The Technique of Maxillary Antrum Operations.**—Dr. H. Holbrook Curtis of New York read this paper. He said that irrigations through the natural orifice should be given a trial, and if this could not be used, and the tooth was suspected to be the cause, the tooth should be sacrificed and this opening utilized for drainage. He found it easy to make obturators of varying shapes out of sheet guttapercha dipped in boiling water and wrapped around a pencil. The alveolar puncture was made for inspection, not for drainage. When a radical operation had been decided upon, the periosteum should be divided and turned back, and the antrum entered with a chisel. With bone forceps the fenestration was completed, and then the cavity was cleansed by the successive use of strong carbolic acid and alcohol, followed by peroxide of hydrogen and saline solution. After three or four weeks the worsted packing could be stopped and a peg inserted. A still better operation was to make a large opening in the nasal fossa in addition to the fenestration already described. The operation through the inferior meatus had the advantage of requiring no anæsthesia. The perforation should be made about one-quarter of an inch above the nasal floor.

**Report of an Unusual Case of Frontal Sinusitis.**—Dr. Cornelius G. Coakley of New York reported this case, one of absence of septum in the frontal sinus. The other interesting features were the very large size of the sinus and the fact that it healed without any osteoplastic operation.

Dr. Chevalier Jackson remarked that the powerful transillumination that he had presented was capable of showing the septum in the frontal sinus if this sinus were normal. In cases of disease of the maxillary antrum he kept the opening in the canine fossa patent by the use of a small cannula of malleable metal. After it had been inserted it was retained by expanding this metal by the

application of an alligator forceps. This cannula could be removed with slight force and without injury to the tissues.

Dr. THOMAS HUBBARD of Toledo objected to the use of unvulcanized guttapercha on the ground that he had found it prone to retain septic matter.

Dr. C. G. COAKLEY said he had not seen a case of antral suppuration, in which the diagnosis had been made by puncture and washing, that had not recovered after a very few washings, and his present treatment was to wash out the antrum on alternate days with normal saline solution blowing out afterward the residual fluid The middle meatus was usually too much covered by the middle turbinate to allow of utilizing this approach. When antral disease was suspected he did not hesitate to puncture, for it was attended by almost no risk if done aseptically.

Dr. N. H. PIERCE believed it was good practice to attempt to enter through the natural opening before resorting to puncture.

Dr. FRED C. COBB said that the washing certainly relieved the pain, but he doubted if it materially shortened the duration of the disease.

Dr. CURTIS remarked that the test by heat and cold often enabled one to detect disease of a tooth.

Dr. Coakley, in closing, said that in his case there was absolutely no trace of a septum having existed. Dr. C. W. Richardson had just told him of a case in which the septum was present at the first operation, but had entirely gone by the time a second operation was done.

*Saturday, May 2—Third Day.*

**The Eustachian Bougie; Its Use and Abuse.**—Dr. M. A. GOLDSTEIN of St. Louis was the author of this paper. He said that the bougie should be used as regularly in every case of otitis media chronica as ocular inspection of the membrana tympani and inflation. He had not found it more objectionable to the average patient than the use of the catheter and inflation. If the bougie were not in proper position the act of swallowing would cause it to shift, and if on withdrawal a decided kink were noted at its distal end, it was an indication that the bougie had passed between the tip of the catheter and pharyngeal wall and had not entered the tubal canal. As the bougie passed the isthmus tubi it usually produced an unpleasant sensation in the ear. The introduction of the bougie should be repeated every second or third day, as a rule. The most frequent contraindications to its use were a feeling of fulness and dulness in the ear and an increase in the subjective symptoms. He had used the electrolytic bougie with from three to five milliamperes of current in fifty cases, but the results had been no better than with the ordinary whalebone bougie, although the electrolytic bougie could be made to pass more easily. He believed the action of the current was more in the production of a mild surface cauterization than a true electrolysis.

**The Possibilities and Limitations of the Electrolytic Bougie in the Treatment of Chronic Hypertrophic Catarrhal Deafness.**—Dr. ARTHUR B. DUEL of New York sent a paper on this subject. He had received twenty-five replies to a circular letter asking for the experience of the members with this method of treatment. Of this number two stated that the method had been found of no value; seventeen were of the opinion that the tubes could be more quickly opened; nine reported the breaking of the bougie in the tube. Experience had certainly shown that the tube could be more quickly opened, and more permanently than by any other method. The wires should be inspected each time before use. The nose and nasopharynx should be washed out with Dobell's solution and the parts cocainized before employing the electrolytic bougie. The bougie should always be passed on into the tympanum. At intervals of one minute an additional milliampere might be turned on for five minutes, but if the obstruction had not been overcome further treatment should be postponed for one week. Having succeeded in passing the bougie gentle inflation should be practised after two days. This treatment should never be undertaken hurriedly.

Dr. CHEVALIER JACKSON was of the opinion that the best method of treating the tube was by leaving it alone and treating the nose and nasopharynx. He had found no greater relief from the electrolytic bougie than from other irritants, and no permanent benefit.

Dr. GEORGE L. RICHARDS said that the method called for careful selection and plenty of time. In one case the bougie had broken off in the tube, and while it had never caused the patient any discomfort, he had always been at a loss to account for it.

Dr. WENDELL C. PHILLIPS said he had used the electrolytic bougie quite extensively, and believed it was capable of yielding very good results, though, in his opinion, the electric current was only of service in facilitating the passage of the instrument.

Dr. SARGENT F. SNOW of Syracuse objected to the electrolytic treatment of deafness on the ground that it was directed solely against the obstruction of the Eustachian tube, and ignored other important factors.

Dr. W. L. BALLENGER argued that this treatment could not be of much value because the same treatment applied to urethral strictures had been quite generally abandoned. The method was apt to prove dangerous in the hands of the average practitioner.

Dr. DUNBAR ROY was of the opinion that the whalebone bougie was capable of giving just as good results as the electrolytic bougie. He never practised inflation after the passage of either bougie because he had met with one or two very severe cases of emphysema of the neck as a result of this treatment.

Dr. E. B. DENCH said that after a large experience with the electrolytic bougie he felt that it presented no very great advantages over the ordinary bougie, though it certainly could be passed more easily. He could recall only one case in which the tube had remained more patent after the lectrolytic than after the ordinary bougie.

Dr. GOLDSTEIN said that tinnitus was often relieved better by the electrolytic than by the ordinary bougie, probably as a result of the galvanic stimulation.

**A Few Remarks About Some Every-day Ear Cases.**—Dr. J. E. SHEPPARD of Brooklyn sent a paper with this title. He found that the decade containing the largest, number of cases was between thirty and forty years of age.

**The Value of Exploratory Puncture of the Membrana Tympani.**—Dr. DUNBAR ROY was the author of this paper. Two cases were reported to emphasize the importance of a more general use of exploratory puncture of the membrana tympani, even in some cases presenting few, if any, of the usual indications for this procedure.

Dr. C. F. THEISEN believed the unnecessary puncture of the drum was not to be recommended because of the danger of introducing infection from without.

Dr. S. F. SNOW heartily commended the position taken by the reader of the paper, believing that a more general adoption of this method would markedly reduce the number of mastoid cases. He had never known puncture of the membrane, if properly done, to do any harm.

**Cases of Pyogenic Brain Diseases Associated with or Caused by Acute or Chronic Nasal Suppuration.**—Dr. THOMAS HUBBARD of Toledo presented this paper. He reported several cases to bring out the fact that ozæna was a very important factor, particularly when operations were called for, and that the prognosis was necessarily bad.

Dr. PRICE BROWN said that these cases should serve to impress upon the minds of all the fact that serious results were likely to follow the neglect to keep the parts clean in cases of atrophic rhinitis or ozæna.

**Further Observations of Tic Douloureux and Cranial Neuralgia from Intranasal and Sinus Pressures.**—Dr. SARGENT F. SNOW of Syracuse read this paper, based on

an experience with twenty cases in which excision of the nerve had been demanded. Each one showed marked intracranial pressure or a collection in some of the accessory sinuses. He thought fully 80 per cent. of these cases were dependent upon intracranial pressure.

Dr. PRICE BROWN said that when the pressure was circumscribed, as from the pressure of the middle turbinate on the septum, the pain was apt to be very intense,

**Life Insurance and Diseases of the Ear.**—Dr. WENDELL C. PHILLIPS of New York was the author of this paper. From a circular letter addressed to upward of thirty life insurance companies he had learned that these companies were anxious to obtain statistics on this subject. Some of the companies accepted these risks unless the discharge from the ear contained bloody or gritty matter, indicating bone involvement. Statistics seemed to indicate that dangerous consequences from suppurative ear disease were most frequent between twenty and thirty. He would personally consider a person having a continuous discharge with a foul odor as a bad insurance risk. A large perforation should not be considered as a guarantee against extension of the necrotic process.

Dr. E. B. DENCH said that he had formerly believed that when there was a large perforation of the drum, insuring free drainage, the person was quite free from dangerous complications, but at present he would rather say that while such a person was comparatively safe, he was by no means entirely free from danger. It was probable that the radical operation removed absolutely all menace to life, even though the discharge had not been completely controlled.

Dr. DUNBAR ROY said that he would be willing to make a fairly favorable prognosis with regard to the insurance risk if there was no distinct odor.

Dr. W. L. BALLENGER mentioned a case in which he had done the radical mastoid operation on a boy of eight years, and about six years later the boy had died of meningitis, supposedly of otitic origin. An odor was sometimes present in cases totally devoid of any dangerous element.

**Teratoma of the Ear.**—Dr. WILLIAM C. BRAISLIN of Brooklyn sent a report of this case. The tumor was attached to the periosteum of the bony canal, and was enclosed in a capsule. It appeared, on section, to be studded with particles of cartilage.

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**Disturbance of the Vasomotor Mechanism as a Factor in Diagnosis and Therapeutics.**—John P. Arnold holds that in many cases of chronic disorders, as constipation, headache, dyspepsia, insomnia, etc., while errors in diet, lack of exercise, overwork, etc., must be taken into consideration it will be found that the predisposing factor is a disturbance of the nervous mechanism controlling the parts affected. As practically all the vasomotor nerves traverse the spinal cord, and, aside from the governing center, have their cells located in the cord (with the exception of those dilator fibers present in the cranial nerves), and as every structural or functional disturbance in the organism is either preceded or accompanied by vasomotor disturbances, and as a compensatory relationship exists between the blood vessels of the spinal cord and the structures supplied by the posterior primary divisions of the spinal nerves, it will be seen that disturbances in different parts of the spinal cord will manifest themselves by disturbances of the circulation in the region supplied by the posterior primary divisions of the spinal nerves. No careful examination can fail to reveal that in chronic bronchitis, asthma, tuberculosis, and other affections of the respiratory tract, there are, in the region between the third and seventh dorsal, segments of the spinal cord, distinct manifestations of the circulatory disturbance within the cord. The author urges more frequent examination of the back in such patients.—*International Medical Magazine.*

# Therapeutic Hints.

**Enuresis Nocturna.**—

℞ Fl. ext. ergot.....
Sodium bromide.....
Tinct. of belladonna.....āā 10.0
Cinnamon water.....q. s. ad. 100.0
M. S. 4.0 three times daily for children of five years and over.

**Hæmophilia.**—Ochsner recommends large quantities of the white of eggs three or four times daily to lessen the tendency of bleeding. —*Medical News.*

**Colds in Old Persons.**—

℞ Spir. ammon. aromat..... ℥j.
Spir. chloroformi..... ℥ij.
Aq. menth. pip.....q. s. ad. ℥iij.
M. S. One teaspoonful every four hours.
—*International Clinics.*

**Hydrotherapy in Flatulence.**—Great relief may be obtained in flatulence and eructations, by the use of cold compresses applied to the abdomen in the shape of towels wrung out in cold water and left on over night.
—WORMLEY.

**Acid the Cause of Pain.**—Toothache in a carious tooth is frequently the result of an acid condition existing therein. This can usually be remedied by the application of a mild alkali to the cavity of the tooth. A small pledget of cotton saturated in a solution of sodium bicarbonate, or other alkaline salt, will answer the purpose.
—LAUDER BRUNTON.

**Headache from Ovarian Disease.**—

℞ Ammonii bromidi..... ℥vj.
Ext. hydrastis fl..... ℥ss.
Tinct. gentianæ comp..... ℥jss.
Aquæ..... ℥iv.
M. S. Dessertspoonful three times daily.
—SINKLER.

**Asthma.**—The following has been found to give great satisfaction:

℞ Tinct. phytolaccæ..... ℥ ss.
Potassii iodidi..... ℥ ij.
Syrupi simplicis.....q. s. ad. ℥ ij.
M. S. Teaspoonful four times daily.
—W. O. BUNNELL.

**Bromoform Emulsion.**—The following emulsion possesses the advantages that it contains a minimum of alcohol, permits of accurate dosage, and other medicaments may be added very easily.

℞ Bromoform..... ℥ ss.
Tinct. of tolu..... ℥ j.
Mucilage of acacia..... ℥ ij.
Syrup..... ℥ iv.
Spearmint water.....q. s. ad. ℥ ij.
M. Place the syrup in the mucilage and add the other constituents slowly with agitation. —SCOVILLE.

**Dyspnœa of Asthma.**—

℞ Chloral..... ℥ v.
Sodium nitrate..... gr. xlv.
Tinct. of stramonium..... ℥ iiss.
Simple elixir.....q. s. ad. ℥ iv.
M. S. Teaspoonful in water, every four hours.
—DAVIS.

**Prurigo of Hebra.**—

℞ Camphor..... gr. x.
Sulphur..... gr. viij.
Oil of chaulmoogra..... gr. iij.
Vaselin..... gr. Lxij.
Tar..... gr. xv.
M. S. Apply once daily. —BAISSADE.

**Corns.**—

℞ Resorcin.....
Acidi salicylici.....
Acidi lactici.....āā ℥ss.
Collodii flexibilis..... ℥v.
M. S. Apply locally for four or five days.
—*Merk's Report.*

**Rheumatism.**—

℞ Menthol..... ℥j.
Acidi salicylici..... ℥ij.
Methyl. salicylat..... ℥j.
Alcohol.....q. s. ad. ℥j.
M. S. Paint the joints with a brush and bandage them.

**The Treatment of Malignant Pustule with Serum.**—Reports of twenty-three cases of anthrax treated with Sclavo's serum come from Lazzaretti, at the clinic of the University of Sienna. One fatality was in a man aged sixty years, who was also an alcoholic, and who had malarial and syphilitic infection. The necropsy showed interstitial nephritis with early cirrhosis, and hemorrhage in the cerebrum, so that death could not be said to be due to the infection. All of the other cases were successful, though some of them were very severe. The course of the disease was cut short and the disfigurement was almost nil. Sublimate dressings were used locally.

**Chancroid.**—When the sore is not surrounded by an inflammatory zone, daily applications of Monsell's solution will be greatly beneficial. Either carbolic acid, 95 per cent., or 50 per cent. solution of zinc chloride, will give similar results, but with any of these remedies it will be necessary to cocainize before the application. All opposing surfaces should be kept apart by gauze and all surfaces should be powdered with some antiseptic powder. A solution of copper sulphate of 25 per cent. strength may be applied for periods of from fifteen to twenty minutes at a time when there is much inflammation present. And these applications may be made upon wads of cotton. The actual cautery is strongly indicated when there is any tendency to phagedæna. Moist antiseptic dressings and iodoform are indicated, and continuous drainage may be necessary in these cases. All crusts are to be removed and the sore is to be kept free from secretions.—LOUIS E. SCHMIDT.

## Books Received.

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THE AMERICAN POCKET MEDICAL DICTIONARY. By W. A. N. DORLAND, M.D. Fourth edition. 16mo, 566 pages. W. B. Saunders & Co., Philadelphia, Pa., Price, $2.00 net

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ILLINOIS STATE BOARD OF HEALTH. REPORT ON MEDICAL EDUCATION AND OFFICIAL REGISTER OF LEGALLY QUALIFIED PHYSICIANS, 1903. 8vo, 540 pages. Illinois State Register, Springfield, Ill.

A LABORATORY GUIDE IN URINALYSIS AND TOXICOLOGY. By R. A. WITTHAUS, M.D. Fifth edition. 32mo, long, 115 pages. Illustrated. William Wood & Company, New York. Price, muslin, $1.00 net.

PHYSICAL DIAGNOSIS OF DISEASES OF THE CHEST. By RICHARD C. CABOT, M.D. Second edition revised. 8vo, 319 pages. Illustrated. William Wood & Co., New York. Price, muslin, $2.50 net.

A MANUAL OF OPERATIVE SURGERY. By Sir FREDERICK TREVES, BART. 8vo, 750 pages. Illustrated. Volume I. Lea Brothers & Co., Philadelphia, Pa.

THE PRINCIPLES AND PRACTICE OF SURGERY. By GEORGE TULLY VAUGHAN, M.D. 8vo, 569 pages. Illustrated. J. B. Lippincott Company, Philadelphia, Pa.

YEAR BOOK OF THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK, 12mo, 200 pages.

**The Pathology of Smallpox.**—Wm. Royal Stokes bases the conclusions of his paper upon an autopsical study of five cases of smallpox. The early skin lesions indicate that the primary infection in smallpox takes place in the lungs, probably by inhalation. The poison, when it enters the circulation, shows a selective influence on the epithelium of the skin and respiratory tract, and many cases are probably not further affected. The serious and fatal lesions of smallpox are caused by the secondary infection from the skin and respiratory tract, and the infectious agent is usually the streptococcus pyogenes. This organism is so distributed throughout the lesions as to explain most of the visceral changes, such as thrombosis, local necrosis, and the various pulmonary changes. This streptococcic septicæmia is the most striking feature of fatal smallpox, and if it were possible to overcome this condition by a special serum, the mortality from the disease would be greatly reduced.—*Bulletin of the Johns Hopkins Hospital.*

**The Creosote Treatment of Lobar Pneumonia.**—M. N. Due, during the winter of 1901–1902, treated eighteen cases with creosote and carbonate of creosote with no death, and during the winter of 1902–1903 he had nine cases with one death. Following Dr. Van Zandt's formula, he usually gives one drop of beechwood creosote and 7½ gr. of salicylate of ammonium with syrup of acacia and water every three hours to an ordinary adult. There is usually copious sweating after the first twenty-four hours, but this can be avoided by reducing the dose of the salicylate to 5 or 3 gr. Creosote causes amelioration of all the symptoms; breathing is almost normal, there is no pain after the first twelve hours, no need of morphine or anodynes, no delirium. Van Zandt has tabulated 1,130 cases treated with creosote by different physicians in different sections of the United States. This table shows fifty-five deaths, or a little less than 5 per cent. The mortality under the expectant or symptomatic treatment is 20 to 25 per cent.—*The Alabama Medical Journal.*

# Medical Items.

**Contagious Diseases — Weekly Statement.** — Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending September 26, 1803:

| | Cases. | Deaths. |
|---|---|---|
| Measles | 69 | 5 |
| Diphtheria and croup | 249 | 30 |
| Scarlet fever | 68 | 4 |
| Smallpox | ... | ... |
| Varicella | 23 | ... |
| Tuberculosis | 264 | 139 |
| Typhoid fever | 118 | 12 |
| Cerebrospinal meningitis | ... | 5 |

**An Infectious Ambulance Service in Berlin.**—An ambulance service for the transport to hospital of children suffering from infectious diseases has been established in Berlin. There are to be stations in various parts of the city. After the conveyance of a patient the ambulance van will be disinfected.—*British Medical Journal*

**The M.A. Degree at Oxford and Cambridge.**—The most stupendous of all academic frauds is none other than the M.A. degree of either Oxford or Cambridge. Year by year hundreds of graduates exchange the B.A. for M.A. without having added one iota to their scholarship, and merely by virtue of a payment of money. From this dubious source the universities in question derive a handsome, but wholly indefensible, revenue, to the disadvantage of London M.A.'s, who have to face a stiff examination. It is surely an anachronism that a university should grant a supposed honor, not as a reward for intellectual—or even athletic—achievement, but solely in order to "raise the wind"—a policy which inflicts grave disadvantages upon the poor man who may have taken high honors, and yet be unable to buy a master's gown. When Oxford and Cambridge abolish their bogus degrees, it will be time enough to censure America.—*London Daily News.*

**Post-graduate Study in London.**—The Association of London Hospitals and Medical Schools is enlarging its scope. The London Hospital has recently joined the association which now embraces all the institutions recognized by the University of London for medical education, viz., *General Hospitals:* Charing Cross, Guy's, King's College, London, Middlesex, St. Bartholomew's, St. George's, St. Mary's, St. Thomas's, University College, and Westminister. *Special Hospitals:* The Brompton Hospital for Diseases of the Chest, the Hospital for Sick Children, Great Ormond-street, the London School of Tropical Medicine, the National Hospital for the Paralyzed and Epileptic, and the Royal London Ophthalmic Hospital. The wealth of clinical material in London is great, but its value for post-graduate instruction is diminished by the extent of the area over which it is spread and by the lack of connection between the various hospitals in which it is contained. The difficulty of lack of coördination, is to a large extent met by the present scheme. The fee is seven guineas for a three months' course and ten guineas for six months.

**Observations on Akatama, a West Central African Disease.**—Frederick Creighton Wellman defines this disease as an endemic peripheral neuritis of obscure origin, characterized by numbness and intense prickling and burning sensations in the presence of cold or damp, which are temporarily relieved by the application of dry heat. The trouble affects young and old, male and female. It is found oftener in men than in women, in the young and middle-aged than in the old, and not at all in children and Europeans. The severity of the symptoms and their character indicate that akatama is a true neuritis and not a neurosis. The erythema is particularly noticeable on light-colored natives. There is often some swelling, which generally subsides as the patient gets warm over a fire or in the sun. Excessive sweating of the affected part is sometimes noticed. These symptoms generally appear on the legs and forearms, sometimes on the thighs and arms, and occasionally on any part or all over the body. In severe cases the walk is peculiar, there being a tendency to curl the toes. The diagnosis is easy. The prognosis is good as to life and general health, uncertain as to relief. As to treatment, the writer has not had encouraging experiences. Some cases he has put on cod-liver oil and arsenic, others on the bromides; again, others on phosphorus. Generally, rubifacients were prescribed. He has never succeeded in a cure. The cases without treatment seem to do as well as those treated. In malarial cases quinine improved the general health, but seemed to have no effect on the akatama. The trouble is said sometimes to cease spontaneously after years of suffering.—*The Journal of Tropical Medicine.*

**Health Report.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U S. Marine Hospital Service, during the week ended September 26, 1903:

SMALLPOX—UNITED STATES.

| | | Cases. | Deaths. |
|---|---|---|---|
| Alabama, Mobile | Sept. 12–19 | 2 | ... |
| California, Los Angeles | Sept. 5–12 | 6 | ... |
| San Francisco | Sept. 6–13 | 2 | ... |
| Colorado, Denver | Aug. 22–29 | 1 | ... |
| Illinois, Belleville | Sept. 12–19 | 3 | ... |
| Chicago | Sept. 12–19 | 7 | ... |
| Maine, Brewer | Sept. 17 | Present. | |
| Massachusetts, Fall River | Sept. 12–19 | 3 | ... |
| Michigan, Port Huron | Sept. 12–19 | 2 | ... |
| Mississippi, Natchez | Sept. 5–12 | 2 | ... |
| Missouri, St. Louis | Sept. 12–19 | 1 | ... |
| New York, New York City | Sept. 12–19 | 1 | ... |
| Ohio, Lorain | Sept. 12–19 | 1 | ... |
| Pennsylvania, Carbondale | Sept. 14–21 | 1 | ... |
| South Carolina, Charleston | Sept. 12–19 | 1 | ... |
| Washington, 20 counties | Aug. 1–31 | 34 | 8 |
| Wisconsin, Milwaukee | Sept. 12–19 | 2 | ... |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Belgium, Liege | Aug. 29–Sept. 5 | 1 | ... |
| Brazil, Pernambuco | July 17–31 | ... | ... |
| Rio de Janeiro | Aug. 8–23 | 128 | ... |
| China, Shanghai | Aug. 1–8 | ... | 2 |
| France, Marseilles | Aug. 1–31 | ... | 11 |
| Paris | Aug. 22–29 | ... | 2 |
| Great Britain, Birmingham | Aug. 29–Sept. 12 | 5 | ... |
| Dublin | Aug. 29–Sept. 12 | 1 | ... |
| Leeds | Sept. 5–12 | 11 | ... |
| Liverpool | Aug. 29–Sept. 12 | 10 | 1 |
| Manchester | Aug. 29–Sept. 5 | 2 | ... |
| Newcastle-on-Tyne | Aug. 22–Sept. 5 | 12 | 1 |
| South Shields | Aug. 2–Sept. 5 | 5 | 1 |
| India, Bombay | Aug. 11–25 | ... | 17 |
| Mexico, City of Mexico | Aug. 30–Sept. 13 | 5 | 1 |
| Netherlands, Amsterdam | Aug. 29–Sept. 12 | 4 | ... |

YELLOW FEVER—UNITED STATES.

| | | | |
|---|---|---|---|
| Texas, Laredo | Sept. 24 | 2 | ... |
| | Sept. 25 | ... | ... |

YELLOW FEVER—FOREIGN.

| | | | |
|---|---|---|---|
| Brazil, Rio de Janeiro | Aug. 8–22 | 8 | ... |
| Colombia, Panama | Sept. 7–14 | 4 | ... |
| Mexico, Citas | Aug. 30–Sept. 5 | 24 | 8 |
| Merida | Aug. 30–Sept. 5 | 11 | ... |
| Motul | Aug. 30–Sept. 5 | 1 | ... |
| Monterey | Sept 23 | Present. | |
| Nuevo Laredo | Sept. 17 | 1 | ... |
| Progreso | Aug. 30–Sept. 5 | 1 | ... |
| Tampico | Aug. 30–Sept. 5 | 7 | ... |
| Tehuantepec | Aug. 30–Sept. 5 | ... | ... |
| Salina Cruz | Aug. 30–Sept. 5 | 4 | ... |
| Vera Cruz | Sept. 5–12 | 44 | 8 |

CHOLERA.

| | | | |
|---|---|---|---|
| China, Amoy | July 15 | Present. | |
| Shanghai | Aug. 1–8 | ... | ... |
| Straits Settlements, Singapore | July 25–Aug. 1 | ... | ... |
| Turkey, Syria | Aug. 17 | 472 | ... |

PLAGUE—INSULAR.

| | | | |
|---|---|---|---|
| Hawaii, Hilo | Sept. 15 | ... | ... |
| Honolulu | Sept. 11 | 1 | ... |
| | Sept. 12 | 1 | ... |

PLAGUE—FOREIGN.

| | | | |
|---|---|---|---|
| Brazil, Rio de Janeiro | Aug. 8–23 | 31 | 20 |
| Chile, Concepcion | July 11 | Present. | |
| Iquique | July 14–18 | 25 | 20 |
| | July 25–Aug. 8 | 28 | 15 |
| Pisagua | July 11 | Present. | |
| Valparaiso | July 11 | Present. | |
| China, Fuchau | Aug. 12 | Present. | |
| Hongkong | Aug. 1–8 | 9 | 9 |
| | Aug. 15–22 | 4 | 3 |
| Egypt, Alexandria | Aug. 15–21 | 8 | 4 |
| Damiette | Aug. 15–21 | 3 | 2 |
| India, Bombay | Aug. 11–25 | ... | 265 |

# Medical Record

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## Original Articles.

### FIBROCYSTIC TUMORS OF THE UTERUS; THEIR ETIOLOGY.

By MARY A. DIXON JONES, M.D., F.R.M.S.,
NEW YORK.

THESE are most remarkable formations; and especially interesting on account of their pathological structure. But they more demand our attention that they are invariably accompanied by grave and complicated conditions, giving evidence of long existing and increasing disease. Many of our special works in this department of medicine do not speak of, or refer to fibrocystic tumors of the uterus; even excellent works on pathology, which aim at giving an account of tumors in general, few mention, or make any reference to these peculiar growths; yet, *any uterus that is diseased, or whose tissues are inflamed, which is always the case in infection, there may be developed a fibrocystic tumor.*

The etiology of these formations, and the accompanying pathological changes, prove that there must be serious disease existing, which may be followed by most disastrous results. This is especially emphasized by the dense adhesions, and grave forms of peritonitis.

Many say these growths are very rare. Graily Hewett asserted this in 1863.[1] Terrillon in 1866 declared "Cystic fibroids of great volume were still very infrequent."[2] While Sir James Paget in 1853 said: "The formation of cysts are not rare in fibrous tumors."[3] Peaslee in 1872 wrote: "T. S. Wells assures me he meets with not more than one fibrocyst for fifty ovarian cysts. I have myself met with ten cases in the last two years, and have seen not less than fifty since my first operation in ovariotomy in 1850."[4] Pean said in 1873: "These cysts are exceedingly rare;"[5] in 1895 he said:[6] "That before 1865 Sir Spencer Wells had done 130 gastrotomies, and had found only three fibrocystic tumors of the uterus; and in 160 operations of the same kind Charles Clay had encountered only one." Pean in his statistics in 1895 tells of thirty cases of his own.

I have inquired of many of our prominent surgeons who do much work in this line, many of them have not had a case, nor could they tell me where a specimen could be found. Prof. James Ewing, pathologist to Cornell University, told me he had not a fibrocystic tumor of the uterus in the Cornell or in the Loomis Laboratory, but said that if he heard of one he would let me know. One eminent pathologist declared to me that he did not believe there was any such formation existing. I know of but one fibrocystic tumor of the uterus in any laboratory or museum in New York City, and this is given an account of in the MEDICAL RECORD, August 16, 1884, p. 177

J. Cruveilhier was one of the first to speak of these remarkable formations, saying: "The co-existence of a serous and a fibrous tumor the one and the other occupying the same cavity, is a remarkable fact."[7]

The histories of a number of cases of fibrocystic tumors of the uterus are given in "Les Bulletins de le Société Anatomique" of Paris, of which society Cruveilhier was president. This was probably the first medical society to report cases of this remarkable formation; and this society did most important scientific work in many directions. The very name of the society is well selected, and suggestive of the highest teachings; for anatomy is the source of knowledge for normal and pathological conditions. One is frequently impressed that the scientists of no nation surpass the French in their clear investigations, and their high and comprehensive pursuit of scientific truth. It was "The Famous Chirurgien Ambrose Paré,"[8] the preface of whose work bears the date of 1579, who gives the comprehensive and unexceptional definition: "Tumors against nature." What more could be said? The great pathologist Caternault, more than 200 years after, said, "Tumors of the nature fibrous are accidental productions." They are not accidental productions, they come from a fixed and specified cause; so the great pathologist of the nineteenth century does not come as near the truth as the famous surgeon of the seventeenth.

As fibrocysts of the uterus are such remarkable formations, and are comparatively rare, probably nothing will throw more light upon the subject, and show better their characteristics, their mode of formation, and their accompanying conditions than to give the histories of a few cases as narrated by different surgeons.

First a case given in Cruveilhier's great work, communicated to the society by M. Lenoir:

"The principal fibroid tumor occupied the lower portion of the uterus and was developed in the walls of this organ. A large serous cyst in the upper part of this tumor quadrupled its volume. This cyst seemed formed in the thickness of the fibrous tumor. The walls of the cyst consisted of two folds, the interior thin, resembling serous membrane, the exterior fibrous, very dense, and was continuous with the proper tissue of the uterus, of which it is perhaps a degeneration."

Pean[9] refers to a case which Cruveilhier presented before the society in 1852, more than twenty years after the preceding case:

"A voluminous cyst developing in the thickness of a fibrous tumor. This tumor was marked in its center by a cavity containing three liters of a liquid. The walls of the cyst were extremely thick and vascular."

No doubt there are many cases known only to suffering women, whose agonies were quietly endured, and whose sad histories are hidden with them in their last resting place.

In 1843 the following case of fibrocystic tumor was presented before the Anatomical Society of Paris.[10]

"A uterus, in the body of which were a great number of fibroid tumors, one especially had an enormous volume. There were eighteen punctures in the different cysts, following which the patient had peritonitis, to which she succumbed at the age

of forty-six. Upon the peritoneum which covered the tumor there were many adhesions."

M. Rieux[11] reported the history of a patient who had succumbed at the age of fifty-four in consequence of three abdominal punctures made at different times. Each of these punctures emitted a different kind of liquid; the first was sero-sanguinolent, the second was more red; the third had the appearance of dirty splenic. On the left side could be felt some hard tumors. At the autopsy there was a fibrous tumor of the uterus, a large cyst formed of two membranes which had contracted adhesions with the kidney and colon."

A most interesting case of a large fibrocystic tumor of the uterus is reported in the *London Journal of Medicine*,[12] by Prescott Hewett:

"Woman forty-seven years old, single, a large tumor, considerable fluctuation. The abdomen was tapped, and fifteen pints of thick fluid of a reddish color, and mixed toward the last with blood. Autopsy: The upper two-thirds of the tumor was composed of large membranous cyst with thin walls, the interior of which was inflamed, and filled with a quantity of dark-colored fluid. Toward the lower part the tumor was principally formed of more solid substance, and filled with an enormous number of cysts, varying from the size of a pin's head to that of a large orange. These cysts, which were lined with a thin smooth, delicate-looking membrane, were filled with a clear fluid containing a large quantity of albumin."

Washington L. Atlee gives the following case:[13]

"July, 1845, the patient noticed the tumor on the right side. It gradually increased in size, thought to be fibrous, but still ovarian. I informed the patient of the obscurity of the diagnosis, that possibly the tumor could not be removed without extirpating the uterus with it. I should not feel justified in doing that and would close the wound without further delay. May 22, 1849, operation. This brought to view a very vascular-looking tumor, large and engorged veins occupying the lower part. Several places on the peritoneal surface showed cystoform bodies filled with a yellowish fluid. Such being the case, it was considered impossible to remove the tumor."

In 1859 Mr. Baker Brown presented the following case:[14]

"From the fundus of the uterus grew a large multilocular fibrocystic tumor. The patient, aged thirty-six, had never had any children. Six years before she noticed an enlargement of the abdomen, tumor continued to increase in size. In March, 1859, was tapped, and four pints of dark fluid drawn off. Operation December 11, 1862. The tumor was so fixed it could not be removed. Mr. Brown then tapped the cyst that was first seen, and closed the wound. On the 19th of December there was a sudden burst of fluid from the central cicatrix, which evidently proceeded from the cyst that had been tapped. On the 28th of December the tumor began to refill. She gradually sank and died on the sixth of January. Post mortem. The tumor was formed of a mass of nodules, or round tumors separated from each other by large cysts in which a peculiar fluid was contained."

Mr. Fletcher reports the following:[15]

"Widow, aged forty, had five children and three miscarriages. The youngest child eight years old. On admission she presented the appearance of a person at the full period of pregnancy. Tumor movable, fluctuation distinct. Diagnosis, multilocular ovarian tumor. On May 14 the operation was performed. An incision was made five inches in length. Very firm adhesions were found on each side of the abdomen, and it required considerable force to break them down. Some cysts were punctured. It was found that the tumor sprang from the posterior surface of the uterus."

Sir Spencer Wells:[16] "The tumor was removed by a gastrotomy April 30, 1863, from a single lady aged fifty-three. It was a pedunculated growth from the right side of the fundus of the uterus, consisting of a solid fibroid mass, which weighed sixteen pounds and nine ounces, and of a large cyst, which held twenty-six pounds of fluid, and four pounds of lumpy masses of decomposed fibrin. The tumor was removed with nearly as much ease as an ovarian tumor, but the patient sank from shock four hours after the operation."

Sir Spencer Wells also gives the following most interesting narrative:[17]

"Patient forty-five years old, single. The abdomen was enormously extended, measuring fifty-six inches at the level of the umbilicus. The patient was tapped above the umbilicus, removing about thirty pints of clear viscid fluid. Fluctuation was also detected in different parts of the tumor. The tumor weighed about twenty pounds. I made an incision below the umbilicus about six inches long, and exposed what appeared to be two ovarian cysts separated by a deep fissure. I tapped the one on the left side, and about ten pints of blood serum escaped; two or three more pints of similar fluid escaped after puncturing again within the cyst first opened. The tumor was found to consist of fibrous tissue, split up in little cavities of various sizes, containing serum more or less transparent. Toward the interior extremity they seemed to be in a process of fatty degeneration, and in several places calcareous masses were discovered. In several places small blood cysts were demonstrated. The largest cyst was the size of an adult head. The body was examined after death. The tumor we did not attempt to remove consisted partly of a cyst and partly of a fibrocystic tumor. This tumor was an enormous mass eighteen inches in length and sixteen inches in breadth."

Keberle's fourth case was a fibro cystic tumor. The patient, thirty-six years old, for six years had had an abdominal tumor, which was considered ovarian; her health was good, menstruation regular. Ablation of a great part of the uterus. Death.

Now in this case, if the good doctor had done total hysterectomy, cleared out the whole, it would have been a quick and easy operation. All the cases prove that an early operation is the best way to save life.

Terrillon: "A voluminous cystic fibroid." Mrs. X., aged forty-two years, married, the mother of two children, of which the youngest is twenty years old. Seven years since she felt the growth. The abdomen gradually augmented till 1885, then it increased very rapidly, and she entered la Saltpetriere March, 1886, tumor large and fluctuating. The diagnosis given: Tumor cystic, probably ovarian, but a part solid and voluminous. Operation March 6. The abdomen opened; a tumor of the uterus, and fluctuating. It was tapped and a liter of transparent fluid flowed out. A second tumor was removed having a hard, firm consistence. The tumors were removed and the pedicle fixed in the abdominal wound. The patient made a good recovery. The case was reported in *Revue de Chirurgie*, 1886, p. 664."

Horatio R. Storer of Harvard University:[18] "Patient forty-seven years old, unmarried. A few years ago she became conscious of the existence of an abdominal tumor. This has steadily increased, and the abdomen is now larger than a woman at

full term. The patient is emaciated and cannot lie down without dyspnœa, and desires relief. The diagnosis was left undecided. Being convinced that the tumor, whatever its nature, would, if not removed, ultimately destroy the patient, I operated. An incision of five inches. The tumor was of a dark purplish color, and the omentum adherent. There were extensive adhesions to the peritoneum. There were forty tumors, ranging from two to three line to perhaps four inches in diameter; a small number of considerable size were filled with calcareous matter. There were also cystic formations that were highly vascular, some of the vessels being of very large size. The tumor was removed, and the patient made a good recovery."

Sir Spencer Wells:[10] "Fibrocystic tumor with diseased uterus and ovaries. The patient married, thirty-eight years old. The tumor had been tapped three times between 1863 and 1866, about twelve pints of fluid escaping each time. The attempt to save life by removing the tumor was made, but it was impossible to remove it. There was general chronic peritonitis, and the patient died in thirty-two hours."

R. Virchow,[10] speaking of these formations, says: "A part of the tumor is transformed into a cyst, a cyst of the wall uterine, or cystic myoma. This form which has frequently been described by English authors as tumor fibrocystic, and is most frequently with ovarian tumors (p. 395). "A woman came to consult me for a tumor which now filled the abdominal cavity. The sick one suffered greatly from the pressure exercised by the tumor. By the vaginal touch I discovered posteriorly a part that seemed fluctuating. I advised that this portion be punctured, but it was not done and the woman died some months after. One found a voluminous tumor thirty centimeters in diameter, adherent on all sides that one with difficulty could raise it out of the abdomen. I thought for a long time it was an ovarian tumor, a part solid and a part cystic."

Thomas Bryant, surgeon to Guy's Hospital:[11] "Fibrocystic disease of the uterus and both ovaries. Extirpation of the whole. Recovery. Miss M., twenty-six years old, unmarried, consulted me April, 1871, for an abdominal tumor. It was considered by the former attendant as ovarian. She was about as large as a woman in the full term of pregnancy. May 19, operation. A long incision was made, and at once the uterine nature of the growth was recognized. The tumor removed weighed eight and one-half pounds."

Fibrocystic tumor of the uterus.[12] Mrs. H., aged thirty, tumor reaching to the umbilicus, fluctuation. Abdomen opened, tumor tapped, thick, straw-colored fluid came out. Suprapubic hysterectomy. Patient died in nine days.

B. F. Baer:[13] "Patient forty-two years old, single. Her abdomen was as large as the full term of pregnancy. She had been tapped three or four times, and about two gallons of fluid removed at each tapping. There was decided fluctuation. Operation October, 1891. An incision of four inches in length showed the tumor to be universally adherent. At several parts where the tapping trocar had entered, there were strong organized bands which required ligatures. I tapped the tumor, about two gallons of fluid resembling pus escaping. The tumor was removed, the patient made a good recovery."

The most remarkable example of a fibrocystic tumor of the uterus is the one before referred to, and mentioned in the MEDICAL RECORD, August, 1884. The patient, a negro woman fifty years old, the mother of several children. The abdomen measured, at the largest circumference, 68 inches, and from the ensiform cartilage to the umbilicus 27 inches. I tapped the patient on May 6, a muddy, chocolate-colored fluid flowed. After several gallons had discharged the fluid came quite slowly, and another trocar was introduced four or five inches higher up. From this puncture came a clear, slightly amber-colored fluid. Eight gallons and seven pints of fluid were withdrawn, a considerable amount remaining, which, with the solid part of the tumor, left the abdomen still quite large. Death occurred on the sixth day after being tapped. Post-mortem. Incision through the abdominal walls and peritoneum showed a network of veins over the surface of the tumor, some of which were so large that we took them at first glance for intestines adherent to the tumor. The tumor was attached by a pedicle about an inch in diameter to the posterior portion of the fundus uteri."

The solid portion of the tumor, as stated, weighed 14 pounds. I would have been more than glad to have had a small macroscopical specimen for microscopical investigation. It would not, in the least, have diminished the value of the specimen, but it would have given a flood tide of light on the subject of fibrocystic tumors. Still, from my studies in pathology, and pathological structures, I think I can give a solution of the formation of fibrocystic tumors of the uterus as I was able to give the origin of fibroid tumors of the uterus before I made my last series of investigations; and I felt so positive of the fact that I made the assertion in the *Annals of Gynecology and Pediatry* some months preceding, and which was fully proved by my further demonstrations as presented in the MEDICAL RECORD, September 14, 1901.

Fibrocystic tumors of the uterus usually exhibit most serious conditions. The uteri which contain them, or to which they may be attached, show a more advanced stage of disease than with the ordinary fibroid tumors. They also show more serious. more complex, and more complicated pathological changes.

A few incidental remarks in the above narrations give a little insight as to the serious character of fibrocystic tumors of the uterus. Atlee says in his case: "A vascular looking tumor, large and engorged veins."

This proves active pathological processes. Fletcher remarks: "Very firm adhesions, and it required considerable force to break them down."

Firm adhesions could be formed and strengthened only by long continued and destructive inflammation. Storer says: "The tumor was deep purple, and the omentum was adherent by extensive adhesions to the peritoneum."

The conditious here mentioned show profound and chronic inflammation, and serious pelvic disease. So of Sir Spencer Wells's case, when he tells us "There was general peritonitis." Also Dr. Baer's case, "Tumor universally adherent "

We note that these tumors are almost invariably diagnosed as ovarian. Mr. Hakes said, in the *British Medical Journal*, March, 1863, that "He thought it almost impossible to diagnose in some cases between uterine and ovarian tumors." Graily Hewett says: "It seems impossible to say how they are to be distinguished." Virchow said of one of his cases: "I thought for a long time it was an ovarian tumor." In Les Bulletins de le Société Anatomique. as early as 1849, Vol. 22, page 404, we find the following: "M. Gosset showed a uterus presenting some tumors which had been taken for cysts of the ovaries. Pean reminds us that "Lizars, in 1824, was about to remove a cyst which he supposed

to be a cyst of the ovary. Seeing that it was a cyst of the uterus, he ventured no further, closed the abdomen and left it in place." Paget, in his "Pathology," Vol. II, page 138, calls attention to the difficulty of diagnosis, and says: "There is a preparation in the museum of the College of Physicians, sent by Sir Everard Home: A portion of a a uterus in which a very large encysted tumor had formed. The patient had been twice tapped, and the cyst emptied. The case, during life, was supposed to be ovarian dropsy."

Terrillon says: [24] "No special sign can differentiate this fluctuating tumor from a cyst of the ovary." Virchow says: [25] "The most part of cases known have been taken for ovarian cysts, and as such punctured; unhappily, even the punctured has almost always given a result unfavorable."

Pean declares[26] that: "Almost all the operations for tumors fibrocystic, have been accompanied first by errors of diagnosis, and afterward by non-success. It is necessary not to be astonished if a great number of this nature rest.[27] Pean continues: "One knows nothing of the fashion by which they are developed; and it is almost impossible to say what has been the point of their departure. The etiological conditions that preside at their apparition are the same as for the ordinary myoma, and are surrounded by the same obscurity."

In 1873 Pean says (p. 99): "What is the mode of formation of these cavities in the fibroid bodies? What are the laws that preside over their development? This question at the same time so interesting and so difficult, is far from being solved in spite of the numerous labors of which it has been the object."

Sir James Paget says: "The whole subject in relation to the origin of cysts needs further consideration." Terrillon also declares "The history of this affection is still very incomplete. As to the origin of cysts, one knows no satisfactory theory." Virchow says: "The anatomical characters, and the conditions that favor these morbid productions are little known. It is impossible to demonstrate the origin of each isolated tumor.[28] . . . (p. 391). The most part of cases known have been taken for ovarian cysts, and as such punctured. . . Even after they have been punctured and evacuated, they have been believed to be ovarian tumors." Schauta said, in 1890: [29] "It is to be lamented that our knowledge of the causes of this new formation, fibrocysts of the uterus, has still remained so limited."

Many theories have been given as to the origin of fibrocystic tumors of the uterus. The great surgeon, Thomas Bryant, after giving his case as mentioned on page 7, says: "The formation of the cyst was well shown to be due to fatty degeneration of the fibroid tumor."

But how can a fatty degeneration of a tumor form a cyst? How, in the first place, did the tumor have the power to change into adipose tissue?

Sir James Paget says in his pathology: "It may be due to local softening, and liquifaction of a part of the tumor, with effusion of fluid in the affected part."

But I ask this great pathologist, how can a fluid come except from a natural secretory organ; have the surrounding structures or any tissue, normally, the power to make a fluid, or have "local softening, and liquifaction?"

Right conclusions can be drawn only from a correct knowledge of pathological conditions. This eminent and distinguished pathologist, Sir James Paget, has written much that is most excellent. His pathology is one of the best. When I was in London in 1886, Sir James called to see me, probably to discuss some pathological questions. Afterward I had a most delightful visit from Sir James and Lady Paget. Just before an article of mine appeared,[30] and for a time, there in London, it caused some little discussion. Sir Spencer Wells, and a number of others spoke in regard to the paper. Subsequently, at a meeting of the London Medical Society (November 1, 1886), the paper was referred to, and quoted in a most kind and complimentary manner. The principal address on this occasion was by the great surgeon, Lawson Tait, which address was published in the *New York Medical Journal*, November, 20, 1886.

Pean says:[31] "Whatever may be the terms in which they are presented by the authors, the theories relative to the formation of these cysts in fibrous bodies are two: (1) The deliquescence of a portion of the fibroma; (2) The dilatation of the lymphatics and the formation of sinuses at the extremity of the several vessels. The first opinion was accepted by Virchow. Klebe attributed them to hydropsia and œdema."

None of these theories seem entirely satisfactory nor do they give the true explanation. "Deliquescence," according to Webster, "capable of attracting moisture from the atmosphere and becoming liquid."

Will a collection of moisture change a hard fibrous tumor to a cyst? And for dropsy, there must be some special pathological condition.

Pean states (p. 283) that "Billroth and Koeberle were the first to give the hypothesis, that at the point of departure it might be a lymphatic dilatation. This opinion has been sustained by numerous researches and demonstrations," and, says Pean, "It appears to be true for the following reasons: (1) A fibrocystic tumor resembles a lymphangioma. (2) In many fibrous tumors which we have raised, the periphery was very rich in a network of lymphatics. Some vessels dilated communicated directly with the small cysts."

Every diseased structure has a rich network of lymphatics. (See Sappey's magnificent work on the lymphatics). Pean attempts to sustain this idea by referring to the fact that "the researches of Doleris demonstrated that during pregnancy the peripheral lymphatics made some ecstasies in the fibrous bodies; and that if these productions are at the same time œdematous, the serous fluid can accumulate in the newly-formed sinuses, distend, and convert them into true cysts."

Then "serous fluid can convert lymphatics into true cysts?" Pean further attempts to prove this theory from the researches of W. Muller, that fibrocystic tumors present striking resemblances to lamphangiome cysts described by Wagner, and that, according to all probability, the mechanism of the production of the lacunes is the same in the two cases: they result from the enlargement of the lymphatics.[32]

Wise men may make theories, but the only way to learn the truth is from nature's book. Lymphatics cannot change themselves into cysts. Some of the cysts are of vast dimensions, how will the lymphatics manage? No anatomical structure can change itself into another; nor is it possible for one structure to create another, or a part of another structure. Not one of them has creative powers.

The fact that the walls of the different cysts are so different in their structure would suggest that the different cysts have different pathological conditions and that each one has a different local pathological origin. Cruveilhier in his first case, about 1828, called attention to the two folds of the wall of the cyst, the interior thin, resembling serous

membrane, the exterior fibrous and very dense." M. Lenoir said of his case, "Walls extremely thick and vascular." These differences in the walls of the cyst would not only indicate very different pathological conditions, but also very active life changes. In the first case quoted from the Bulletins of the Anatomical Society, Paris, "The cyst was formed of two membranes which had contracted adhesions with the kidneys and colon." Thus proving active pathological conditions. Another states: "A network of veins on the surface of the tumor." Again showing profound pathological changes, and also, that the membrane was in active inflammation. The case of Hewett: "Membranous cysts, with thin walls, the interior of which was inflamed."

*The fact that different kinds of fluid are found in cysts of the same tumor, would indicate again that the cysts have different pathological conditions*, and are not dilatations of the same structure. These different fluids are certainly the result of different states or conditions of the walls of the separate cysts, and of the conditions of the surrounding tissues. Thus the *different kinds of fluid in these cysts not only indicate serious and complex conditions, but that the tissues are undergoing profound life changes.*

The case of Hewett: "One cyst filled with a quantity of dark colored fluid;" other cysts "were filled with clear fluid containing a large quantity of albumin." One of Sir Spencer Wells' cases: "From one cyst removed some thirty pints of clear viscid fluid. Another cyst was tapped and ten pints of bloody serum escaped." Baker Brown's case, "four pints of dark colored fluid drawn off." The case of Virchow: "The tumor had great irregular cavities filled with bouillie infecte, all appeared to be a mass of purulent cysts." In the case reported in the MEDICAL RECORD, from one cyst, "a muddy chocolate fluid flowed;" from another cyst came "a clear amber-colored fluid."

There is but one way to explain the changes in the tissues, or how these new formations are, or can be developed; or to explain the development of any new pathological structure: And that is, *by the normal tissues being reduced to a medullary condition, and from this life material any new growth may be formed*, or any pathological structure developed.

Cysts of a fibroid tumor are formed by the tissues of the tumor being reduced to a medullary condition; and, from these primal elements, any new formation may eventuate.

Fibroid tumors of the uterus are pathological formations, and are themselves developed from abnormal conditions. Since 1900 I have been studying the structure of fibroid tumors of the uterus, many different sections of many different tumors; and, invariably, and in every instance, I have found that the tissues of the fibroid were in a profoundly diseased condition, and the structure undergoing continual changes. Again and again, I have seen the tissues reduced to a state of acute and subacute inflammation, different foci of inflammation, and repeated attacks. The structure of the tumor, in every part, in a state of pathological change. I have seen the inflammation in the tissues change to fibrous connective tissue; and this new fibrous connective tissue again breaking down into inflammation, or what is called inflammation, but what is really medullary tissue, or life material; and from this life material, or life elements, or embryonal tissue, any pathological structure may be developed.

Thus a fibroid tumor may develop within itself any growth. Life elements are unceasing in their activity, and marvellous in their products. By many distinguished authors in the past, these new formations in fibroid tumors, or, as they are called by many, "degenerations," have been mentioned. The eminent author, Amasset, in 1842, said: "The remarkable transformations of the body fibrous are well known." Caternault[33] says: A body fibrous can have a great many transformations, soft, hardening, osseous, or calcareous. In St. Thomas' Hospital, London, there are two uterine stones so hard that one has been able to saw and polish them as pieces of marble or ivory."

Bayle, in the early part of the eighteenth century, spoke of fibroid tumors being developed in the walls of the matrix, and of their ossification. Equally as early Cruveilhier, under chapter, "Maladies of the uterus," says: "Of these small tumors some were fibrous, some were osseous, in them the petrifaction was made of a multitude of points, which constituted calcareous tubercle extremely hard, disseminated in its fibrous substance very dense." In Transactions of Pathological Society, London, 1890, page 204, an account is given of some tumors removed by hysterectomy. One of these tumors was softened into areas of translucent gelatinous material. Many of these areas had broken down so much as to form myxomatous degenerative cysts. In 1890 a myofibroma, which I removed by total hysterectomy, the tumor had changed into myxomatous tissue.

Monad presented to the Anatomical Society of Paris the uterus of a woman aged thirty-three years who died three days after confinement. The fibrous tumors were very multiplied. Some were hard and voluminous; the most part were serous and infiltrated with serous fluid, and some infiltrated with blood. The deep layers of the uterus were destroyed by gangrene and softening."

When the tissues of a uterus, or of a fibroid tumor are reduced to medullary tissue, any structure may be developed in either of them, *and so pus may be formed*. Virchow says:[34] "The work of ulceration is complex in theory." So it is. Robert Lee tells of a patient who consulted him in 1843. Upon opening the uterus after death there flowed out a quantity of fetid pus. The whole lining membrane of the uterus was inflamed, and near the surface, appeared softened and disorganized.[35] Dance[36] reports the history of a woman forty-two years of age who died of peritonitis; at the autopsy the womb was found to be enlarged, and in the anterior wall a purulent formation which contained eight or ten ounces of pus. Boscredon (tome XXIX) tells of an abscess found in the center of a uterine fibroid tumor. No doubt an abscess often exists in these tumors, though not recognized; for when the tissuesof a tumor are reduced to a medullary condition any new formation may be developed, calcareous or osseous, fatty degeneration, or the formation of pus. Any pathological structure may come from these medullary elements.

We now enter the secret laboratory of nature. Who can explain? In 1888 (*New York Medical Journal*, August 25) I spoke of cancer being developed in a fibroid tumor. This growth may come as naturally from the medullary material of a fibroid tumor as may come any other growth. Bayle speaks of cancer of the matrix, and alleges that "It is a degeneration of these tumors." Is it not rather a new development from the life elements, or from the medullary material? Before the New York State Medical Society, January, 1901, I presented the origin and formation of cancer, saying: "That whatever might be the microbes or germs, that for the development of cancer, the tissues must

be reduced to a medullary condition, or to their life elements. These are the anatomical and pathological processes. I have read them again and again in nature's book, which Harvey says is open and legible."

Virchow declares: "The theory of the transformation of fibrous tumors into cancer rests still in confusion. It can only be a question if by exception a myoma can become cancerous."

FIG. 1.—A fibrocyst of a fibrous tumor of the uterus; *w*, *w*, cyst wall; *i*, *i*, *i*, fields of inflammatory corpuscles showing intense inflammation; *c*, *c*, *c*, cystic canals in process of formation.

A myoma when reduced to medullary or life material, or to their primal elements, may form any growth or develop any pathological formation. It is thus that osseous or calcareous tumors are formed. In the same way pus or cancer may be developed. As I have found in every fibroid tumor I ever examined microscopically, it was in a state of disease and changing pathological conditions; and, from the medullary or life material, new formations were continually being produced. The new formation may be only fibrous connective tissue, or it may be pus, or it may be cancer. This life material is in a constant state of activity, and endless in its possibilities; and from it may be developed any pathological new formation.

*It is thus that fibrocysts are formed in fibroid tumors, or in diseased uteri.* The tissues of the fibroid tumor, or of the uterus become reduced to their life elements, and, from these life elements or medullary material, a cyst may develop.

It is in the same way that ovarian cysts are formed. One of my first observations in the study of the pathology of the ovaries, was "*the line of inflammation around every small cyst.* I thought at first this was only an indication of the very diseased condition of the organ." I also said in the *New York Medical Journal*, September 28, 1889: "In one ovary there were small cysts, the walls of which were formed by stratified layers of inflammatory tissue. In the microscopical study of the ovaries I have frequently found these small cysts, and never have seen one but it was surrounded by newly-formed layers of inflammatory tissue, and frequently layers of secondary fibrous connective tissue, the latter indicating long existing disease. The small cysts have a history of suffering; they are either the outcome of inflammation, or have produced the inflammation." I did not know how near I was to the truth in saying, "they were the outcome of the inflammation." I said in the *American Journal of Obstetrics*:[37] "I could see again and again the intense inflammation in the cyst wall and in every instance when the cyst wall was thus inflamed it was separating, crumbling, and the parts passing into the cyst fluid. The cyst was increasing in size, and the intense inflammation of the adjoining tissues showed that it would grow yet larger. Any tissue of the ovary, any structure, can become inflamed; and in any tissue, or in any structure in which inflammation exists a cyst may be developed. This is the beginning and the origin of ovarian cysts, and the only condition that can produce a cyst of any nature. There is first inflammation, the tissues reduced to an embryonal condition, and then the new growth, the cyst formation."[38]

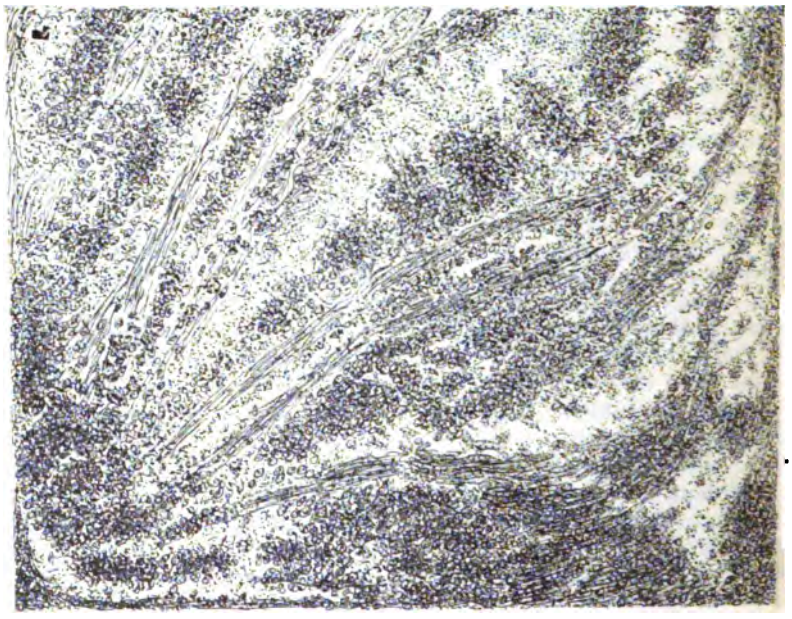

FIG. 2.—Another section of a fibrocyst of a fibroid tumor of theuterus; *i*, *i*, *i*, fields of inflammatory corpusles; *c*, *c*, *c*, cystic canals.

Nature's plans are always simple and beautiful, and always according to the same fixed laws. When, in 1901, I said that for the formation of a fibroid tumor the tissues of the uterus must be reduced to a medullary condition, I was only saying what I read in nature's book, and it was repeatedly presented and proved. The conclusion spoke for itself. I saw it so clearly that I said in the *Annals of Gynecology and Pediatry*, April, 1901, page 460:

"Fibroid tumors are diseased products and the result of diseased conditions. They can develop or be produced only by the tissues of the uterus being more or less inflamed, or reduced to inflammatory corpuscles, or to a medullary condition. Only in this way can any new growth be developed, or can the uterus give origin to fibroid tumors."

But even after this I wanted to be still more assured. Up to that time I had studied principally

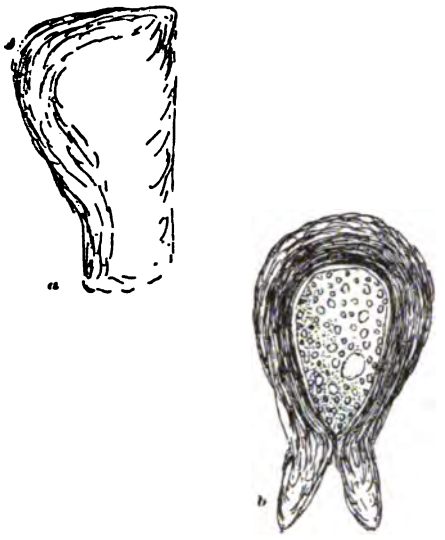

Fig. 3.—*a*, Half section of the uterus; *b*, section through the organ showing the tumor.

my own specimens of fibroid tumors which I had removed by suprapubic, or total hysterectomy; so I wanted the great fact still further confirmed by the specimens of others. It was at that time that Prof. W. M. Polk gave me a letter to Prof. James Ewing of Cornell University, who kindly took me through the Cornell and Loomis laboratories, giving me a macroscopical specimen of any tumor I might select. All these I prepared according to the best methods. These sections of the uterus near the fibroid tumors, enclosing a portion of the tumors, I studied most carefully; all confirming and giving most beautiful illustrations of the same. But as I then said, I did not feel more convinced; but it was an added authority to make the statements, as I did in the MEDICAL RECORD of September 14, 1901.

I wanted to know the truth. If I was wrong I wanted to see my mistake; but all confirmed me in the great truth which I read in nature's book.

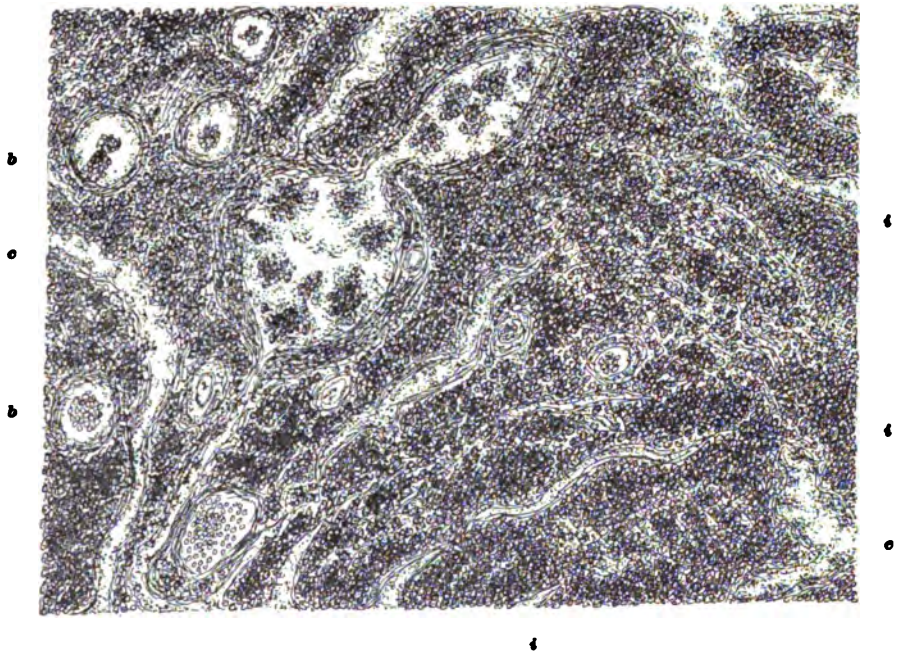

Fig. 4.—Section of a uterine tumor; *i*, *i*, *i*, inflammation; *c*, *c*, *c*, *c*, fibrocysts; *b*, *b*, *b*, blood vessels.

Thus in this paper, I have spoken of the pathological changes that may take place in fibroid tumors of the uterus, how they may be reduced to medullary material, and from these life elements may be developed any new growth.

In the same way, the uterus, when diseased, when by inflammation the tissues are reduced to a medullary condition, fibroid tumors themselves may be developed. This great fact was presented again and again.

At the meeting of the Academy of Medicine, Section of Obstetrics, April, 1903, an eminent surgeon remarked, that "Fibroid tumors caused degenerations of the uterus." This is not according to the teachings of pathology. It is from a diseased condition of the uterus that fibroid tumors are developed. Fibroid tumors do not cause the disease, but it is the existing disease of the uterus that causes the fibroid tumors. From the same disease of the uterus, cancer or carcinoma may be developed in the cervix or in any part of the uterus. So the eminent surgeon, Prof. W. M. Polk was perfectly correct in questioning whether carcinoma or cancer of any part of the uterus was directly dependent upon a fibroid of the uterus.

A fibroid tumor of the uterus does not, and cannot produce a cancer of the cervix, or in any part of the uterus. It is disease of the uterus that causes the development of a fibroid; so it is disease of the uterus that causes the growth of cancer or carcinoma.

Two other surgeons at this meeting remarked that fibroid tumors caused disease of the ovaries, one saying: "A great many diseases of the adnexa are really due to the presence of fibroids." The other remarked that, "Degenerative changes of the ovaries and tubes were undoubtedly caused by fibroids or fibromyomata."

It happened that immediately after the addresses of the last two surgeons, the chairman invited me to speak. I made the emphatic statement that fibroid tumors of the uterus did not cause disease of the "adnexa"; but that it was the disease of the uterus that infected these organs and caused them, the tubes and the ovaries, to be diseased.

I remarked further that Koeberle, in reporting his cases of the removal of fibroid tumors, repeatedly said "the ovaries were perfectly healthy." The ovaries are never perfectly healthy when there is fibromyoma of the uterus. The disease of the uterus, that caused the fibroid tumor, infects the uterine appendages and necessarily caused them to be diseased, sometimes most profoundly. In 1888 I asserted that in case of a fibroid tumor of the uterus the uterine appendages were always diseased. I also then said: The fibroid tumor could not have produced the disease of the appendages." Still the disease of the tubes and ovaries might be so great

that if there were no other, more direct, and immediate source of infection, they might cause disease of the uterus, which disease might produce a fibroid tumor.

I also, in 1888, said that when there was a fibroid tumor of the uterus, the cervix was also

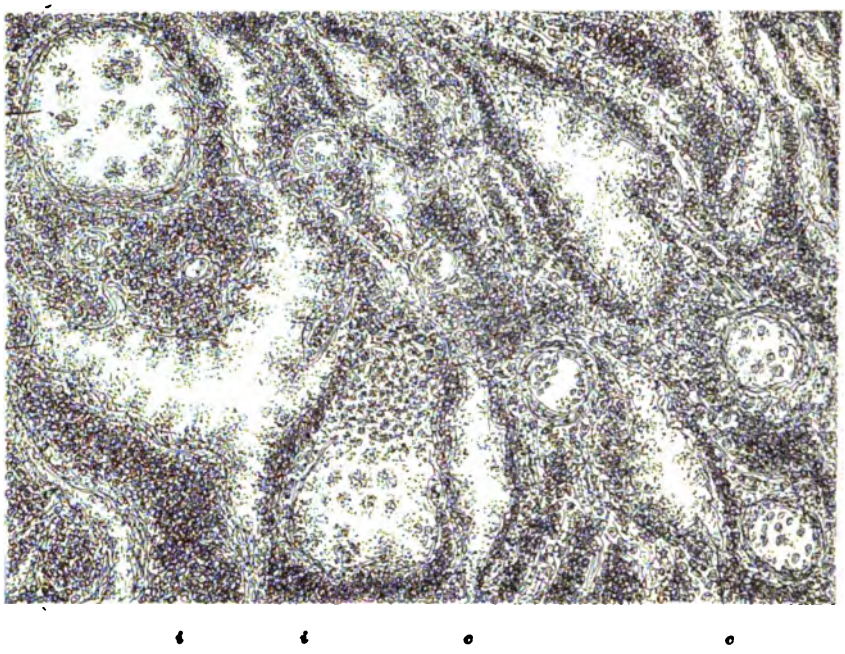

FIG. 5.—Section of uterine tumor showing fibrocystic formations; *i*, *i*, *i* inflammatory corpuscles; *c*, *c*, *c*, *c*, *c*, fibrocysts of a fibroid tumor.

diseased, often the most diseased portion of the organ, as I then called it, "The remnant or remains of a sickly womb."[1] And now I say that, in justice to the patient, this diseased "remnant" should not be left in intra- or extraperitoneal treatment.

Certain assertions in regard to fibrocystic tumors of the uterus in this paper were made before I had ever examined or even seen a specimen of the formation. Lately a portion of a fibrocystic tumor of the uterus has been sent to me by Dr. Simon Flexner from the laboratory of the University of Pennsylvania. The following history was given: "M. W., thirty-four years old, married six years, one child, forceps delivery. Symptoms began four years before admission into the hospital, usual one of fibroid. Uterus was not removed; tumor was subperitoneal and pedunculated. It contained a fluid of a dirty yellow color, turbid and specific gravity about 1024."

In this specimen, I noted first that the cyst wall was firmly adherent to the tumor, showing a state of intense inflammation.

I had the specimen prepared according to what I consider the best methods; and sections were made of it in the laboratory of Cornell University. I mounted the same, and the thorough examination of these sections by the microscope more and more convinced me that my assertions in regard to the pathology and etiology of fibrocystic tumors was the true theory. The peculiar shape of the fibroid cysts was a marvel. Ovarian cysts are round; and, as accurately pictured in the *American Journal of Obstetrics*, April, 1901, "the medullary tissue was breaking down and forming cysts."

*The fibrocysts of uterine tumors, or of the uteri, are formed on the same principles*, viz., by the tissues of the tumor, or of the uterus being reduced to medullary material and forming, not always round cysts, but more frequently irregular cavities, or canal-like formations. Sir Spencer Wells calls them "Small cavities of various sizes." So any appearance should be accurately described, though at the time it may seem a little incongruous. More knowledge will give increased light. In all the plates or drawings I have at any time utilized, there has been given as nearly as possible a correct presentation of the special tissues as seen under the microscope. But who can copy all the marvels, or picture the fine and exquisite workmanship? Even photography often makes only a bright blur without any clear definition.

Fig. 1. A representation of a section of a fibrocyst in a fibroid tumor of the uterus. The structure of the wall of the cyst is surpassingly beautiful; there is the lace work of the fine granules, and there is the crowding of the bright round inflammatory corpuscles, which do such wonderful work in all patho-

FIG. 6.—A section of the fundus of the uterus; *p*, peritoneal layers; *i*, *i*, *i*, inflammatory corpuscles; *c*, *c*, *c*, cystic canals; *b*, blood vessels.

logical formations. The tissues of the tumor are in a most remarkable manner reduced to inflammatory corpuscles or medullary material. The fields of inflammatory corpuscles are in great numbers, and in many places increasing and spreading. A few remnants of muscle fibers are seen, and in every part are unnumbered granules. The granules or life elements have great powers and possibilities; and

each one is of wonderful and of unknown structure. They do marvellous work, but no one can tell their mode of operation, or how they have the power to form, in one case fibrocystic canals, in another hard fibrous tumors, in another osseous formations, and in another pus. These are mysteries past finding out. "As thou knowest not what is the way of the spirit, nor how the bones do grow in the womb of her that is with child: even so thou knowest not the works of God who maketh all."—Eccl. XI-5.

Fig. 2. Another section of the fibrocystic tumor of the uterus. Fields of intense inflammation, in many places approaching suppuration. On the walls of the cyst canals are many muscular and connective tissue fibers. The granular material show active operations and changing pathological processes. All the tissues of the tumor are wonderfully reduced to their primal elements, and are separating in various directions, forming long cystic canals, or irregular cavities. In many sections, by a power of 400, the tissues of the tumor remind one of great pieces of timber broken asunder by some unseen power. Here the tissues are separating, making many canals

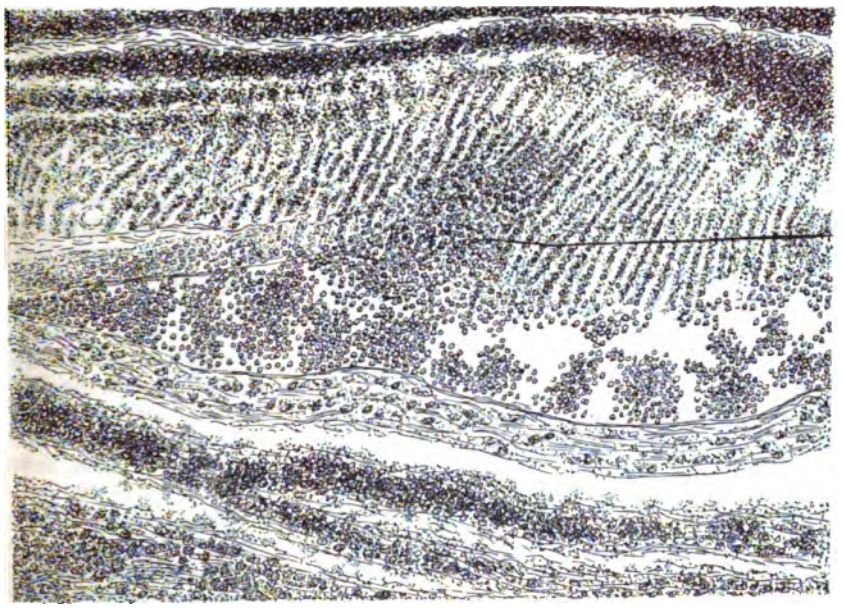

Fig. 7.—Fibrocysts and a blood cyst of the uterus; *i*, *i*, layers of inflammatory corpuscles separated by a canal cyst at *c*; *g*, *g*, granular material separating and forming a cyst; *g'*, granular material forming granular canals in which are developing blood corpuscles; *a*, blood cyst; *w*, wall of blood cyst; *i'*, *i'*, inflammatory corpuscles separating and forming a fibrocyst, *c'*.

and all are progressing toward the formation of one immense cyst. The powers of the life elements are marvellous. In this plate or presentation we can read almost the whole history: First, the normal tissues have disappeared; then, are the inflammatory corpuscles, and the granules; after come the forming cysts. As Harvey says, "Nature's book is legible.'

While the canal formations seem to predominate, yet in the same sections appear a few round cysts.

*A Remarkable Example of a Fibrocystic Tumor of the Uterus.*—Some months ago, through Cornell University, were brought to me from the morgue, the uterus and adnexa, said to be of a woman seventy-one years of age; but the specimen had the appearance of organs as seen in the flush and vigor of young sexual life. One could even imagine the specimen representated the first month of gestation. I concluded there was some mistake so I left the specimen quietly in its preservative fluid.

Fortunately, a few days since, I thought I would examine this uterus. I made an incision through its length, the cavity of the uterus was somewhat enlarged and filled by a tumor one and a half inches long, the upper part three-fourths of an inch wide and tapering to a point.

Fig. 3. The tumor had the appearance of a malignant growth, yet there were in it many apparently small cysts. I prepared the specimens, and sections were made in the laboratory of Cornell University. I mounted these specimens, and, under the microscope the revelations were marvellous. The uterus in every part exhibited a state of most intense inflammation, not the least vestige of normal tissue, but all making a wonderful presentation of *fibrocystic growths*. In the midst of the inflammatory material were forming many irregular cystic cavities, or cystic canals. It was a perfect sea of devastation. Where there is a fibrocystic tumor of the uterus, there is always a vast amount of disease. *Only a profoundly diseased condition of the tissues can produce one of these formations.*

The tumor formed within the uterus, proved to be a fibroid tumor, and, under the microscope, all the tissues of the tumor were in a state of intense inflammation, and everywhere forming fibrocysts.

Fig. 4. Immense fields of inflammation. Such are presented in every part. Inflammation must exist before there can be any new formation. Inflammation is caused by some sepsis or disease; and, by wise principles of nature, this inflammatory material is reduced to primal elements, from which are developed these formations. As beautiful as they are, they are all the products of disease, and all show continually new pathological changes. Where the inflammation is the most active, there begins the formation of the new growth. If there was no inflammation or disease there would be none of these abnormal growths. As I said in 1901[1]: "The rapidity of their growth is owing to the different degrees of inflammation and infection that may exist in each individual case."

Fig. 5. A more advanced stage of the formation of these fibrocysts. We see the surrounding inflammation and the enlarging cysts.

One cannot look into these marvellous changes and new formations without a worshipful awe, and a reverence for the Infinite Power, and the Divine Beneficence displayed. By these wonderful pathological processes and life changes, the system is often saved from an overpowering destruction. For, when tissues are reduced to medullary material, or to their primal elements, as the result of infection, or some septic disease, *pus may result, or be developed apparently as easily and as naturally as any other pathological formation.* But, if pus comes!—there can be no more of these beautiful formations and indescribable pictures of dazzling beauty. Pus is death to the tissues; there will be no more life activities; and pus thus formed may carry death to the whole system.

All the specimens of fibrocystic tumors thus far considered, prove more and more all that I asserted in the first chapter in regard to the cause and origin of fibrocystic tumors of the uterus. They also give confirmation, and yet more increased light on the

great principles as to the origin and formation of fibroid tumors of the uterus,[42] of the origin and formation of ovarian cysts;[43] and of the vast pathological changes that I have called attention to in diseased ovaries;[44] and the more wonderful revelations in regard to diseased ova.[45]

I will now speak of this uterus. All the instances of fibrocystic tumors which I have referred to as given by different authors, not one of them was of the uterus; but all of them of fibroid tumors. Cruveilhier says: "A large serous cyst in the upper part of the tumor." Pean says: "A voluminous cyst in the thickness of a fibroid tumor." Prescott Hewett, "The upper two-thirds of the tumor was composed of a large membranous cyst." Atlee speaks only of the "Vascular-looking tumor." Fletcher, "The tumor sprang from the posterior surface of the uterus." Spencer Wells, "Fluctuation was detected in different parts of the tumor." Terrillon says: "Tumor cystic." Storer, "Tumor was of a dark purplish color." Virchow, "A part of the tumor is transformed into a cyst." Bryant says: "The tumor removed weighed eight and one-half pounds." In the case reported in the MEDICAL RECORD, 1884: "The tumor was attached by a pedicle to the posterior portion of the fundus."

I have examined over twenty volumes of "Les Bulletins de le Société Anatomique," and found no record of a fibrocyst in the tissues of the uterus.

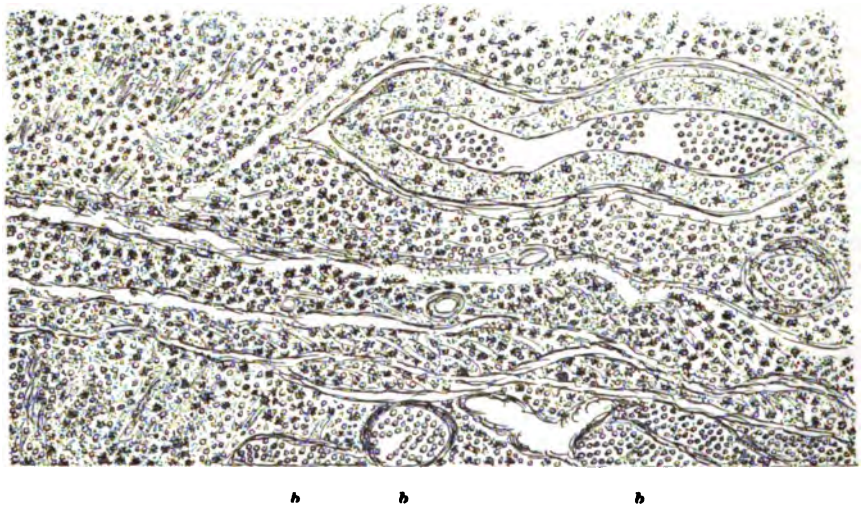

FIG. 8.—*g, g, g, g,* Groups of granules from inflammatory corpuscles; in the same field are scattered blood corpuscles; *c, c, c, c,* canal cysts; *b, b, b, b,* blood cysts.

Pean, in 1873, says;[46] "Tumor composed of two parts, one fibrous and the other cystic;" and in his great work[47] repeats: "These cysts in fibrous bodies." This same accurate observer, on page 294, speaks of cysts in the uterus, but on page 297 says: "In the ten cases which I have mentioned a portion more or less considerable of the tumor was enclosed in the uterine."

So from this, these fibrocysts *were of the tumor, and not in the tissues of the uterus.* In this specimen we have clearly presented a *fibrocyst of the uterus.* Thus this proves to be a most remarkable specimen, and one of exceeding interest and value. Pean says "There scarcely exist three or four examples in science." The whole organ was in a state of intense inflammation, and, in this inflamed tissue were developing numerous cystic canals. No uterus I have ever seen under the microscope exhibited such an *entire destruction of normal tissue, such serious disease, or such profound pathological conditions.*

Fig. 6. A section of the fundus of the uterus. We see the intense inflammation and the forming of many cystic canals. The peritoneal layer is reduced to granular material (1), and to inflammatory corpuscles (2). But what is more remarkable *everywhere in the tissue of the uterus are being developed blood corpuscles,* as if the whole structure was to be reduced to blood cysts. The light central portion may be the beginning of such a formation. In 1889, in studying "Endothelioma of the ovary," I demonstrated by repeated examinations the formation of blood corpuscles. I said I could clearly see that the protoplasmic bodies seemed to round themselves, the coarse granules wonderfully shaping themselves into blood corpuscles.[48] Many regard what we call a hæmatoma as an effusion of blood. It is not. It is a pathological formation of blood corpuscles.

Fig. 7. A blood cyst in the wall of the uterus. In this section there were forming many large and small blood cysts of various shapes. Wells said of one of his cases: "Small blood cysts were demonstrated." But here under the microscope were some blood cysts apparently of immense size speeding their way through the tissues.

In this figure we can read a history from nature of the formation of blood cysts. At the upper part are two small portions of a wide layer of inflammatory corpuscles. This is the first stage, the origin, and the beginning of the formation of a cyst. This is the only way cystic canals, or any other cysts, can be formed, viz., by the tissues being reduced to medullary or life material, or to their primal elements; and from these any pathological growth may be developed.

These two portions of inflammatory tissue, I, I, are changing into, and forming a long cystic canal, C.

Next, at G, G, we find the tissues still more reduced to their primal elements, or to granular material. This layer of granules is also developing a canal cyst.

Then comes the large layer of granular material, G, mysteriously forming granular canals; and, in these granular canals are developing blood corpuscles. What a revelation! We are looking into the secret laboratory of nature.

At B, the blood corpuscles are apparently most rapidly forming and increasing the size of the cyst.

Below the wall of the blood cyst is a fibrocystic canal, C, then a layer of inflammatory corpuscles, I, I, developing toward the right a fibrocystic canal, C. In all the portions of inflamed tissue are appearing blood corpuscles. All the tissues are thus changing and every part of the uterus seems to be forming blood cysts.

These are most remarkable changes and all the result of disease, all the sequel of some sepsis.

But now comes the most interesting and wonderful part, which I have recognized only since examining the last few sections. For more than twenty years I have been studying pathological tissues by high and low powers of the microscope. I could speak of inflammatory corpuscles and little granules, but did not certainly know the relation of these two kinds of mysterious bodies. I knew they were both developed in the process of the tissues being reduced to medullary, embryonal, or life material.

This pathological specimen, or this diseased uterus, reveals the point. It presents a most

markable demonstration in regard to the formation of granules. At A. A, A, A, Figs. 8 and 9, we see clearly that each inflammatory corpuscle is changed to a mass of granules, retaining for awhile the shape and the size of the original corpuscle. This is a most interesting fact. No one, as far as I know, has ever mentioned it, but here is the plain presentation. So important did this seem to be that I had drawings made from different parts of the tissues, all demonstrating the same point. Everywhere the great truth was substantiated, thus it was from the inflammatory corpuscles that the granules or life elements were derived. The *inflammatory corpuscles are the results of changed normal tissue*, or they are *the remains of normal tissues. In them are the life elements of the original tissues; and these vital elements are ready for the development of any new pathological formation.* Here, in the midst of the granules or life elements, are being developed blood corpuscles. If it had happened that the section had passed horizontally through the granular canals as represented in Fig. 7, we would have had exactly this presentation. In Fig. 6 the blood corpuscles are forming amid the granular canals. Here they are forming in the same way amid the granules, and, according to the general principle, they are more abundant where there has been the most intense inflammation. Everywhere the light of these little round bodies are appearing; everywhere are the shadows of the coming blood corpuscles; a multitude shimmering through the granular material and the remains of the inflammatory corpuscles. In some fields almost a firmament of these little stars appear. Apparently *the whole uterus is thus making the remarkable demonstration of changing into blood corpuscles, and forming a blood cyst.*

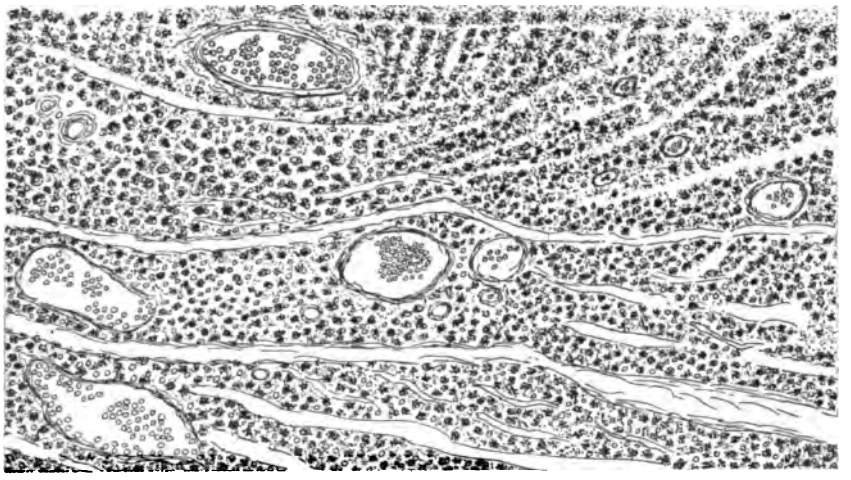


FIG. 9.—*g, g*, Groups of granules from inflammatory corpuscles; in the same field are scattered a few blood corpuscles; *c, c, c, c, c*, canal cysts; *b, b*, blood cysts.

At Fig. 8 we see repeated illustrations of the mass of granules developed from the inflammatory corpuscles, and these masses of granules are forming blood corpuscles. It is represented in all the tissues; and the new forming cysts are spreading and increasing, showing again how all the tissues may be reduced to one immense blood cyst.

The great scientist, Virchow,[49] gives the opinion, that "the liquid of fibrocystic tumors results from softening (ramollissement) of the tissues; and the liquid is almost colorless, or slightly tinted yellow, or more frequently like synovia. Subsequently, and especially in large intraperitoneal tumors, the vessels are greatly dilated and congested; there is a true extravasation of blood, and the liquid presents a red coloration, or brownish red, yellow brown, or dark brown, according as the blood is extravasated a longer or a shorter time, and accordingly mixed more or less with the rest of the liquid."

I cannot see that the blood is an extravasation from the blood vessels. I think we can clearly read here in Nature's book the origin of the blood. If there was an extravasation from the blood vessels, where would it end?

But, if possible, a yet more important fact is presented: That in the formation of blood corpuscles, as here revealed, is given *the method of the beginning and the formation of any pathological growth or formation.* This is clearly taught. It is a wonderful revelation and cannot be too carefully considered.

This mass of material, inflammatory corpuscles and granules, have frequently been denominated "inflammatory infiltration." Is not this covering up great facts by an indefinite expression? In this so-called "inflammatory infiltration" there are many anatomical elements which should be well differentiated. They are active life material, and this life material is continually making rapid progress, or some new pathological change. It is in the midst of such that any new growth may be developed. Here we see it developing into blood corpuscles. It was in such a scene, or in the midst of such life elements or life material, that I first recognized the development of cancer. There were the inflammatory corpuscles, and the granules. I saw that from the inflammatory corpuscles cancer epithelia were being developed. In this way, and on these principles, any new growth may be developed.

When I first recognized the development of cancer from inflammatory corpuscles I was working in Dr. Charles Heitzman's laboratory. He was an eminent pathologist, but in nothing did he show his great teaching abilities more than in allowing the various students to pursue his or her own investigations. It was thus after much study and research in many microscopical preparations that I saw this great fact. I saw it so clearly that I said to the master of the laboratory: "These inflammatory corpuscles are changing to cancer epithelia." "You are mistaken." So I rejected all my conclusions and went over the whole ground again. Seeing the great fact repeatedly presented and proved, and being yet more convinced, I again said, "These inflammatory corpuscles are changing to cancer epithelia." "Impossible." He was still busy with pupils. Again I rejected my conclusions, again going over the ground, seeing the facts again demonstrated, I said still more positively, "These inflammatory corpuscles are changing to cancer epithelia." He replied something about Virchow. But Nature's book is greater than Virchow, and from it we will have yet greater revelations.

On the authority of these facts, and these pathological principles, I am ready to repeat the great truth, as I asserted in regard to fibroid tumors of the uterus, that all abnormal growths are in a patho-

logical condition, and in a state of change; and, they are continually progressing to more serious and unexpected developments.

We have seen from the inflammatory conditions of the tissues of uterine fibroids, various diseased products have been noted by many great scholars. *In the same manner cancer formations are in a state of inflammatory change, developing and progressing to new and more serious pathological states, and to more serious manifestations.* We see cancer epithelia breaking down into a medullary condition, and developing more virulent forms of disease and more dangerous products. Once I removed a carcinoma from the floor of the pelvis,[50] the mass was found to consist of a scirrhous, an adenoid, and a medullary portion; so the first formation was progressing to more and greater malignancy.

All abnormal growths are continually in a state of change, and are becoming more and more complicated in their conditions. This sustains what I have asserted in regard to fibroid tumors, that the sooner a fibroid tumor of the uterus is removed the better for the patient, and may, as I said, save a long history of suffering.

Nature, in her infinite resources, makes beautiful revelations of the diseased conditions of abnormal growths. But there is nothing like the infinite perfection of normal structure.

By proper care these diseases and complications may be avoided. Even as regards cancer, though it may have hereditary tendencies, yet by attention to the simple principles of the laws of health, there is a way it may be prevented. I hold it to be one of our first duties as physicians, to teach somewhat the laws of health, and especially to mothers. To each one of them is said, "Take this child and nurse it."[51] How can she do her whole duty unless she knows something of its physical organization?

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62 EAST EIGHTY-SIXTH STREET.

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## COPPER IN SYPHILIS.

BY A. F. PRICE, M.D.,
MEDICAL DIRECTOR, U. S. NAVY.

THE baleful influence that syphilis exerts over the individual and his descendants is being more fully realized every year, but it is doubtful whether a complete and rounded view of the disease is yet attained.

We know of its influence in causing tabes dorsalis and paralytic dementia. But it is not so well known although of equal importance, that endarteritis causes an almost infinite variety of disorders. In the delicate lining membrane of the arterial system is distorted, through hyperplasia of the connective tissue, there may be caused, not only the gross lesions of aneurysm and valvular heart disease, but also insanity, a variety of spinal disorders, degeneration of the heart muscle, and, in fact, impairment of function of any and every organ in the body.

There is also a cachexia or condition of bad health which is not infrequently shown by old syphilitics in which there are no focal lesions, and which is manifested by weakness. The patient feels below par, he has no endurance, is void of energy and is constantly complaining.

These symptoms, as well as the conditions known as parasyphilitic, appear frequently enough at a time when a man has forgotten a mild syphilis from which he suffered in his youth; and he is loath to believe that his present ills are due to that cause.

Whether syphilis is curable is doubtful; but the experience of thirty-five years in the treatment of cases of this disease in the Navy has brought the conviction that the use of copper is of value as an addition to the accepted treatment, and it has some peculiarities that are of great interest and command attention.

The most important of these is an intolerance of the copper salt, which, when it exists, is characteristic of old syphilis. A case that I have now under treatment will give an idea of this reaction.

I was called about three months ago to a patient aged forty-four years who was suffering with a sharp stomach crisis. He had been having these attacks about once in ten days for a year. They lasted from twenty-four to thirty-six hours; were accompanied with severe pain and prostration, and, at the termination, with vomiting. He suffered also with confusion of mind on awakening in the morning and

with blindness at this time lasting for a few seconds. He swayed with eyes closed and his patellar reflexes were exaggerated. He is married and he lost his first two children, and has a child now five years old. He denies syphilis positively. He was given a tablet of $\frac{1}{3200}$ gr. arsenite of copper thrice daily, with instructions to increase regularly the number taken. When taking five at a dose, about $\frac{1}{600}$ gr., he complained that the medicine made him weak so that he could not perform his duties with his usual ease. The medicine was, however, continued, in the form of copper sulphate, and carefully increased until he was taking a dose thrice daily of gr. $\frac{1}{60}$. This was reached after about three months' treatment, when one-half a grain of blue mass was added to each pill.

This medication has already produced a surprising effect. He had no attack of stomach trouble for twenty-eight days after he was put on the minute copper doses, and the attack then was milder and shorter in duration. Each succeeding attack has been progressively lighter, although he has had them at intervals of about a month. But they are already shorn of their terrors, and his head symptoms are much ameliorated. I have no doubt of his continued improvement.

The intolerance of copper is frequently more marked than in this case.

For convenience, a tablet of copper arsenite of gr. $\frac{1}{200}$, issued by the Medical Department of the Navy, is used at the beginning of the treatment of cases of old syphilis; and frequently it cannot be borne. A half one or one-quarter, or even less, once a day, will sometimes cause feelings of prostration and almost collapse. As far as my observation goes there exists no other disease in which this sensitiveness to copper exists. It is therefore a valuable diagnostic aid. After a dose of about $\frac{1}{600}$ gr. is reached the copper sulphate is usually given, made up into a pill with extract of gentian.

I have one other mild case under treatment at present which is of interest. This patient is forty-eight years of age; a portly and vigorous looking man. He had syphilis of a mild character sixteen years ago. About two months ago he complained of lack of propulsive power in his bladder, which had been troubling him for several months. An examination of the urethra and bladder discovered no cause for the condition. His history being known, further examination revealed the Romberg symptom and a sluggish patellar reflex. The usual commencing dose of copper arsenite developed a somewhat greater sensitiveness to copper than the previous case. After one month of increasing doses, when he was taking about $\frac{1}{600}$ gr. of copper sulphate, he suffered with constipation and a feeling of constriction in the hepatic region. This treatment was therefore temporarily suspended and a podophyllin laxative with one-half grain of calomel was given at night and followed in the morning by the Carlsbad sual. This was given daily for a week, when the condition being relieved, the original treatment was resumed and pushed so that at the end of two months the patient was taking the same blue mass and copper sulphate pill given in the first case. The bladder symptoms have disappeared and his prospects are very good.

A number of cases of tabes dorsalis of syphilitic origin have been under my care in various stages and in none of them has the copper treatment failed of benefit. It is of the utmost importance in these degenerative manifestations of syphilis (called parasyphilitic) to establish speedily a tolerance of copper, as in doing so an increased vital resistance is developed, which is the first step in the improvement of these sad and often hopeless cases.

The following is a case of syphilitic cachexia without focal lesions: A corpulent gentleman about fifty years of age suffered with ill health and persistent swelling and tenderness of the feet. He had been treated for rheumatism, gout, and anæmia by various medical advisers, of which he had many at various times, and frequently several at once. A careful summing up of his case by one of his doctors was handed to me by the patient on his coming under my care, and was about as follows: The patient is in the early stage of hyperplasia of the connective tissues of both liver and kidneys; his heart, which has probably been hypertrophied, is showing signs of dilatation; his blood is deficient in hæmoglobin; the urea is markedly diminished, at times being as low as 221 gr. a day, and the quantity of urine is frequently below normal.

From a journey to a celebrated doctor of a neighboring city he brought back a diagnosis of erythromelalgia, which, indeed, described very well the condition of his feet. The patient was a bachelor. He emphatically denied having had syphilis, but his statement was rendered doubtful by the existence of the lymphatic enlargements common to the disease, and, as shown by a test dose of arsenite of copper ($\frac{1}{3200}$ gr.), the existence of an acute susceptibility to this drug.

It took much care and patience gradually to bring this patient to taking increasing doses of the drug. When a dose of gr. $\frac{1}{500}$ copper sulphate had been reached there appeared an obstinate constipation which did not yield to the laxatives on which he had been depending, such as cascara, podophyllin, sodic phosphate, natural purgative waters, etc., and as this patient was unfortunately one of those who knows more than his doctor, he could not be induced to take even the small dose of calomel ordered. In his opinion he was too weak for treatment by this drug, and here my connection with an interesting and promising case came to an end.

While this patient was taking his minute doses of copper the secretion of urea increased steadily in amount until it passed the normal and reached a total in one day of 667 gr.

A very acute case of tabes came under my care at the Naval Hospital, Washington, D.,C., in June, 1900. A young man aged twenty-seven years contracted syphilis in the West Indies in January, 1899, and was treated for the secondary symptoms in March following. In May of the following year symptoms of tabes developed. The symptoms gradually increased in severity for about six weeks, when he could no longer attend to his duties, and he was transferred to the hospital at Washington in June. At this time the Romberg symptom was very marked, there was much difficulty in walking, and lightning pains and gastric crises, attended with very great prostration, were present. Tactile sensibility in the feet was much impaired and the knee jerk was absent. The paralysis of the feet grew worse in the hospital until three months after admission, when he was confined to the bed with absolute loss of power over the feet and leg muscles. He could flex and extend only the thigh and leg. The stomach symptoms were, however, much improved by this time and the shooting pains had left him. After this the improvement became more general. By the 6th of October he could slightly flex the left foot and extend the toes, and he began to go about with the help of crutches. A month later he could rise unaided from a chair. In December the knee jerk reappeared and was decided, when reinforced by clasping the hands. He walked about at will with the aid of a cane. He was allowed liberty and thereby came his downfall. He repeat-

edly returned to the hospital intoxicated and finally began to smuggle liquor in with him. His term of service in the Navy had expired, so he was discharged from the hospital.

The treatment in this case was mainly copper arsenite. It was increased rapidly and for a time he was taking gr. $\frac{1}{12}$ at a dose. Potassium iodide was given alternately with the copper in daily doses of from 40 to 80 gr. During October iodide alone was given, after which the former plan of alternations of each for a few days was again adopted. Galvanization of the spine was used, as was also strychnine, for a time; neither of these seemed to benefit him. Cholagogue laxatives were frequently given throughout the treatment.

Copper has a decided tendency to excite neuritis. It is for this reason that it is advisable to omit its use at intervals; and especially is it necessary to employ laxatives and salines. These have a much better effect than the iodide, although both were used in this case.

It appears, then, that in old cachectic cases of syphilis and in the so-called parasyphilitic forms of the disease it is of benefit to establish a tolerance for copper sulphate, and then employ it in doses of gr. $\frac{1}{10}$ daily and to add to this medicine blue mass in daily dose of gr. iss or more if it will be borne.

It is probable that most if not all of the lymphatic nodes of the body are infected in this disease, and from these there is constantly being poured into the blood the toxin which by its continuous action produces such sad results. Copper seems to be an antisyphilitic of unusual potency, and it appears to act at its best when aided by the antiplastic effect of mercury, which probably softens and renders more permeable the hardened and enlarged glands.

The treatment of acute syphilis by this method is very satisfactory. In the stage of secondary eruption $\frac{1}{80}$ of a grain cupric sulphate is given with one grain of blue mass thrice daily. An extra grain of blue mass is added after several days, and still another after a short interval. It is well to push the mercury a little in treating early syphilis. While in charge of the Naval Hospital at Washington, D. C., I treated a number of cases of syphilis in this way, and I give below a few details of the number there remaining, at the time I left the hospital:

R., a young and vigorous subject, took for seventy days $\frac{1}{80}$ gr. of copper sulphate, 5 gr. of blue mass, and a grain of dried sulphate of iron thrice daily. His symptoms promptly disappeared. The treatment was continued in order to neutralize and eliminate the poison as thoroughly as possible during the four months' time it was my custom to keep acute cases in the hospital for treatment.

P., took copper, iron, and twelve grains of blue mass daily for 62 days with only benefit.

McG., took the same treatment with 12 gr. of blue mass daily for 68 days.

K., took for about a month the copper, iron, and fifteen grains daily of blue mass. He then complained of a feeling of prostration and of a little headache. On decreasing the blue mass to twelve grains daily these symptoms disappeared and he bore his medicine well.

C., took for 54 days the copper, iron, and 12 gr. daily of blue mass.

A., for 25 days took exactly the same medication as C.

K., No. 2, took with the copper and iron, 6 gr. of the blue mass daily for 102 days.

This treatment speedily removes the secondary symptoms. It is rare for mucous patches to present themselves during this treatment. No signs of ptyalism appeared in any of these cases.

I have used copper alone in the treatment of cases of acute syphilis with very good results, and without complications. The treatment was continued for about nine months. The glandular enlargements and hardenings became softer and almost disappeared, and the general health was kept vigorous. Copper alone is, however, very slow in removing the secondary symptoms. (See MEDICAL RECORD, February 3, 1894.)

While at the Naval Hospital, Washington, and previous to using this treatment I had for many months given the copper with inunctions of the ointment of mercury. The inunctions were used with the usual precautions as to cleanliness and change of site, once daily, commencing with forty grains and increasing the quantity by ten grains a day. The quantity given in each case daily varied from 40 gr. to 180 gr. according to the powers of endurance of the patient. A peculiarly serious case came into the hospital with extensive rupia and tertiary ulcerations appearing about six months after infection. The patient did well [illegible] copper internally, combined with a minimum [illegible] of the ointment. Iodide was used also in the [illegible], and the man went back to duty after six [illegible] treatment. I did not find the inunction to [illegible] better than the internal medication [illegible] adopted. The copper, when taken with [illegible] in acute syphilis, in addition to acting as a [illegible] agent in itself decidedly increases the to[illegible] the patient for mercury.

An experience of many years has led me to [illegible] late my belief as follows:

1. The treatment of syphilis in all its [illegible] inclusive of the cachectic and the parasyphilitic forms, is well founded on sulphate of copper in average dose of $\frac{1}{80}$ gr., aided by such a quantity of blue mass as is borne readily by the patient.

2. In old syphilis in any form the copper should be given in minute doses, and gradually increased as tolerance is established, until the usual dose of $\frac{1}{80}$ gr. is given, when the mercurial should be added in a rather small dose. It is sometimes better to give the medicine only on alternate days.

3. In acute syphilis the copper salt is to be given in the dose of $\frac{1}{80}$ gr. and the mercurial added at once and increased as much as the patient will tolerate, in order that the disease shall be neutralized and eliminated as completely as possible.

4. Iodine, iron, arsenic, and tonics of any sort while useful, occupy a subordinate place in the treatment of syphilis.

5. Alcohol, and especially tobacco, should be forbidden to syphilitics.

NAVY YARD, NEW YORK.

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**Herpes Zoster Followed by Motor Troubles.**—Vilh. Magnus reports three cases, the first of a man of fifty-five years who had an attack of herpes zoster affecting the ulnar border and the internal surface of the left forearm, extending to the internal and external surfaces of the arm. There was violent pain and increasing paresis of the limb, which became finally almost paralyzed. It is probable that the sixth and seventh cervical ganglia were affected, and that the virus (microbe or toxin?) traveled through the blood vessels to the first gray cornua, inducing a condition resembling polyomyelitis. Great improvement followed hospital treatment. A second case was a man of seventy years, who had paralysis of the right arm after herpes zoster, and completely recovered. The third patient was sixty years old, and after herpes of the right side suffered from paresis of the arm and hand.—*Norsk Magazin for Laegevidenskaben.*

## ANEURYSM OF THE TRANSVERSE ARCH, WITH OBLITERATION OF THE INNOMINATE AND LEFT COMMON CAROTID ARTERIES.

By U. S. BIRD, M.D.,
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The facts in the following history and the developments of the autopsy seem to be sufficiently interesting to be recorded. It is to be regretted that a more careful dissection was not made, as some points in collateral circulation, a most interesting detail in this case, might have been studied.

I first saw the patient June 27, 1903. The clinical history was as follows: L. W., colored, age twenty-seven years, born in Alabama. Faints occasionally. Mother had same trouble. Four years ago she suffered from temporary blindness, and about this time was afflicted with right hemi-

plegia. About three months since, March 20–30, 1903, she noticed a swelling in her neck about one inch in diameter, in the interclavicular notch. Has little appetite, but swallows easily; lies down with difficulty; has a "cold;" no bowel movement in ten days.

Physical examination showed a colored woman, average size, emaciated, and apparently suffering greatly. She was hoarse and breathed with difficulty. Any exertion, as talking or moving, increased her suffering. For this reason few questions were asked. Both radial pulses were about 120, barely felt. The neck and chest presented the appearance seen in the illustration. The largest dimension of the tumor was 6½ inches; across the upper part 3 inches; lower part, 4 inches; elevation above surface of chest, 1½ inches; extension up the neck above right clavicle, 1¾ inches. She complained of a burning sensation, but no pain in the tumor. Palpation caused much pain, so little was done. The tumor pulsated strongly, both to sight and touch. The photograph was taken on June 28, and she died of laryngeal paralysis June 29, at 3 A.M. I made the post-mortem examination that morning. There was much difficulty in removing the sack, which was about ¼-inch thick, dense, and strongly adherent to adjacent structures. It was also nearly full of laminated, more or less organized clots. The upper part of the sternum, and the sternal ends of both clavicles, and both first ribs were included in the sack, such included portions being mostly destroyed. Because of adhesions the sack was torn. It, with the arch of the aorta, was removed, containing the included bones which were integral parts of the sack, as their removal would have destroyed its shape. After the blood and loose clots were washed out it measured 2x4x5 inches, and weighed one pound.

It was interesting because of the extent of its development and the rapidity of its visible growth. But by far the most important facts were discovered during the examination of the transverse arch, from which the tumor sprang, and its branches. The condition found was most remarkable, and no account of anything approaching it has come to my notice. The sack was situated above and in front of the aorta, communicating with it by an opening which extended along the length of the transverse arch, about 1½ inches. The inferior wall of the artery was split, and the inner surface examined for the openings of the branches. Only one opening was seen, which a probe identified as the left subclavian. The other branches were discovered on the posterior wall of the sack. The left common carotid was contracted and filled with a dense, organized clot. This was pulled out with difficulty, and the vessel dissected to its ending in a pouch, after a short turn to the right, in the fibrous tissue of the sack. The right common carotid and subclavian were large and easily found. Below their origin was the remains of the innominate, which, a short distance below its division, contracted and ended in a blind pouch. The above facts were determined only after a most careful examination and dissection, eliminating every source of error. No anomaly was found in the origin nor distribution of the vessels, although a possible anomaly was carefully searched for because of the unusual conditions obtaining. The conclusion from the evidence is that, with the innominate and left common carotid arteries obliterated, the circulation of the upper part of the body was provided for by the development of an extensive collateral circulation. The trunk may be easily disposed of, as the ligation of the innominate seems to have been followed by no circulatory trouble. But the circulation of the head must have depended on the intercostals, and the internal mammary and axillary branches. Thus, the arterial current, in order to reach the right side of the neck must have traversed a complete additional circle. Such a condition not being suspected it was not investigated.

An anatomical preparation of the specimen would have been interesting and valuable. As it is, it must remain a unique instance of nature's resources in this direction. It is safe to say that no surgeon will attempt to induce a similar condition in the human subject.

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**Piano Playing and Neuroses.**—Halle of Berlin states that out of every one thousand young girls who begin to learn the piano before they are fourteen, six hundred are affected by some kind of nervous disease, while out of one thousand other girls who are not taught the piano only one hundred suffer in a like manner. The doctor recommends that the study of the piano should not begin until after the age of sixteen.

## A CASE OF COMBINED PYLORIC CANCER AND PHLEGMONOUS GASTRITIS.*

By G. W. McCASKEY, A.M., M.D.,
FORT WAYNE, IND.
PROFESSOR OF CLINICAL MEDICINE, FORT WAYNE COLLEGE OF MEDICINE.

SUPPURATION as a surface process in gastric cancer is probably not very rare, but its occurrence with the formation of a distinct and well-defined abscess cavity in the stomach wall is certainly a pathological phenomenon of interest.

The patient, Mrs. T., aged twenty-nine, was seen in consultation with Dr. L. P. Drayer, on February 18, 1903. She had passed through a normal confinement three months prior to my visit and gave the following history: She began to have stomach distress, which came without relation to meals, two months before her confinement—that is, five months prior to my visit. The stomach pain came in spells lasting for an hour or two. Two weeks before her confinement she began vomiting, the symptom being attributed, and of course very plausibly, to the nervous and vascular disturbance attending the latter period of pregnancy. The vomiting occurred regularly with relation to ingesta of any kind, everything being partially or wholly rejected very soon after being swallowed.

The physical examination was negative, excepting a vague and ill-defined resistance to the left of the median line about three inches above the umbilicus, which apparently moved with the diaphragm.. This was shown at the autopsy to be a small pyloric tumor displaced to the left. Analysis of urine was negative. An Ewald test-breakfast, consisting of 300 c.c. of water and an ounce of bread, was given, and an hour later 400 c.c. of fluid was removed. The patient's stomach had been cleansed and apparently emptied by lavage three or four hours previously. Chemical analysis showed the absence of free HCl, presence of lactic acid, complete starch transformation with a very faint biuret reaction. The fasting stomach always contained a quantity of fluid in which a few pus cells could be found, but occasionally there was considerable pus mingled with the fluid. There was stomach epithelium in abundance, but no tissue fragments or Oppler-Boas bacilli. Cultures from the contents of the abscess cavity, made by my assistant, Dr. Rhamy, showed the infection to be a staphylococcus.

The blood examination gave 24,000 leucocytes and 7,000,000 red cells; the hæmoglobin was not estimated.

I made at first an alterative diagnosis of cancer or phlegmonous gastritis, but upon further study of the conditions told Dr. Drayer before the autopsy that the only diagnosis that would satisfy all the requirements was both cancer and phlegmonous gastritis, and this was precisely what the autopsy revealed. The patient died of exhaustion about three weeks after my first visit.

Autopsy: The liver was small, probably weighing a little over two pounds, and apparently normal in structure. The gall-bladder was somewhat distended. Pancreas normal, except a small nodule, which was not removed. The stomach was small and around the pylorus was thickened and covered with small nodules. The mucosa showed the evidence of severe inflammation with extensive ecchymoses. In the thickened cancerous structure of the pylorus there was found an abscess cavity about half an inch from the pyloric ring. This was about one and one-half inches in diameter, and occupied almost the entire lumen of the narrowed pyloric extremity. On one side of the abscess cavity there was a small channel about the size of a lead pencil, through which so much of the stomach contents as found their way to the intestine passed.

The absence of gastrectasia is explained by the persistence with which the stomach rejected all contents.

Had the significance of the symptoms not been so completely obscured by the associated pregnancy, the case would have been a favorable one for exploration and partial gastrectomy if the more than doubtful consent for the procedure could have been obtained.

*Read before the Allen County Medical Society.

## CONGENITAL ABSENCE OF RECTUM WITH IMPERFORATE ANUS.

By G. W. SQUIRES, M.D.,
EAST AVON, N. Y.

MRS. W., aged twenty-eight, German, mother of two children, came to labor with a third child. There being a slight deformity of the pelvis, the labor proved tedious, with face presentation and unduly tough membranes. While waiting for labor to move on, I learned that the former confinements had been slow and exhaustive, the first baby coming breech first with instrumental delivery of after-coming head. There had been trouble with the after-birth and much bleeding, the child living only a few hours malformed by a spina bifida and large, watery head. The second child was still-born at seven months' gestation, having supernumerary toes and fingers with harelip. After twenty-four hours' labor with only manual assistance, the third child was delivered, to all appearances, a well-formed, vigorous boy, the parents pleased with a howling youngster, who had all the symptoms of entering on life in earnest. I made one call early next morning, finding mother all right, and an experienced nurse pronouncing baby in the best condition. In four days I was sent for to see the baby, who had been in pain for two days, nothing having passed the bowels. The nurse became anxious when she noticed the baby straining and constantly trying to move the bowels; the kidneys had acted freely. I found the abdomen very much distended, gas could be heard moving around in the bowels. There had been no vomiting, but the child, after the second day, refused the breast. On further examination I discovered complete absence of anus and no sign of even an effort of nature to locate an anus in the buttock. Palpation failed to detect the presence of a distended rectum. Cœliotomy was immediately done. The left side was opened, and without much trouble the colon was drawn up and out, sewed to abdominal walls, and opened, when a quantity of meconium and intestinal contents escaped, to the great relief of the baby, which, in a short time was sleeping. In two hours it returned to the breast with a relish. On the second day jaundice began to make an appearance, and the belly became distended in spite of the fact that the artificial anus was patulous, allowing free evacuation of bowels. Peritonitis had set in, and the baby died on the fifth day following operation. Autopsy revealed entire absence of rectum, the descending colon ending in a cul-de-sac at the sigmoid flexure. There was also an absence of a sphincter ani so far as could be determined, nature apparently having forgotten to complete her handiwork in the distal end of the alimentary canal.

**Homœopathy Barred from a German University.**—The homœopathic practitioners of Germany recently presented a petition to the government asking that a chair of homœopathic therapeutics be established at the University of Tübingen. It was thought at first that the petition would be granted, but a strong opposition to the measure arose, and the government finally refused to sanction the foundation of the chair.

# MEDICAL RECORD:

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## NEW PRESENTATION OF THE TUBERCULOSIS PROBLEM.

A NOTEWORTHY address was delivered by Prof. v. Behring before the annual Congress of German Naturalists and Physicians, held recently at Cassel. It is noteworthy in several respects—in the extreme views therein expressed regarding the universality of tuberculosis, in the direct challenge of the theory adopted by Koch of the non-identity of bovine and human tuberculosis, and in the promise held out of a prophylactic serum.

In this paper, published in the *Deutsche medicinische Wochenschrift* of September 24, 1903, the writer quotes the saying of, we believe, Esmarch that "we are all a bit tuberculous," and adduces statistics from various sources to prove that this is not a mere phrase but is the expression of an actual fact. It is asserted that the tuberculin test proves that from 90 to 95 per cent. of the community is infected with tuberculosis. If this is true, and v. Behring believes it is, of what advantage, he asks, is isolation in preventing the spread of the disease? It is surely not practicable to isolate 95 per cent. of those in active life, or to place them under treatment in sanatoria in order to preserve the remaining 5 per cent. from the danger of infection. But this would not be necessary, even if it were practicable, for a sharp distinction must be made between tuberculosis and pulmonary consumption, the presence of the former being practically a negligible quantity, except in so far as it creates a predisposition to consumption.

But how comes it that this enormous percentage of living men harbors the tubercle bacillus? Whence comes the infection? The writer of the paper does not accept the growing belief in the contagiousness of consumption, as generally understood. He thinks that tuberculosis is seldom acquired by adults, the seeming instances of such acquisition being merely the lighting up of a slumbering focus of infection which the individual has carried from infancy, the outbreak being caused by any of the recognized factors—exposure, mental strain, starvation, overwork, etc., which depress the vital powers and weaken the normal resistance of the organism. He also dismisses the now little credited theory of hereditary transmission of the disease. But if tuberculosis cannot be, or at least very seldom is, acquired in adult life, and if it is not congenital, when and how does infection occur? Here Behring joins issue squarely with Koch, for he asserts, and devotes a large part of his essay to prove, that the main, though not the only, source of infection in human beings is the milk, whether it be the milk of the tuberculous mother or that of a tuberculous cow. We cannot follow him here in the argument by which he seeks to prove the truth of this assertion, but will note only the distinction which he makes between infants and adults in their liability to infection through the digestive tract. In the young of man and many other animals the intestinal epithelium is so constituted as to permit the entrance into the blood stream of bodies which the adult mucous membrane excludes. The pores of the intestinal filter in infants are large and readily permit the passage of various microorganisms, tubercle bacilli among the rest, whereas in the adult they are much finer. In the new-born, for example, Römer has shown that albuminous bodies can enter the blood unchanged, whereas in adults they must be split up by digestion into peptones before they can pass through the dialyzing membrane which in the developed individual constitutes the lining of the intestinal canal. Adults can usually drink with impunity the milk of tuberculous cows, infection through this means occurring only when there is some lesion of the intestinal mucous membrane breaking down the normal defences.

Behring does not, however, contend that the infection of infants can occur only through milk, for the specific bacilli may reach the intestinal canal in other media. When a young child is kept in the same house or the same room with a patient in the active stage of pulmonary tuberculosis, the bacilli contained in the spray sent out in the act of coughing or set free in dust contaminated with dried sputum may lodge in the mouth or nasal cavities of the infant and thence readily gain access to the intestine. Even older persons may become infected in the same way, but only when some previous disease, measles for example, has worked changes in the mucous membrane of the digestive tract whereby the barrier to the passage of formed bodies which the normal intestinal mucous membrane offers has been weakened.

The most interesting, and at the same time the most vague portion of v. Behring's address is that in which he speaks of his work looking to the elaboration of an effective prophylactic. This consists not in the administration of an antitoxin derived from without, but in an isopathic immunity established within the organism by the self-elaboration of protective bodies—in other words, by a process of vaccination or "jennerization." The method has as yet been employed only in animals, and the author acknowledges that he is not ready to put it to the test in human infants. It is one thing to employ a method which saves from tuberculosis 499 calves but may kill the five-hundredth, and quite another to expose one out of five hundred human beings to the same danger. A farmer will willingly risk the sacrifice of one calf in order to save from disease the rest of the herd, but when the question has to do with human babies it presents an entirely different complexion. However, the matter is not concluded, indeed is hardly begun, and v. Behring is evidently convinced that there is a solution of the problem, and that he will yet be able to announce the discovery of a vaccine against tuberculosis. One way in which the desired result can be milk"—that is to say, of the milk of cows which have obtained may possibly be in the use of "immune

been immunized against tuberculosis. The immunity so produced is as yet only temporary, but some means may be discovered of increasing its period of effectiveness. But even if the immunity so produced is but temporary, provided it is real, the continued use of "immune milk" might well preserve the baby until such time as, in the course of normal development the pores in the intestinal sieve are closed and the mucous membrane becomes impervious to microorganisms. To forestall the demands upon him which he anticipates the publication of this paper will bring, the writer announces that he will not answer any letters asking for samples of the immunizing material which he feeds to calves, and which he emphatically says should on no account be be used in the attempt to effect immunity in the human infant. When his investigations are concluded and when he has succeeded—and he seems confident of success—in the discovery of a method of protecting man against tuberculosis as surely as Jenner's discovery protects him against smallpox, then the world will be apprised of the fact—and we may add the "Fabriken" will all be working overtime. When the discovery is announced and its efficacy demonstrated we shall welcome it, but in the meantime we should not advise the razing of all sanatoria or even a pause in the building of new ones. We fear they will be needed for many weary years to come.

## THE MEANING OF URIC ACID AND THE URATES.

A PAPER with this title, first read before the Washington State Medical Society, Tacoma, in June, 1902, and afterward published by the London *Lancet*, has aroused much attention both in Great Britain and in this country. The author, Dr. Woods Hutchinson, Professor of Comparative Pathology, University of Buffalo, expresses his original views with lucidity and conciseness. The etiology of gout has long been a stumbling-block to medical men, and although there has been no lack of theories propounded as to the exact nature of the disturbance in metabolism distinctive of the disease, no conclusive decision has yet been come to. The greater number of those who have made a special study of the matter have held that in the condition known as lithæmia there is a deficiency of proper oxidation of food, and that the elimination of the waste products of the body is imperfect. All have agreed that the urates play an important part in the pathology of the malady, although authorities differed with regard to the precise position these bodies fill.

Dr. Hutchinson points out that the drift of opinion is at the present time clearly tending to the conclusion that uric acid is in no sense longer to be regarded as a product of the imperfect combustion of proteids into urea, that no mere excess of nitrogenous foods as such is capable of producing it, but it closely depends upon the amount of nucleins, purins, and the alloxur group in the food. The uric acid produced in health comes from but two sources—about half our normal output is due to the exogenous uric acid of Chittenden—and the remaining amount of uric acid produced, the endogenous moiety, from the destructive metabolism of the nucleins of the body tissues.

The article by Dr. Hutchinson is a long one, and the argument in support of his theory is marked by close reasoning and clear explanations, and throws much light upon the meaning of uric acid and the urates. One portion of the paper is so neatly put that it is worth quoting at length. It is as follows: "Is uric acid, with its congeners or precedents, the cause of gout and the lithæmic state or merely a symptom? On the one hand, we find the bulk of English and American observers, and on the other hand the mass of the continental, headed by Levison and Ebstein. On the face of it the former theory appears far the more probable, for we have apparently naked-eyed proof of its correctness, in the form of visible deposits of the urates of sodium, forming the tophi and acting as apparent irritants in the inflamed joints; while the acute attack is usually accompanied by a great increase in the excretion of urates and its decline by a corresponding diminution. Garrod and many observers declare that the amount of uric acid in the blood itself of gouty patients is markedly increased, while Haig furnishes us with a graphic picture of solid crystals of uric acid, crystallizing out of the blood stream in the sheaths of the nerves, in the parenchyma of the kidney, in the mucous membrane of the nose and throat, the tissue of the nostrils, and every other region which furnishes the ache in gout, giving rise to chronic neuralgia, nephritis, rhinitis, and tonsillitis of gouty subjects. But the value of this evidence has been greatly undermined of late years. In the first place, very serious doubt has been thrown upon the power of uric acid as such, or even of the urates, to give rise to serious irritation in the tissues. It is alleged to be almost absolutely non-irritating, as much so as its relative urea, in support of which might be advanced the fact of its occurrence in large amounts in some of the leukæmic conditions without giving rise to any irritation whatever. The same is true in children, in whom it will be present in perfect showers in the urine without giving rise to any symptoms except the renal or vesical irritation due to its mechanical effects. It has also been injected in large amounts into the body of animals as well as administered in their food, with no toxic results whatever or more than purely local irritation."

Medicinal treatment throws little light on the cause of gout—nothing certainly in favor of the uric-acid theory. The remedies used have been almost as the sands of the seashore in number. The useful drugs appear to be those that either reduce the putrefaction in the alimentary canal by inducing purgation, or need so great a quantity of water for their solution, that they literally wash out the tissues.

Dr. Hutchinson considers tophi and their congeners in gout as purely symptomatic in their character, but gives only a suggestive outline of the reasons which have led him to this opinion. His conclusions are as follows: (1) There is no connection whatever between the production of urea and of uric acid, hence interdiction and marked limitation of animal or of nitrogenous foods, as such, in gout is irrational. (2) The uric acid produced in health comes exclusively from two sources, the larger moiety, or exogenous uric acid of Chittenden, from the nucleins and purin bases of the food, the

House Commissioner, that instead of the block proposed the board take the adjoining block to the south, which is known in the district and in the Health Department records as the "lung" block, because of the prevalence of consumption there. Many of the houses in the block, Mr. De Forest says, are permanently infected with the germs of tuberculosis. Certain of these houses, namely, those at 140, 142, and 144 Cherry street, have had, in the past five years, as many as twenty-two cases of pulmonary tuberculosis in each house as far as the records of the Board of Health go. It is probable that the actual number of cases of tuberculosis in each house is double this amount, as it is well known that not more than one-half the cases are reported to the Board of Health. This suggestion to raze the "lung" block will be considered at the same time as the original proposition for a park.

**Results of the New Food Inspection Law.**—Dr. Harvey W. Wiley, chief of the bureau of chemistry, of the Department of Agriculture, reports that as a result of the inspection of imported foods by his bureau under the new law authorizing the exclusion of impure or misbranded foods, twenty samples, or about 10 per cent., of 205 invoices examined, had been condemned and rejected. Of these twenty samples five were of Rhine wine, and contained salicylic acid; two of white wine, Sauterne, and contained sulphurous acid; four of olive oil, containing cottonseed oil, and misbranded; three of frankfurter sausage, containing harmful preservatives; four of vegetables in cans with lead tops touching the food; one of vinegar, misbranded and made from distilled alcohol, and one of coloring matter for foods, in which coal-tar dyes were used.

**An International Congress of Ophthalmology** will be held at Lucerne, Switzerland, in September, 1904. An innovation in the conduct of the congress will be made in order to promote discussion. It is announced that all papers, to be presented to the congress, must be sent to the secretary not later than May 1, 1904. These will be printed and a copy of each paper will be sent to every registered member some weeks before the opening of the congress. These papers will then not be read, but members are urged to be ready to discuss them when their titles are announced.

**Licensed Osteopaths in Missouri.**—The new Missouri State Board of Osteopathy, which was created by the State Legislature at its last session, has licensed 153 persons, including some thirty women, to practise this method.

**Appeal for the Red Cross in Turkey.**—A petition, signed by twenty-one men and women, constituting the American Missions at Monastir, Philippopolis, Salonika, and Samakoff, was recently presented to United States Minister Leishman and to the British Ambassador, Sir Nicholas O'Conor, requesting them to secure the admission of a corps of the Red Cross Society into Turkey; or, as an alternative, permission for the members of the American Missions to dispense charity. The petitioners assert that thousands of the inhabitants of the disturbed districts are houseless and are already reduced to living on roots and grasses. In many places the wounded are lying without medical attendance, and with no remedies or palliatives within reach of their friends, and whole districts are weltering in blood, without a single doctor or trained nurse to relieve the suffering. Should the authorities object to the entrance of the Red Cross Societies, but consent to allow the private distribution of relief, the mission would be willing to undertake it to the extent of limited ability, should funds be sent for that purpose. "In any case," the petition concludes, "the call is for urgent action, and it should be prompt if it is to be effective. The gangrene in the wounds of men and women will not stay its action to await prolonged formalities, and starving babies will wail out their lives if succor is delayed. Needless, however, to multiply words, since our appeal is to men whose sympathies are keen and who represent nations always quick to respond to the cry of help from those in need and in misery."

**Typhoid Fever in Algiers.**—A serious epidemic of typhoid fever is reported to be prevailing among the troops in Algeria, and the military manœuvres which were in progress have been suspended.

**New Quarters for the House Staff at Roosevelt.**—A "staff room" for the internes is to be added to Roosevelt Hospital. It is to be a one-story structure of ornamental brick and plastic slate, and will be on Fifty-ninth street, just off the main hospital building. It is to cost $4,500. The plans have been filed with the Building Superintendent.

**Consolidation of Medical Schools in Washington.**—The medical and dental departments of the National University and Columbian University at Washington have consolidated, and at the beginning of the fall term the former medical and the dental students of the National University will matriculate as Columbian students. Drs. Baker, J. Hall Lewis, and E. A. de Schweinitz, representatives of the two universities, have had the question of the merger of the medical and dental departments under consideration for some time, and the arrangements have recently been completed.

**Obituary Notes.**—Dr. GEORGE W. BOWEN died in Philadelphia on October 1 at the age of fifty-six years. He was graduated from the Medical Department of the University of Pennsylvania in 1872.

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**Sarcoma of the Femur Recurring after Amputation and Cured by Injections of Coley's Fluid.**—H. B. Sweetser states that sarcoma of the femur treated by operation is almost sure to recur. This appears to be true whether resected or amputated in continuity or disarticulated at the hip joint. The type of tumor does not seem to make much difference. Almost the only cases that have not recurred, or if recurring have disappeared again, are those which have freely suppurated after operation or which were inoculated with erysipelas poison, or which were subjected to injection with the toxins of streptococcus erysipelatis and bacillus prodigiosus, the co-called Coley's fluid. In the pre-aseptic days, when operative wounds almost invariably suppurated the results were better than they are now. The patient whose case is here reported was a man thirty-three years of age. Sarcoma of the right knee developed, following injury. The tumor was opened, the patient objecting to amputation without positive proof of malignancy. Microscopical examination showed it to be a large, spindle-celled sarcoma. Later the thigh was amputated. About five weeks later recurrence was noted. Injections of Coley's fluid were begun. They were always given in the neighborhood of the tumor. They were very painful and raised a lump which did not disappear for a number of days. The injections very promptly controlled the pain, which was intense. There was very little change in the appearance of the leg or tumor until at least fifteen injections were given Then suddenly a very rapid retrogression took place. The temperature and pulse responded almost as promptly as did the pain. The patient now weighs 180 pounds, having regained all he lost during his illness. He wears an artificial leg, works daily and feels in perfect health.—*Northwestern Lancet.*

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

FEVER AND DYSENTERY IN SOUTH-AFRICAN WAR—BRITISH ASSOCIATION—DR. TOLMAN'S LECTURE—EDIBLE FUNGI—PREVENTION OF TROPICAL DISEASES—THE OUTBREAK ON THE TRAINING SHIP—CANCER FUND—REVACCINATION—KING'S SANATORIUM—MORTALITY OF THE MONTH.

LONDON, September 18, 1903.

THE report of the commission on dysentery and enteric fever in the South-African War has just appeared. The introduction is dated November 29, 1901. Why this delay in producing it? It cannot be that the printing, though plates and maps illustrate the report, has taken nearly two years. Perhaps the differences of opinion expressed have had some influence, for they are quite irreconcilable, and will certainly be quoted as one more example of how doctors disagree. The commissioners were Lieutenant-Colonel Bruce, Col. Lane Notter, and Dr. W. J. Simpson, and each of these expresses his own opinions. Colonel Bruce made a bacteriological examination of eighteen cases of dysentery and seven of enteric fever. His report on the conditions is not controverted. He concludes that dysentery in South Africa is not caused by amœbæ, the organs are sterile, the causal agent being confined to the intestines. No microorganism stands out prominently in the large intestine, as in cholera.

There is not sufficient evidence that bacillus coli take on pathogenic qualities. There is no connection between dysentery and enteric, Eberth's bacillus not being found in dysentery. There is some evidence that dysentery following enteric may be really relapse of the enteric when the large intestine has been attacked.

Professor Simpson's report follows and deals with many points. He finds enteric fever a common scourge in the civil population of South Africa, and dysentery virulent in the mines. He attributes them mainly to insufficient protection of the water supplies and neglect of proper disposal of excreta and slop water. In the army the above causes were sure to prove serious, and in the first year of the campaign the deaths from enteric fever were more than six and one-half times as many as those from dysentery, and in the second year nearly six times. Drinking surface water was the commonest cause of dysentery, but sand lodging on the food during dust storms was also a cause. It is suggested that meat should be sent in tins containing only a single soldier's rations. He would thus be able to protect himself from dust and flies on his food. Wells were dug at the Modder river, and the requisite number available two days before the troops began to leave. At Paardeberg this was not done, though Dr. Simpson shows that the geological formation was well adapted for this natural precaution. These two facts are examples of what is evident throughout the report—that the catastrophes of the campaign were due to the want of forethought and unpreparedness, which was the bane in every department of the army. In many respects the neglect seems criminal. The authorities had been warned over and over again that a breakdown was inevitable unless certain provisions were made. But they sent out their armies unprepared for war, and the medical department more than half below its proper number, and then inadequately equipped. Dr. Simpson gives a summary of the sanitary state of some camps, which is not quite new, as the facts were obvious to many and have been discussed in the press. But on many points the statements of the reporters are contradictory. Here is a striking example: Dr. Simpson says it was "the general exception for the water to be filtered or boiled," but Colonel Notter declares this statement to be "far from the real facts," and that in his "experience it was rather the exception to find water not boiled or filtered." He further impugns Dr. Simpson's description of the general state of the camps as "grossly exaggerated." There are other strange contradictions in this report which may possibly serve the military autorities as an excuse for further delay in commencing reforms. Parliament is not sitting, and a cabinet crisis is to-day sprung upon us. Is it likely anything will be done? Yet grave responsibility will be incurred by further neglect. The least to be done should be to appoint one or two experts to examine and report on the divergent views of the commissioners and make some recommendations.

The meeting of the British Association is among the things of the past. It is said to have been successful, but it has not excited, I think, as much interest as usual, although it has ventured to discuss subjects out of its usual range, or, at least, on the borders. Some of the speakers and even readers of papers, have attempted to apply science to political questions, and in doing so have exhibited themselves more as politicians than scientists. This was especially noticeable, according to the reports of the proceedings in the Section of Economical Science, in which the burning question of the day was introduced in three papers. The first of these was entitled "Statistical Methods and the Fiscal Controversy," by Mr. Bowley, and was a criticism and a warning with reference to the confusion due to erroneous uses of statistics in argument. He was followed by Rev. Dr. Cunningham, who promised to treat the question as entirely an economic one, but appeared to some to deviate from this intention, for he put forward the paradox that retaliatory duties could be supported on free-trade principles. A subsequent speaker said this showed him to have a "double personality," and another said he was a competent economic historian, but not a politician. The third paper had opened the floodgates by references to "absurd proposals," the "folly of lunatics," and other choice phrases which hardly accord with the notion of scientific discussion and led to statements and expressions not often heard in the proceedings of professed economists. However, they produced laughter, not to say jeers, on both sides, and the usual notes of assent and dissent.

I must turn to a subject more allied to medical studies. A report was presented by a committee on the conditions of health in schools. Sub-committees had collected information on the general problem of school hygiene. Special attention had been directed to the causes of defective eyesight in school children and the conditions necessary to preserve the sight from injury in school life. One of these was said to be the bad print of school books, and it was actually suggested that these books should be "passed" by some recognized authority on hygiene before being admitted for use in schools. The committee pointed out that the two sexes being about equally occupied in school, the inspectors ought to be men and women in equal numbers. The committee proposed to memorialize the Education Department. (1) To adopt or recognize some more thorough and practical test of a teacher's knowledge and experience of the application of health conditions in school life. (2) To protect health in school life by making practical knowledge of hygiene as applied to school life an essential qualification for those to whom it entrusts its school inspection. It would seem that a more ready means of attaining the object, and more likely to be successful, would be to appoint a few medical inspectors.

Another hygienic discussion was on garden cities. You have heard of the project for establishing them put forward in Mr. Ebenezer Howard's book on the subject as a solution of the problems of overgrowth in great cities and depopulation of rural districts. A bold experiment is to be made in this direction. Mr. Howard, who was present at the discussion, stated at its close that a site of 3,800 acres of land had been secured for the purpose, and that the Great Northern Railway Company had begun the erection of a station on the estate.

It is announced this morning that the Limited Company for carrying out the first city is successful, the applications for shares being sufficient to justify going to allotment.

"Physical Degeneration" was the subject of another paper which did not support the alarming assumption of some writers that one-third of our population is too poor to maintain itself in physical efficiency. This assumption is a hasty inference from the figures of Mr. Booth and Mr. Rowntree, whose laborious researches are well known and have aroused intense interest. But their investigations by no means supports this inference. In my letter of August 28 I wrote something on the subject in reference to the Scottish Commission, and may now add that this last paper supports what I then said. Doubtless many children are in want of better care and better food, but a large proportion of them suffer—not from the poverty so much as the neglect and ignorance of their parents and the waste of wages in beer, etc.

In connection with this subject, I may report that Dr. Tolman of the New York Institute of Social Service has been giving a lecture here on "Improved Conditions of Life," in which he stated the results of investigations in various countries. He said that in America industrial betterment had been carried out in many large cities, and the question as to whether it was profitable was not considered, the object of the great factory owners being rather to provide "a little heaven here below" for their workpeople.

Among the concluding resolutions of the association it was agreed to request the council to urge on the government the desirability of increased national support for the universities. The resolution hardly comes up to the president's suggestion, but to ask for £24,000,000 would be like crying for the moon.

Do you like mushrooms? Dr. M. C. Cooke has been turing on edible fungi at the Horticultural Society. e told a crowded audience that there was no royal road a knowledge of them which would enable them readily distinguish the edible from the poisonous varieties. e said he had eaten, or at least tasted, about eighty nds, but claimed no merit for venturing to do so, as he d generally obtained information which justified him. e described the principal characteristics of some twenty ible varieties found in this country, and said he could stance five times that number. He urged the necessity cooking and eating fungi as soon as possible after thering them, as in some, chemical changes set in once and give rise to poisonous substances. The ture was illustrated with numerous colored drawings, ich probably will be reproduced in the society's journal.

Professor Boyce of the Liverpool School of Tropical edicine, in a recent lecture, took a cheerful view of ogress in stamping out diseases as knowledge advanced. e can now control malaria, but must employ the est scientific methods. The awful mortality in India hardly realized by the public. In the present year, to the end of August, nearly 600,000 perished from gue. Cholera and malaria would count three times many victims. The tsetse fly had lately paralyzed de in Mauritius. The common house fly was a dan- ous and dirty insect, which should be chased from ry house. The campaign against the mosquito successful wherever vigorously fought. But England st rise to her responsibility and make much greater orts. The scientific laboratories of the country are dequate.

Dr. Williams, M.O.H. for the Port of London, reports that e outbreak of typhoid fever among the boys on board e training ship *Cornwall*, caused by the use of infected nkets from South Africa, has now terminated. From ril 8 to August 17 the cases numbered sixteen. You ll remember that it was the port sanitary officers who ced the outbreak to the infected blankets and caused e seizures of all these articles in the docks and wherever y could be traced, thus, doubtless, preventing a wide- read epidemic; for at one dock sixty-two bales were ized.

Sir Lambert Ormsby, president of the Royal College of Surgeons in Ireland, has made a vigorous appeal in the press on behalf of the Cancer Research Fund. He professes himself unable to understand why the public are so apathetic, and says while medical men are devoting their lives to this work, "those who are rich and live at ease ought to question themselves whether they are not incurring a very grave responsibility in withholding the only help they can give—money help—to this grand crusade against one of the direst foes of humanity."

Mrs. Garrett Anderson, M.D., also appears in the newspapers on another subject—vaccination. She instances, as a lesson, the Battersea epidemic, in which 220 cases of smallpox and twenty-nine deaths occurred, and says the estimated cost to the ratepayers was over £71 for every case. She adds that if the ratepayers desire to prevent the recurrence of this waste they have two potent weapons at hand: to let candidates at the election know that they demand revaccination at school age, and in the meantime insist upon every person in their own employ being able to prove having been efficiently revaccinated.

The work of building the Kings Sanatorium has begun, many men being engaged on the foundations.

The London death rate rose last week to 15.2. It had been 14.4, 14.3, and 14.1 in the preceding three weeks, but it is still below the average for the corresponding period of the decade. The same is the case in the seventy-six large towns, the rates of which, for the same weeks, were 15.7, 16.0, 15.7, and 15.8.

## OUR PARIS LETTER.

(From our Special Correspondent.)

URETERAL CATHETERIZATION MISLEADING IN SOME CASES —TUFFIER'S OPINION ON OBSTRUCTION OF THE CHOLEDOCHUS—REMARKABLE CASE OF GASTROTOMY—CHANTEMESSE'S NEW TREATMENT OF TYPHOID PHLEBITIS—SYPHILIS INOCULATED IN AN APE—TWO CASES OF TABES CURED BY MERCURIAL TREATMENT—THE MILK QUESTION—EXPERIMENTS OF NICOLLE AND PETIT.

PARIS, September 18, 1903.

DR. BAZY, surgeon at the Beaujour Hospital, and one of the best known genito-urinary specialists in Paris, does not consider a radical operation always timely in renal tuberculosis. At a recent meeting of the Society of Surgery he gave the history of a case, which justifies his opinion. Two and a half years ago he was consulted by a patient who had already seen one of his colleagues who, after having performed ureteral catheterization, found bacilli in the urine coming from the left kidney, and recommended nephrectomy. Dr. Bazy considered it inexpedient to operate, as there were no symptoms, such as pain or hæmaturia. On the other hand, repeated examinations of the urine did not reveal tubercle bacilli, but a pseudotuberculous bacillus, coloring in the same manner, but having no effect on the guinea-pig. The patient in question, a young man, is still apparently in good health, has no fever and no pain.

At the same meeting Dr. Tuffier gave his opinion on the important question of diagnosis and treatment of calculous obstruction of the choledochus. The diagnosis was often difficult, even during the operation. Former attacks of bilious colic were a useful sign, as also the size of the gall-bladder, the latter, however, were not to be counted on always.

Dr. Tuffier cited a case of cancer of the pancreas, in which the bladder could not increase in size, as the cystic canal and neck of the organ were included in the tumor. Dr. Tuffier preferred to push the stone into the bladder rather than perform choledochotomy, but when he performed this latter operation, he did not suture the canal, unless this could be easily done.

A most remarkable case of gastrotomy for foreign bodies of the stomach was described at a meeting of the Académie de Médecine. The patient, a youth sixteen years old, had entered the St. Joseph Hospital for Epilepsy. He had had melæna and a rather sharp pain, accompanied by crepitation in the left hypochondrium. The operation was performed in June, and the following bodies were removed through an orifice of 2 centimeters and a half: 8 teaspoons from 8 to 15 centimeters long, a three-pronged fork, a letter file 12 centimeters long, 2 sharp points, a needle 6 centimeters long, a knife-blade 5 centimeters long, a piece of comb 8 centimeters long, and a key. There were in all 25 bodies, weighing 230 grams. The stomach did not seem to have been affected, and the patient recovered completely.

Dr. Chantemesse has been trying a new method of treatment of phlebitis in typhoid fever, which consists in using as little salt as possible in the food given to the patient. He applied this treatment in six cases, and the œdema remained stationary. When the treatment was interrupted, the œdema increased.

Dr. Metchnikoff of the Pasteur Institute has at last been able to inoculate a young female chimpanzee with syphilis. The inoculation which was done on the clitoris was repeated after five days. On the twenty-sixth day there appeared an oval vesicle, followed by an indurated ulceration, covered by a gray false membrane. The inguinal glands increased in size on the same side. Fournier examined the animal and admitted that the lesion was a perfect type of syphilitic chancre. Du Castel said that it was not necessary to await the appearance of the secondary symptoms to affirm the syphilitic nature of the lesion. Metchnikoff has succeeded because he employed an animal which morphologically is closer to man than the other varieties of apes.

In the March number of the *Annals of the Brussels Central Polyclinic* Dr. Duhot published two interesting cases of tabes cured by an intense mercurial treatment. In the first observation the patient, a young man twenty-seven years old, had an extragenital chancre in September, 1900. Two months afterward a malignant pustulous eruption showed that the case of syphilis was serious. Twelve injections of salicylate of mercury were made. In February, 1901, there appeared gumma at the nape of the neck and eczema. In May the patient began to have vertigo, diplopia, and weak sight. The patient spoke with difficulty, there was weakness of the left arm, the papillary and patellar reflexes were diminished. Four injections of 10 centigrams of calomel and 3 grams of iodide of potassium removed all these symptoms. In July, September, and October nine injections were made. On the 17th of December there was emaciation, complete suppression of the pupillary reflexes as well as of the patella. The cremasterian and abdominal reflexes still existed. There was loss of sensation in the soles of the feet, and the patient could not walk straight. He could not stand with his eyes shut and had shooting pains in his legs. Twelve injections of calomel, one every week, were administered, as well as 3 grams of iodide daily. Points of fire were applied on the back twice a week, and static electrization of the trunk and lower limbs was applied each day for a quarter of an hour. This treatment was carried out for two months, when the reflexes had returned to their usual condition, with the except on of the left patella, which lagged a little. The patient could stand with his eyes shut, and walk in a straight line. The sensation in the soles of the feet had come back in great measure. The second observation was similar, the patient could now walk perfectly well, but the patellar reflex was still absent.

Dr. Vaillard and Dr. Georges, surgeons at the military hospital of the Val de Grâce, have established a formula for the use of iodine as a means of sterilizing water. The troops are furnished with compressed pellets of: (1) iodide of potassium 10 grams, iodate of sodium 1.56, methylene blue q. s. for 100 compressed pellets. (2) Tartaric acid 10 grams, sulphofuchsine q. s. for 100 compressed pellets. (3) Hyposulphite of sodium 11.6 grams, to be melted gently and made into 100 pastelles. The iodide pellets should be kept in a bottle. Instructions are given to the soldiers as to the method of using them, which is as follows: Filter water overcharged with organic matter. Put an iodide pellet and a tartaric pellet into a small amount of water, and when thoroughly dissolved pour into about 10 liters of water. After about 10 minutes dissolve one pellet of hyposulphite in a small amount of water and pour this into the water. The water becomes perfectly clear and can be drunk immediately.

The question of pure milk is being discussed again in the French newspapers, and the medical papers are taking it up. Experiments have been carried out at Rouen, by Nicolle and Petit, and it was found that with the exception of one sample all the milk analyzed contained a large number of bacteria, as many as 2,400,000 being found in one cubic centimeter. The conclusion of their experiments was that the best method was that already carried out in New York, viz., refrigeration, the microbes not multiplying at a temperature of 6 to 10° C.

## THE QUESTION OF AMALGAMATING THE TWO STATE SOCIETIES.

To the Editor of the Medical Record:

Sir: As a member of the Comitia Minora of the Medical Society of the State of New York I have voted against the proposition to call a special meeting for the transaction of executive business in connection with the coming semi-annual meeting. The reasons I have for voting in this way are these:

First: The transaction of executive business in connection with the semi-annual meetings of the State Society is contrary to the vote of the society when these meetings were authorized. It was distinctly stated then that these meetings should be for the transaction of scientific work *only*.

Second: It is not possible to say how largely attended this meeting will be, and to go into executive session and transact important business at such a time would look as if somebody wanted to "jam" something through which he feared would fail of passage if presented at the annual meeting, which would probably be more largely attended and representative in its character. I should feel that way myself, and I know others would, too.

Third: The Committee on Amalgamation has had no meeting since early in the summer and can have no report to offer. Nor could it prepare, in the short time between now and the date set for the semi-annual meeting, a well-considered and careful report. If a special business meeting is called, I know there are a number of New York men who are opposed to this effort unduly to hasten matters, who will be present and speak against it. I am not going to try to influence any one to act contrary to his or her best judgment. If those who attend are not willing to listen to, and be governed by, what seems to me to be reason, then I shall bow to the will of the majority as gracefully as possible.

It has been said it is "up to" certain men of the profession to bring about medical union in this State, but I doubt if there is a living man who can bring about a union satisfactory to all as matters stand to-day. There are too many conflicting opinions and interests. If there is such a man, it is certainly "up to him" to do it.

I am heartily in favor of union, as you know. I would even be willing to make great sacrifices to bring such a thing about. I would even vote to assume the association's debts, if we could in that way settle the question. I am not in favor, however, and never will be, of entering into and adopting the business schemes of the association; its death benefit fund; its medical defence union; its publications, and so on.

I am not in favor of their plan of organization, considering it decidedly less desirable than our own, but I would not stand out against that.

The State Society and the State Association are, as so clearly pointed out in the recent articles in the *Buffalo Medical Journal*, organizations with distinctly different purposes. One is for the protection of the community and the public health, while the other is a business organization established for the protection of the profession and for social and scientific purposes. You cannot unite these two bodies and have the united body retain the functions each exercised separately, without taking away from the society the strong argument it has always used when appearing before the Legislature in opposition to pernicious measures seriously affecting the integrity of our medical and other public health laws.

Either the association must drop its business undertakings, commendable as they may be when conducted by the association, and come up to our position, or we must adopt them and come down at once from our lofty position as a public body to that of a private corporation chartered for business and social purposes. This step is but the beginning of the end, but if the profession is willing to have it so, then so let it be. It means, however, the opening of the doors in New York to all the quacks and charlatans in christendom. The Medical Society of the State of New York will never be able after such a union to appear before the Legislature and argue successfully in favor of its exclusive right to name the members of the State Board of Medical Examiners representing the regular profession, which privilege it possesses to-day, and meet the charge that the State has no right to confer public functions on societies and organizations created for the personal benefit of individuals or bodies of individuals. That statement was made last winter by one of our State Senators when I appeared before the Legislature in behalf of trained nurses. I was able to convince the Senate Committee that the Honorable gentleman was wrong; that the State Society was a public body, created for public purposes and for nothing else.

The Medical Society of the State of New York has been able, in the years of its existence (nearly a century now) to accomplish great things for the public at large and for the medical profession. Much as I favor medical union, I feel we should move slowly in this matter, and before we agree on any plan of amalgamation its possible effect on our future usefulness should be carefully looked into.

There has been an interval of over twenty years since the rupture occurred which gave rise to the formation of the State Association. We have been getting closer together all that time, and now since the American Medical Association has made it possible for union to occur, we do not want to lose our heads and plunge into any compact which will be worse than remaining as we are. On the other hand, I do not think either party is justified in standing out for all the concessions coming from the other side.

I believe we ought to be willing to make mutual concessions, providing we are not asked to adopt such provisions, or amendments to our charter, as will entirely alter the complexion of our organization and change it from a public body, with public functions, into a private corporation organized for business and social purposes and for private gain.

Frank Van Fleet, M.D.

New York, October 5, 1903.

## Progress of Medical Science.

*The Boston Medical and Surgical Journal, October 1, 1903.*

**A Note on the Transmission of Whooping-cough by Indirect Contagion.**—John Lovett Morse, in answer to a circular letter on this subject, sent to the members of the American Pædiatric Society, received forty replies. He says that it seems hardly possible to draw any very positive conclusion from these replies, except that very little is known as to the indirect contagiousness of whooping-cough. The cases reported, although very few, seem to justify the presumption that whooping-cough may be carried by third persons or by clothing and other articles. The fact that forty men of such wide experience have seen such a small number of cases in which they could, satisfactorily, to themselves, exclude direct contagion shows, however, that it must be very seldom that whooping-cough is carried in this way.

**Urethral Tuberculosis, with Report of a Case.**—Arthur L. Chute says that relatively few cases of urethral tuberculosis are reported. This affection may be secondary to a purely genital tuberculosis or to a tuberculosis of the urinary tract. The case here reported belongs in the first class. The lesions can be grouped under three headings: Those of the mucous membrane; those of the corpus spongiosum; and those of the periurethral tissues. Two sorts of lesions of the mucous membrane are commonly seen—the granulation and the ulcer. Frequency and tenesmus are early symptoms. For the same reason hæmaturia is often seen. Incontinence has not been a very unusual symptom. The discharge is commonly scanty and whitish rather than purulent. Pain on urination is quite a constant symptom. A nodular condition of the urethra is less common than the discharge or pain. In certain cases obstruction to urination has

been a prominent symptom. The prognosis of this disease depends very largely upon the extent and importance of the primary focus. The hygienic treatment should hold the most important place. Then forced feeding, arsenic, guaiacol, creosote, together with aids to appetite and digestion, are of service. Seashore camping for patients with this disease is of the greatest advantage. There is a great question as to the utility or desirability of local treatment by applications to the urethra. When the urethra is greatly ulcerated, perineal urethrostomy will give great relief, and may bring about recovery. In some instances of very advanced disease, amputation is the best procedure. Whatever operative procedure may be indicated, the importance of keeping up hygienic treatment must not be overlooked.

*Journal of the American Medical Association, October* 3, 1903.

**Some Clinical Aspects of Tuberculous Peritonitis.**—J. Eichberg reports eight cases, and gives a general description of the disease. He does not regard laparotomy as a cure for the disease. The patient should be put on an anti-tuberculosis régime and incision used only to relieve some definite condition which calls for it.

**Essentials and Non-essentials of Ophthalmic Asepsis.**—H. Gifford calls attention to the bacterial contents of the conjunctival sac and says that it is a practical impossibility to keep them out. He therefore does not think it necessary that the eye surgeon should adopt all the precautions the general surgeon thinks necessary. A general bath for the patient is not necessary just before operation. The skin of the lid should be scrubbed with sterile swabs and a 4 per cent. silver solution painted on. The author then goes in detail into the methods he follows, his object being to simplify matters without neglecting any needful precaution.

**Tuberculosis in the Negro.**—S. Hanis discusses this question and gives certain statistics relative to the disease among the two races. He does not think the blacks especially predisposed to the disease—outside of matters of habits and environment. The methods to pursue in limiting an infectious disease like tuberculosis should be directed toward increasing the strength and vitality of the individuals of the race, thereby rendering their tissues an unsuitable soil for the invasion and propagation of the specific germs of the disease, and in preventing his exposure to the infective agent, as by the isolation of those already afflicted, and by destroying the organisms causing the disease. A strong plea is made for public support of sanatoria.

*Medical News, October* 3, 1903

**The Obstetric Significance of Retrodisplacements of the Uterus.**—Samuel M. Brickner states that in public and private practice the average of posterior displacements of the uterus is about the same, a little less than 20 per cent. Sterility on the part of the woman with a retroflexion or retroversion is a symptom which often brings her to the specialist. Retroflexion may also arise from trauma during childbirth, from excessive or unusual exercise, or from the involvement of the sacrouterine ligaments. Bicycling to excess is productive of this condition. The puerperal infections involving the sacrouterine ligaments, surrounding them with adhesions as in a posterior parametritis, are responsible also for the causation of retrodisplacements. Prophylaxis is the best treatment, and consists in compelling the patient, after the fifth day postpartum, to lie on her abdomen daily from one to two hours, or if she cannot do this, she should at least lie on her side for an equal length of time. Puerperal women must not remain too long in the dorsal position. It causes many of them acute, and even chronic, pelvic disease.

**Treatment of Migraine.**—B. K. Rachford presents a siphon formula which he prescribes for his patients: Sodii sulphatis (dry), 30 grains; sodii salicylatis (from wintergreen), 10 grains; magnesii sulphatis, 50 grains; lithii benzoatis, 5 grains; tincture nucis vomicæ, 3 drops; aquæ destil. to make 4 ounces. This prescription is made in large quantity by a reliable pharmacist and then sent by him to a mineral-water factory to be put up in siphons and charged with carbonic acid. From one-quarter to one-half glass of this medicine is taken each morning half an hour or more before breakfast. The siphons are sold on prescription at fifty or sixty cents each. This prescription may be given for an indefinite time without losing its great therapeutic value or producing disgust for it on the part of the patient. When combined with proper dietetic and hygienic treatment in the relief of migrainous symptoms, the results of this medication are remarkable. Patients under this treatment often go through the winter months without a single attack of migraine. These patients should not eat too much. They should partake sparingly, or not at all, of coffee, alcohol, and red meats. Sweets should, for a time at least, be almost if not altogether eliminated from the diet. They may be allowed milk, eggs, fish, oysters, white meat of poultry, cereals, fruits, and well-prepared vegetables, unless some digestive trouble excludes one or more of these articles from the diet. Exercise in the open air is very important. All kinds of outdoor athletic sports are valuable. General massage is to be advised in the early treatment of feeble patients. The Turkish and vapor baths and hot alkaline tub baths are beneficial especially to robust patients. They are more efficacious when accompanied by copious draughts of water and followed by general massage.

*New York Medical Journal, October* 3, 1903.

**A Form of Rational Treatment for Corneal Ulcers.**—W. L. Phillips advises the use of suprarenal extract to contract the arteries of the conjunctiva and iris, antisepsis of the conjunctival sac by means of boric acid, and the building up of the lymph corpuscles to a healthy condition to bring about resolution. For the latter purpose he advises a hypodermic solution of nuclein, 5 per cent. Finally, all contributing causes, as adenoids, turbinal enlargements, caries, etc., must be removed. The histories of several cases thus treated are given.

**Essential or Idiopathic Spasm.**—W. C. Fisk gives the notes of a case of this neurosis, sometimes called intermittent tetany or tetanilla. The patient was a man who was strong and robust, but of neurotic habit, having been affected since childhood with attacks resembling *petit mal*. On one occasion he had an attack of the nature mentioned in the title. For a minute he would be calm and cheerful and chat with those about him, and then would come a spasm that would lift him up in bed, or turn him over on his side, or bring his legs up to the perpendicular, or arch his back so that he rested on his head and heels. The spasms were confined to legs, arms, and abdomen, and were at first bilateral, later unilateral. No trismus, facial tremor, or spasm of glottis. Between the attacks he felt absolutely well, with the exception of excusable nervousness over his affliction and the not knowing how soon another jerk of his body would come on. No fever, no headache—and the only pain he complained of was great soreness of his bowels. Subcutaneous injections of hyoscine hydrobromide brought the condition under control, $\frac{1}{100}$ gr. being placed in the soft tissues of the flank.

**Growths of the Male Urethra, with Report of Three Cases.**—The cases are reported by J. E. Morrow. Case 1 was that of a man forty-nine years old. The principal symptom was hemorrhage. With snare, some twenty fibrous nodules were removed, one came away spontaneously, and others were removed by caustic solutions. The urethra was dilated behind the growths, and the continuance of sexual relations after the obstruction had begun to be experienced caused a chronic seminal vesiculitis. Removal of the growths gradually restored the normal conditions. In Case 2, a man of thirty-one, a growth was found by the urethroscope in the prostatic portion near its junction with the membranous portion. This was removed with forceps, the growth being a fibroma. In Case 3 the forceps were also used, the growth being in the prostatic urethra about one inch from the bladder and easily removed, but it was so badly lacerated by the blades of the instrument that microscopical examination was impossible. The author summarizes the methods of treatment as enucleation with knife, scissors, cautery, loop strong astringents or caustics.

*American Medicine, October* 3. 1903.

**The Complications of Hypertrophy of the Pharyngeal Tonsil.**—George B. Wood presents two groups of complications of hypertrophy of the pharyngeal tonsil: the mechanical and the infectious; but these two groups are generally more or less combined in the production of the clinical symptoms. Mouth-breathing is an almost purely mechanical complication, but it may produce conditions which make a ready soil for infection. Skeletal deformities, the most prominent of which are narrowing of the alveolar arch of the upper jaw and so-called "chicken breast," are often due to mouth-breathing. The most serious complications due to the pharyngeal tonsil are the otitic disturbances. The writer has tabulated the chief subjective symptoms of 149 patients with this affliction. Nasal discharge or recurrent attacks of coryza were present in about 52 per cent. Some form of ear trouble was found in 42 per cent. There were symptoms of nasal obstruction in 78 per cent. Headache occurred in 19 per cent. When a number of such symptoms are present, a tentative diagnosis can be made in the majority of cases.

**Surgery of the Upper Right Quadrant of the Belly.**—J. F. Binnie enumerates the structures and organs of special importance in this pouch, or its boundaries, as gall-bladder and ducts, duodenum, pancreas, and part of stomach. Attention is most commonly drawn to the right upper quadrant of the abdomen by gallstone disease. In the majority of cases ,especially in those seen fairly early, the phenomena of infection are not very threatening. Biliary lithiasis in many cases gives rise to many grave complications, difficult to diagnose, but susceptible of great improvement or of cure by early surgical intervention. In themselves, gallstones, except when escaping through the duct, are more or less innocuous, it is the cholecystitis and cholangitis to which they predispose and the complications therefrom which are dangerous and disabling. The symptoms of cholangitis and cholecystitis may be absolutely identical with those of cholelithiasis. The common bile duct passes behind the first segment of the duodenum, then along a groove on the posterior surfaces of the head of the pancreas. When gallstones pass into or through the lower parts of the common duct they are liable to injure the delicate tissue of the neighboring pancreas, and so cause obstruction to the outflow of pancreatic juice. As to operative treatment in affections of the gall-bladder, when it is the seat of phlegmonous inflammation, there is no doubt as to the propriety and urgency of removing it and obtaining drainage of the hepatic duct. The writer then quotes the opinions of various authorities as to the propriety of operation in various conditions.

*The Lancet, September* 26, 1903.

**A Case of Puerperal Septicæmia Treated by Antistreptococcic Serum.**—J. M. Mackenzie and W. B. Blandy give notes of the case of a primipara who passed through a normal labor, but was probably infected by a midwife. The usual douching failed to relieve the condition, and 10 c.c. of the serum were injected between the scapulæ. A few minutes after the injection of serum the pulse was noticed to improve in tone and tension, and had a greater volume; probably the improvement in the pulse was aided by ergotinin, which was solely given to aid uterine contraction, and so, if possible, to diminish the area for septic absorption. The administration of serum was adopted fairly early. Soon after each injection the temperature dropped, the pulse improved, and in two or three hours there was an improvement in the appearance of the patient with a corresponding sense of comfort and well-being. But it cannot be said that this improvement lasted for more than thirteen or fourteen hours. As in other cases in which the authors have used antistreptococcic serum, the dose had to be repeated daily in order to keep up the favorable effects.

**A Case Presenting Signs of Pulmonary Stenosis During Life, Unexplained by the Necropsy, with Some Remarks on Diagnosis.**—The case is reported by W. L. Ascherson, and was that of a man of twenty-eight years. The existence of diarrhœa, albuminuria, and mental hebetude suggested uræmia, while the character and position of a heart murmur heard seemed to point to stenosis of the pulmonary artery. The patient died of acute pulmonary œdema passing over into semi-coma. Autopsy showed the pulmonary artery in every way normal, but the kidneys were in a state of chronic parenchymatous nephritis undergoing contraction. No cause could be found for the murmur heard during life. The author found no growth or aneurysm within the mediastinum to press upon the pulmonary artery and to cause stenosis of its lumen, nor was the left lung in any way retracted. Two facts revealed by the necropsy are, perhaps, worthy of mention. The first relates to the position of the heart, the antero-posterior axis of which was more transversely placed than normally. In such a position the shoulder, so to speak, of the heart would occupy a higher position in the chest and also be rotated nearer to the pulmonary artery. The force of ventricular action would be then at a better advantage to compress it, any hypertrophy tending to enhance the probability of such a result. The altered position of this portion of the heart might also be supposed accountable in some measure for the abnormal dulness found in the first and second spaces. The second point has relation to the undue hypertrophy of the septum. The septum is described as bulging into the cavity of the conus arteriosus. Might not the presence of such a bulging be a cause of stenosis, asks the author, if not of the artery itself, at any rate of the ring and conus behind it? Which of these two facts, or whether either of them, played any part in producing the murmur heard during life it is impossible to determine on the evidence of a single case.

**Remarks on Three Cases of Acute Intestinal Obstruction.**—The cases are reported by T. C. English. Two of the three were saved by operation. The paper is presented to extol the merits of saline irrigation in abdominal operations. The author claims for this procedure the following advantages: (1) Distension of the intestines is usually greatly diminished, and this is a factor of utmost importance, both in regard to the direct effect upon the patient and the ease with which the necessary manipulations are carried out. During the course of the operation the exposed intestines are very liable to become dry and chilled, and then rapidly lose their power of absorbing the gases which are being produced, and so distension already existing is increased. A dry intestine must necessarily be a distended one, the two terms becoming synonymous. Saline irrigation will keep the intestines both warm and moist. (2) Shock, which always attends these operations, is diminished by the free absorption of saline fluid. The effect on the pulse and respiration very rapidly shows itself, and there is the further advantage that several pints in this way may be more quickly introduced into the circulation than by other methods. (3) Thirst, which is one of the most distressing features after abdominal operations, is undoubtedly diminished as a result of the free absorption of fluid. (4) The influence of irrigation upon the subsequent formation of adhesions is an important point. The frequency with which these peritoneal adhesions give rise to chronic abominal pain is well known. When there is a likelihood of peritoneal adhesions following, the best way of minimizing or preventing them is to leave as much fluid as possible in the peritoneal cavity. The intestines are thus rendered, as it were, more slippery, and, moreover, smaller areas of peritoneal surfaces will be in contact with each other, owing to the presence of the fluid. The drier the peritoneal surfaces the more likely are they to adhere and to cause subsequent trouble. In certain cases, however, the formation of adhesions may be the best thing for the patient, and then irrigation should be avoided. So, too, if there should be free oozing from adhesions or raw surfaces, irrigation will tend to maintain and to increase the bleeding. (5) Renal secretion is greatly increased, and thus many of the toxic products circulating in the blood are eliminated through the kidneys.

*British Medical Journal, September* 19, 1903.

**The Pathology of Acute Rheumatism and Allied Conditions.**—E. W. Ainley Walker and T. Henry Ryffel have confirmed the observation of Triboulet that a particular microorganism is constantly associated with acute rheumatism. These writers have given the name "micrococcus rheumaticus" to this organism, since it presents certain definite points of difference from the other members of the streptococcus group. With regard to the origin of formic acid these investigators believe it to be formed by the microorganism by the oxidation of sarcolactic acid into formic and acetic acids. In most cases the formic acid has been separated as a sodium salt, and has been subsequently identified by the usual chemical tests. It may also be separated as an insoluble iron salt. The connection of formic acid with the activity of the rheumatic micrococcus is of considerable interest in relation to the evidence of country folk-lore, since it is currently alleged that persons who keep bees, and are thus often subjected to the action of formic acid, are peculiarly insusceptible to rheumatism. There are already indications that the beneficial action of salicylates in rheumatism may find a simple chemical explanation.

**The Probable Modus Operandi of the Parasites of Malignant Disease.**—J. H. Whelan concludes that the parasites enter and attack the epithelial cells only. They do not destroy the epithelial cells, at least at first, but dominate them and live with them symbiotically. They stimulate these cells to inordinate proliferation, and wean them entirely from their allegiance to their commonwealth. The primary tumor is formed. Traitors are proverbially their country's bitterest foes, and these misguided cells prove no exception. They become the contented helots of the parasites. Detachments of the renegade cells enter the lymphatics, carrying their masters with them, and found colonies wherever they can succeed in making a lodgment—secondary tumors. The renegades batten and fatten at the expense of the other members of the commonwealth, and the parasites batten and fatten by the aid of their helots. The commonwealth gradually becomes poisoned by the combined excreta of the parasites and the renegades. It is preyed upon and obstructed by the alien settlement and colonies. Disorganization, decay, and dissolution follow. The stroma of cancer is but the unsuccessful efforts of the connective tissue cells to isolate and combat the enemy. Sarcomata are probably caused by a different species of protozoal parasite to that of cancer. It probably attacks connective tissue cells, and these only, hence the absence of the distinctive fibrous stroma. Its colonial enterprises are made through the blood circulation.

*British Medical Journal, September 26, 1903.*

**The Use of Retinal Extract in Atrophic Retinæ.**—Robert W. Doyne thinks that the results from the use of retinal extract seem to point to the presence of some physiological principle such as is found in the case of the thyroid gland. Ordinary retinal extract or retinæ preserved in glycerin are of comparatively little value as compared with fresh retinæ. Unfortunately, an obstacle to this treatment is its expense. The dose is equivalent to from six to ten retinæ a day. In the great majority of cases the improvement has been marked and definite. The remedy seems to act by bringing out any potentiality that may remain in the atrophic retinæ. The renewed function has been counteracted by the action of too intense daylight. The writer has seen excellent results in cases of old choroiditis and cases of damaged and thinned retinæ of high myopia.

**Subconjunctival Injections of Tuberculin T. R. in the Treatment of Interstitial Keratitis.**—A. Darier relates the case of a girl of thirteen years. There was an absence of all signs of syphilis. A variety of treatment was employed for the eyes. The sight of the right eye had been completely destroyed and the year following the left eye became affected. Finally, on the right side was given a subconjunctival injection of tuberculin. The local reaction was most violent, but there was not the least rise of temperature. For eight days there was intense chemosis, etc., and pannus developed. A considerable number of injections were given till the cornea was transparent enough to allow the contents of the anterior chamber being seen, and an abundant exudation on the back of Discemet's membrane. The fluid in the anterior chamber was so viscid that it could not be aspirated. Posterior synechiæ were present, and an iridectomy was done. About three months later the vision had returned.

**An Operation for Ptosis.**—H. Collen Ensor devised and performed the following operation on a case of complete unilateral ptosis. The patient was a girl of nine years. The eyebrow was shaved and slightly raised, and an incision was made down to the periosteum covering the supraorbital ridge from the internal to the external angular process. A second incision was made through the skin only from the extremities of the former incision and below it, so that a portion of the skin, about 5 mm. broad at the inner side, and 7 mm. at the outer side, could be removed with scissors, as here the skin was more abundant, and the occipitofrontalis did not act so powerfully. Pacquelin's cautery was then applied to burn the tissues at the upper part of the wound, thus charring the tissues to the bone along its whole extent, the orbicularis palpebrarum also being burnt to weaken the muscle. The wound was dressed, and allowed to granulate, and it healed in three weeks. To produce a little more effect the operation was practically repeated later on. The result was excellent. The appearance is far more symmetrical than formerly. The scar is hidden, being immediately below the hair of the eyebrow. The formation of a fixed groove under the eyebrow was accomplished in place of the appearance of vertical bands produced by the constant action of the occipitofrontalis muscle.

*Münchener medicinische Wochenschrift, September 15, 1903.*

**Generalized Lymphœdema of the Skin Due to a Suppuration of a Large Number of Superficial Lymphatic Glands.**—Arnold Sack's patient had a permanent lymphœdema of the skin. This arose as the result of the destruction by suppuration of the majority of cutaneous lymphatic glands throughout the body. In addition, the patient was subject to repeated attacks of erysipelas. The case shows that the superficial lymphatic vessels and glands play an important part in disposing of the superficial lymphatic circulation, and that the venous system is not the chief channel through which this is accomplished, as has been supposed by Unna. Furthermore, the importance of the superficial lymphatic system, in acting as a barrier to bacterial infection, is emphasized, as shown by the repeated attacks of erysipelas to which this patient is subject.

**Innervation of the Bladder and Large Intestine.**—Eduard Hirt reports a case which confirms Müller's view that the reflex center for the evacuation of the bladder and large intestine is not exclusively located in the spinal cord, but that impulses may also be conveyed through the sympathetic to the brain. In this case there was a lesion of the cord above the supposed spinal reflex center, the action of which would thereby be destroyed. At first there was no evacuation of the bladder or large intestine. Some two weeks later a reflective evacuation of the bladder and intestine, at stated intervals, set in, and this continued until death. Autopsy reveals the above spinal lesion and confirmed the supposition that the spinal bladder and intestine reflex centers were entirely destroyed. In such cases the impulse for evacuation is supposed to pass according to Rehfisch's observations, through branches which join the first to third sacral nerves with the sympathetic and hypogastric plexus.

**Lime "Adsorption" by Animal Tissues with Respect to a Modern Theory of Rickets.**—Meinhard Pfaundler places bone dust in a neutral solution of calcium chloride and finds that at the end of a given time there has been a decided loss of the solution in calcium. Further observation shows that this process is neither entirely chemical or mechanical in nature, but stands midway between these two, and may be designated as an "adsorption." Such a process is elective—that is to say, it occurs only between certain ions and certain forms of tissue. That it is the only way in which lime is assimilated by the body is not to be maintained, but that it is one of the steps in the process cannot be doubted. In newly-formed osteoid tissue there is no special affinity for the inorganic components which subsequently enter into the composition of the bone, but as time advances changes take place in such tissue and such an affinity appears. In other words, for "calcification of bone" a certain especial heteroplasia of the osteoid tissue is necessary. Observation shows that rickets is not due in any way to the deficient feeding of lime, and that the adsorption of lime is in no way reduced. It would seem probable, therefore, that the deficient calcification of the bone is due to a failure in the second step in the process of lime assimilation—that is, a failure of the requisite heteroplasia of the osteoid tissue above referred to. This may possibly be regarded as an autolytic process, and is an introductory step in the retrograde metamorphosis of fully-formed protein substances, which is evinced in various tissues throughout the body other than osteoid.

*Berliner klinische Wochenschrift, September 14 1903.*

**Fever and the Excretion of Sugar.**—Friedrich Richter, by a series of experiments upon rabbits, shows that the disappearance of glycosuria in diabetics during fever is not due to the high temperature *per se*, but to the bacterial infection which is the cause of the fever. If rabbits, in which fever has been produced by brain puncture, under aseptic precautions, are given injections of adrenalin, sugar regularly appears in the urine, although the temperature of the animals constantly remains high. On the other hand, if the fever has been produced by bacterial infection (streptococci were employed), no glycosuria occurs as the result of similar injections. The disappearance of the sugar from the urine is probably due to the action of the metabolic products of the infecting microorganisms within the body.

**The Poison Components of Diphtheria Toxins.**—P. Ehrlich says that the diphtheria bacillus produces different kinds of toxins, especially toxins and toxons. The avidity of diphtheria toxin to antitoxin is very great. The deviations from the limit of avidity are not to be explained by the supposition of a single toxin of weakened affinity, but by the fact that in the toxic bouillon different substances of a toxoid character are present. Furthermore, the different avidity of these toxoids cannot be accounted for upon the basis of a single toxin, originally present in the bouillon and which has lost its affinity for the antitoxin in varied degrees, but by the supposition that there were always present in the bouillon different toxins of different avidities. No change in the haptophore group is present in toxoid formation. The absolute number of combining units present in the immunity unit is 200.

**Nasal Dysmenorrhœa.**—Erich Opitz records a case which he thinks adds increased evidence to the view that there is a distinct variety of dysmenorrhœa which should be called "nasal." The patient was twenty-one years of age and applied for treatment for nasal obstruction. At this time nothing was mentioned by the patient concerning any menstrual disturbance, nor was the fact that she suffered from dysmenorrhœa known to the attending physician. An operation was performed and the nasal passages freed. A short time thereafter the *mother* of the patient stated that since the operation violent attacks of dysmenorrhœa from which the patient suffered since she began to menstruate had entirely disappeared. Not many months subsequent the dysmenorrhœa reappeared. An examination of the nares showed that obstruction to a certain degree had recurred. The connection between the nasal appearances and the menstrual disturbance was then explained to the patient and a second operation upon the nares undertaken. This operation was not as successful as the first, but although the patient was not aware of this fact, the attacks of dysmenorrhœa continued with their original intensity. Surely there can be no thought that in this case dysmenorrhœal attacks were influenced by suggestion, and it must be regarded as a genuine case of nasal dysmenorrhœa.

# Society Reports.

## AMERICAN ELECTROTHERAPEUTIC ASSOCIATION.

*Thirteenth Annual Meeting, Held in Atlantic City, N. J., September 22, 23, and 24, 1903.*

DANIEL R. BROWER, M.D., OF CHICAGO, PRESIDENT.

**Special Report to the Medical Record.**

*Tuesday, September 22—First Day.*

THE association was called to order in the Hotel Windsor. Although there was a goodly number in attendance, a tinge of sadness was noticeable in the proceedings because there was a feeling of personal loss in the death of their genial and indefatigable coworker, Dr. Robert Newman, of New York, who was called away while busily engaged in making the final arrangements for the meeting. It need hardly be said that the resolutions relative to this event represented more than a mere formality.

**President's Address.**—Dr. DANIEL R. BROWER of Chicago, in considering the welfare of the association, made the suggestion that it should unite with the American Medical Association or become one of the component societies of the Congress of American Physicians and Surgeons. Such a step would offer an excellent opportunity for interesting the general practitioner in electrotherapeutics.

**New Electrodes.**—Dr. FRANCIS B. BISHOP of Washington, D. C., described an electrode, for the static or high-frequency currents, which was made up of a bottle filled with water and having a piece of wire passed down into the liquid as a conductor. He had also constructed a useful electrode from a child's whisk broom. A long wooden handle was attached to the broom, and provided with a sliding brass collar. It gave a very soft and diffused current with the static spray.

Dr. MORRIS W. BRINKMANN of New York had devised a series of electrodes made of glass tubes, both straight and curved, which were filled with plumbago or crushed electric-light carbon. He also used electrodes made of glass tubes having very thick walls and a very small caliber. These were filled with mercury.

Dr. WILLIAM B. SNOW of New York expressed a preference for electrodes of white maple wood tipped with pieces of various shapes. He also employed a series of vacuum tubes of various sizes and shapes suitable for use not only on the surface of the body but in its various cavities.

Dr. G. BETTON MASSEY of Philadelphia exhibited some platinum-iridium needles which he made out of platinum-iridium wire obtained from dental supply houses. Pieces of suitable length were sharpened at one end by a jeweler's file, and fastened into a handle of hard rubber, being connected with No. 30 conducting wire. They might be very delicately insulated by heating them and melting on hard rubber from a piece half an inch thick. Although this insulation did not last more than half an hour, it could be so readily and finely applied that it was of much value.

**An Experiment in Cataphoresis.**—Dr. FRANCIS B. BISHOP of Washington, D. C., described some experiments that he had made, and which he believed demonstrated that the high-frequency current, as transmitted through a transformer, would penetrate glass and transmit through the glass metallic and liquid substances. He made use of a Piffard coil excited by a Toepler machine of twelve revolving plates. A solution of starch was placed between two clean glass plates measuring 8 by 10 inches, and a sealing of paper, fastened with starch paste, was then applied to the glass plates. A solution of potassium iodide in glycerin was placed on the center of the upper glass plate, and the lower glass plate was placed upon a metallic surface and connected with the earth. The spark employed came from one side of the Piffard coil, and was directed upon the iodide solution. In a few minut iodide of starch was formed. In order to see if the proc could be reversed, Dr. Bishop began treating some je cases by applying iodide of potassium solution extern and applying the high-frequency current by means of hollow glass electrode, filling the latter with a solution starch. After having used this electrode for several we small specks of iodide of starch could be seen floating the fluid.

Dr. T. A. PEASE of Norwood, N. Y., said that he been able to confirm the last observation described.

Mr. R. G. BROWN thought Dr. Bishop had been mis and that the result would have been different if the glass plates had been hermetically sealed.

Dr. W. B. SNOW remarked that workers with vacu tubes knew well that the current passed through the gl

Dr. ALBERT C. GEYSER of New York was disposed think that the blue reaction obtained was not due iodide of starch but to the action of the ozone genera

**Committee on Constant Current Generators and C trollers.**—Dr. WILLIAM J. HERDMAN of Ann Arbor, Mi presented this report. He said that the constant cur was now obtained for electrotherapeutic work from dustrial dynamo currents all over the world, and was with much satisfaction; but in some places there was such dynamo current available, and, moreover, it not portable, and, hence, could not be used at the bedsi The dry cell had partially solved this problem. The vestigations of the committee showed that the consta and efficiency of the dry cells found upon the mar differed very considerably. The drain upon their chemi composition was not heavy, but it was intermittent irregular, the demand being considerable at times, follow by more or less prolonged intervals of rest. For th years they had experimented with such cells in laboratory, simulating as closely as possible the act conditions found in medical practice. Some of results of these tests had already been submitted to association, and the present report showed the resu obtained with a new and very promising candidate favor among the dry cells on the market.

**Electrotherapy as a Specialty.**—Dr. ALFRED W. BAYL of Buffalo presented this paper. He dwelt upon the ne for special preparation and compared the work done he and in the hospitals abroad. The author advised t exercise of caution in giving a prognosis until the effe of the current had been studied in the individual case.

Drs. A. D. ROCKWELL and W. B. SNOW of New Yo objected to making electrotherapeutics a specialty.

**The Effects of the Secondary Static Currents in Removi Albumin and Casts from the Urine.**—Dr. BOARDMAN RE of Philadelphia was the author of this paper. He sai that probably one-fourth of his cases of gastrointest n disease of long standing had had hyaline casts and albumi in the urine; nevertheless, many of them had prove amenable to appropriate dietetic and other treatment These cases probably belonged in the category of toxi nephritis, and resulted from the injurious action of th toxins of indigestion upon the kidneys. He proposed t call such cases autotoxic nephritis, and was of the opinio that if they were neglected or were wrongly treated they might lead to permanent organic disease of the kidney His experience in the treatment of these cases had *not* been satisfactory until he had resorted to the use of static electricity, as suggested by Dr. A. D. Rockwell. During the past year he had observed eighteen cases of this kind. Four illustrative cases were reported, in three of which static electricity successfully controlled the albuminuria. So far as his experience had gone, the faradic current had not proved so useful in these cases as the static current In most cases he had made use of the static wave current, but he was inclined to think now that the static *induced* current was the best form of electricity to employ in this class of cases. He had had urine analyses made just

# News of the Week.

**Steps Looking to Medical Unity in New York State.**—A special meeting of the Council and Fellows of the New York State Medical Association was held in the New York Academy of Medicine on the afternoon of October 1, 1903, to consider overtures from the Medical Society of the State of New York, looking to a union of the two State Medical organizations. The following letter addressed to Dr. F. H. Wiggin, President of the New York State Medical Association, was read:

SYRACUSE, N. Y., May 28, 1903.

"MY DEAR DOCTOR: At the last meeting of the Medical Society of the State of New York the Committee on conference appointed to confer with the similar committee of the New York State Medical Association, after making its report, was continued and instructed to await the action of the American Medical Association at New Orleans before considering further the methods of amalgamating the regular profession of the State of New York. At a recent meeting of the American Medical Association radical action was taken removing the obstacle which prevented unification. Appreciating the fact that no further barrier stands in the way of uniting the profession of the State of New York into a single State society, the committee representing the Medical Society of the State of New York would respectfully ask the New York State Medical Association that further conference with its representatives be arranged with the object of speedily settling upon a definite plan which shall form the basis for amalgamation of the two existing bodies. In making this request the committee representing the Medical Society of the State of New York assures the Association of its earnest desire to increase the influence of the State profession by the action suggested; that it would further state to that body that it is ready to suggest to the Medical Society of the State of New York that it amend its charter to continue the consolidated and amended chapter 138 of the laws of 1806, chapter 94 of the laws of 1813, and chapter 452 of the laws of 1900 for the purpose of cultivating and advancing the science of medicine, the promotion and protection of public health, and the establishment of a death benefit fund for the dependents of the members of the Medical Society of the State of New York. That it feels justified still further in assuring the association that it will recommend to the State Society the method of organization founded upon the plan suggested by the American Medical Association and considered by the joint conference when in session in April, 1902, and that all other matters of detail, which must be considered before final action can be taken by the respective societies, must, of necessity, become subjects for conference. The committee asks for careful deliberation in conference that both the society and the association may in the near future be able to present completed and satisfactory plans to the State bodies for ratification."

Signed, Henry L. Elsner, Chairman; A. Jacobi, A. Van Der Veer, George R. Fowler. The only member of the committee who did not sign was Dr. Frank Van Fleet.

In his reply to Dr. Elsner, Dr. Wiggin wrote, under date of June 10, 1903: "MY DEAR DOCTOR: I have received your communication of the 28th requesting appointment by our association of a committee to confer with your committee relative to plans for uniting our State bodies, signed by yourself, Drs. A. Jacobi, A. Van Der Veer, and George R. Fowler, and I shall take pleasure in presenting to our council at the earliest practicable moment for consideration and such action as they may see fit to take on it, as, under our constitution and by-laws, matters of importance are so referred."

(Signed) FREDERICK HOLME WIGGIN,
Pres. N. Y. State Medical Association.

The following preambles and resolutions were then introduced by Dr. Joseph D. Bryant and were unanimously adopted:

"*Whereas*, The members of the New York State Medical Association desire a union of the medical profession of the State of New York, and,

*Whereas*, It is deemed expedient for the attainment of this purpose to make further effort to bring together the New York State Medical Association and the Medical Society of the State of New York under the name of The Medical Society of the State of New York:

*Resolved*, That a committee of five be appointed by the Chair, and said committee is hereby empowered to do whatever is necessary and expedient to bring such a union in a just and equitable manner, and

*Resolved*, That the committee so empowered may confer, coöperate, and unite with the committee of the Medical Society of the State of New York for the purpose of forming such union of the two medical organizations; and

*Resolved*, That a copy of these resolutions be transmitted to the secretary of the Medical Society of the State of New York with the request that their conference committee be granted similar powers."

*Resolution of the Cortland County Committee.*—At a meeting of committees from the Cortland County Medical Society and Cortland County Medical Association, held at the office of Dr. Higgins on Friday, September 4, 1903, the following resolution was adopted:

"*Resolved*, That, as about thirty-five or forty of the members of the Cortland County Medical Society are members of both the society and association, we believe that we express the sentiment of nearly all the profession of the county, in the desire for the harmonious union of the two medical organizations of the State, since we believe our influence and power in the State in obtaining needed legislation and preventing the enactment of harshful laws, would be greatly enhanced thereby, and we recommend that all proper measures be taken to bring about this end.

Committee for Society, F. W. Higgins, H. T. Dana, J. W. Whitney.

Committee for Association, S. J. Sornberger, C. D. Ver Nooy, F. D. Reese.

*Resolution of the Onondaga County Society.*—The following was adopted June 2, 1903:

"*Resolved*, That the Onondaga County Medical Society, which has always remained loyal to the State body, because of the recent action of the American Medical Association, paving the way to unification of the regular medical profession of this State, believes that the time has come when the two State bodies shall become united in a single body, and that, the Medical Society of the State of New York; that both the society and the association shall at once approach this scheme in a spirit of conciliation, willing to make such concessions as each body can consistently make, and that a copy of this resolution be forwarded to the President of the Medical Society of the State of New York, the President of the New York State Medical Association, and to the Committee on Conference."

A. S. HOTALING, Secretary.

**The Cancer Research Fund of the General Memorial Hospital.**—In the early part of the present year,

Mrs. C. P. Huntington gave the General Memorial Hospital of New York a fund of $100,000—the income of which is to be devoted to research work bearing upon the etiology and treatment of cancer. This fund is under the direction of a special committee of the Board of Managers, composed of Drs. William T. Bull, William B. Coley, and Francis R. Kinnicutt and Messrs. A. M. Huntington, George C. Clark and John E. Parsons (ex-officio). Dr. Bull was appointed Chairman of the Committee and Dr. Coley Secretary. The Loomis Laboratory has offered laboratory facilities free of charge, and the work for the coming year began October 1. Dr. B. H. Buxton has the general direction of the laboratory work and Mr. S. P. Beebe, recently from Professor Chittenden's laboratory at Yale, will do most of the experimental work. The present plan is to investigate the physiologicochemical side of the problem which, as yet, has received little attention. The members of the committee fully realize the great difficulties surrounding the etiology of cancer and have little hope of immediate results, but they believe that an effort to remove some of these difficulties may tend to hasten the final solution of one of the greatest problems of modern medicine.

**The New Child Labor Laws.**—Three child labor laws of far-reaching importance went into operation on October 1. They are the Hill-Finch measures prepared by the Child Labor Committee, and passed last winter by the New York State Legislature in response to the appeal of settlements, churches, medical societies, and philanthropic organizations throughout the State. A very large share in the enforcement of the new laws devolves upon the Health Department of this city. All employment certificates are issued to children by this department, and the most important changes in the laws relate to the conditions under which these are granted. According to Dr. Lederle, Commissioner of Health, the new laws do not affect the age at which children may begin to work. They merely require parents to supply some real evidence that the child has reached the required age, fourteen years. A copy either of a birth or baptismal certificate or of some other religious record or of a passport must be filled when application is made. Hitherto the parents word under oath has been accepted regarding the child's age, and the result has been merely to put a premium on perjury. This more rigid system is successfully used in Massachusetts and Connecticut. Another important change in the law is its extension to cover telegraph, messenger, and delivery boys, together with all children employed in business offices, restaurants, hotels, and apartment houses. The law has applied hitherto only to factories and stores, and thousands of children in these other employments have been allowed to begin work with no questions asked by the authorities as to their age or schooling. This has been especially unfortunate in the case of telegraph and messenger boys, whose occupation subjects them to the most serious moral temptations. Proprietors must now require certificates of all children they employ under the age of sixteen, and they must see to it that such children do not work longer than nine hours a day. According to the Secretary of the Child Labor Committee, Mr. Fred S. Hall, New York has now the best laws on this subject in the United States.

**The Medical Society of Virginia.**—The thirty-fourth annual meeting of this society was held at Roanoke, on September 16 and 17, 1903, under the presidency of Dr. J. N. Upshur of Richmond. About three hundred members were in attendance. The election of officers resulted as follows: *President*, Dr. Joseph A. Gale of Roanoke; *Recording Secretary*; Dr. Landon B. Edwards of Richmond; *Corresponding Secretary*, Dr. John F. Winn of Richmond; *Treasurer*, Dr. Robert M. Slaughter of Theological Seminary; *Orator*, to deliver the annual address to the public and profession, Dr. William S. Gordon of Richmond. The next annual meeting will be held in Richmond, the date to be announced latter by the Executive Committee, of which Dr. P. A. Irving of Richmond is chairman.

**An International Congress of School Hygiene** will be held at Nuremberg, Germany, on April 4-9, 1904. All persons interested in this subject are eligible to membership, after approval by the local committee. The membership fee is $5. Papers and discussions may be in any European language, but the use by preference of English, French, or German is urged. A copy of every paper and formal communication to be presented to the Congress, together with an abstract in one of the three preferred languages (if the paper is in any other language), must be forwarded in advance to the Committee on Organization. The work of the Congress will be divided into general sessions and special sessions. The special sessions will be held on three mornings and every afternoon. Monday, Tuesday, and Friday mornings will be reserved for the general sessions, when addresses without debate will be delivered on points of common interest, official addresses will be delivered, and the business affairs of the Congress transacted. There will be ten sections, as follows: (1) Hygiene of the school building and its appointments. (2) Hygiene of boarding schools. (3) Methods of hygienic research. (4) Hygiene of the mental education. (5) Hygienic instructions for masters and pupils. (6) Bodily training of pupils. (7) Illness, minor ailments, and medical attendance in schools. (8) Children of weak intellect, and schools for their benefit; courses for stutterers, for the blind, deaf, and dumb; schools for cripples. (9) Hygiene of the scholars after school hours, holiday camps, and organization of evening instruction in school-hygiene for parents. (10) Hygiene of the teachers. The honorary presidents of the Committee on Organization in Nuremberg are Dr. G. Merkel and Hofrat Ritter v. Schuh; presidents, Drs. Stich and Glauning; secretaries, Herren A. Därr and Degelbeck. The American members of the permanent International Committee are President Nicholas Murray Butler of Columbia University, Prof. W. T. Porter of the Harvard Medical School, and Prof. John A. Bergström of Bloomington, Ind., University.

**The Philadelphia Society of Tropical Medicine.**—A society has been organized with the special object of preparing students of medicine and physicians for service in the tropical dependencies of the United States, and the following officers have been elected: *President*, Dr. Thos. H. Fenton; *Vice-Presidents*, Drs. James C. Wilson and James Anders; *Secretary*, Dr. Joseph McFarland; *Treasurer*, Dr. E. B. Gleason; *Executive Committee*, Dr. John V. Shoemaker, chairman, and Drs. T. H. Fenton, Judson Deland, R. G. Curtin, Orville Horwitz, and Hobart A. Hare.—*Medical Book News.*

**A New Park on the East Side.**—A public hearing before the Board of Estimate and Apportionment in this city will be held next month to consider a proposition for a public park at Monroe, Market, Hamilton, and Catherine streets. It has been suggested by Mr. Robert W. De Forest, the Tenement

naller, or endogenous moiety, from the detructive etabolism of the nucleins of the body tissues. (3) is the endogenous moiety alone which is increased gout and lithæmia. (4) Gout and lithæmia e mere symptom names for a miscellaneous group chronic toxæmic processes of widely-varied origin, aracterized by the production of uric acid and e urates. (5) By "gouty diathesis" we mean the ssession of a sufficient degree of resisting power the part of the protective cells of the body to pose the entrance of any poison, whatever its aracter or source, with consequent destructive etabolism and production of uric acid, but not equate to neutralize or successfully prevent its sorption. (6) The uric acid of gout, like the phosoric acid which invariably accompanies it, is erely a result and measure of the destructive etabolism of the nucleins of the body cells, chiefly, obably, of the leucocytes, in response to the invan of poisons or toxins, either organic or inorganic. (7) Hence the use of lithia or other "solvent" ents is irrational, and any benefits resulting are to explained on other grounds. (8) As most of the ins setting up this destructive metabolism and sequent uric-acid production are of intestinal gin, diet in gout should be regulated solely with ard to the diminution of intestinal fermentation d putrefaction. (9) As animal foods, from their ch more appetizing and attractive flavors, are t to be indulged in in excess of the oxidative wers of the body their limitation may be found be more frequently necessary than that of vegeble foods, but sugars and starches are also very en at fault. (10) As uric acid and the alloxur up are not toxic, or at best feebly so, and are the cause of gout, the prohibition of foods, en rich in nucleins and purin bases, such as red ats, roe, and sweetbreads, has no rational basis d is clinically of doubtful utility except by dimshing the attractiveness of the dietary. (11) e rôle of the liver in gout is a negative one, being bility to perform its chief normal function as a oison filter," and to absorb or transform into rmless excretory substances the excess of toxins ought to it by the portal vein. (12) The drugs und of value in gout owe their efficacy chiefly their power of checking intestinal putrefaction or preventing the absorption or promoting the mination of its products.

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### Strong Measures Necessary in Order to Fight Syphilis Successfully.

Dr. Don A. Valdivieso y Prieto read a paper at he International Congress at Madrid in which he rged the need of declaring transmission of venereal sease an offence at law. The author dealt with he subject more especially from the point of view f European nations, where regulations are in force y which it is attempted to control prostitution nd to minimize the danger of contracting venereal iseases. Despite such laws, however, syphilis and sser venereal affections prevail most extensively, nd are an important source of ill health and mortality. Dr. Prieto is of the opinion that the excessive mortality during infancy is largely due to inherited syphilis, and not so much owing to faulty nutrition and insanitary conditions in childhood. The syphilitic taint makes the delicate little frame a suitable medium for the cultivation of all classes of parasites, especially for the tubercle bacilli. In the second stage of childhood, when approaching the age of puberty, the syphilitic is deficient in physical strength, and his tissues have not the normal resisting power to tubercle bacilli. The infected individual passes from a feeble boyhood to a feeble and prematurely old manhood, and at the beginning of his life seeks to make up deficiency of vigor by alcohol. To him the influence of drink when first taken in moderation, on respiration, is most grateful and exhilarating. In a short time he becomes a confirmed drunkard, and in some cases, thinks Dr. Prieto, so far from hastening death, the use of alcohol prolongs the life of the consumptive. While fully recognizing the lethal effects on the people of both alcohol and tuberculosis, the author maintains that it is the hereditary taint of syphilis that predisposes to both diseases.

The evil, syphilis, which is sapping the physical and mental vigor of the population and predisposing to other diseases, remains practically unaffected. All civilized governments seem to think they have fulfilled their duty in this branch of hygiene when they regulate prostitution, but asserts Dr. Prieto, they make no progress in checking the disease. The papers of license contain no identification of the person, neither is isolation of the infected person insisted upon. Besides, the amount of regulated prostitution in large cities is small in comparison to that carried on clandestinely. In existing regulations no steps are taken to prevent the spread of the disease by men, although it is generally recognized that the principal source of contagion is not in brothels or in licensed women, but in men. The author suggests in the interests of the public, that the following rules should be laid down: (1) The law to declare the infection of any person with any form of venereal disease to be a crime. (2) That such crime against the person be punished by indemnification and imprisonment for a period of two years. (3) Where the offender could not indemnify the injured person by bearing the expenses of treatment and so forth, that the term of imprisonment or transportation be increased. (4) That the brothel-keepers be made to indemnify any person infected on their premises or by any of their licensed women, and in case of insolvency of the brothel-keeper, imprisonment or fine shall be enforced.

If carried into effect, the above regulations should have a decidedly deterrent action on the spread of syphilis, for they are assuredly of a sufficiently drastic nature. Physicians in all parts of the world appreciate at its true force the inroads that are being made upon health by the increasing prevalence of syphilis. The disease is omnipresent and, unless crushed by strong measures, will wreak incalculable harm on the human race. In the large cities of the United States syphilis flourishes like the upas-tree, and is as deadly as that member of the vegetable world was once thought to be. No false sentiment or thought of gain must hinder public authorities from boldly grappling with the evil, or the outcome may be disastrous beyond conception.

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### The Suicide Question.

Professor Bailey of Yale has been making a study of suicide in the United States for the period covering 1897 to 1901. Ten thousand cases were dealt with by Professor Bailey. He finds out of this number that 7,781 males and 2,219 females put an end to their existence, giving a ratio of suicides of males to that of females of three and one-half to one. His statistics show that the period in which *felo de se* is most frequently committed is between the ages of thirty and forty years, closely followed by the

period between twenty and thirty years. Almost two-thirds of the suicides occurred between the ages of twenty and fifty, while the number of married suicides exceeds that of those who are single. The relative proportions, according to the findings of Professor Bailey, are as follows:

| | Males | Females | Total |
|---|---|---|---|
| Single | 3,129 | 926 | 4,054 |
| Married | 3,817 | 990 | 4,807 |
| Widowed | 496 | 183 | 679 |
| Divorced | 137 | 52 | 198 |
| Unknown | 202 | 68 | 262 |
| Total | 7,781 | 2,219 | 10,000 |

"Married men are more prone to take their lives than married women, but more single, widowed, and divorced women commit suicide than men in like conditions. Shooting is the most favorite mode of suicide, and poisoning is a close second. Despondency is the chief cause of suicide, and business losses are more potent factors in driving individuals to the commission of the rash deed than ill health, insanity, disappointment in love, or strong drink. Suicide on account of alcoholism is seventeen times as common among the males as the females, while from business losses the proportion is thirteen to one. Monday is the favorite day for committing suicide, and next comes Sunday. Saturday is the day on which the fewest suicides take place.

Professor Bailey explains these thus: "For those who have endured throughout the week there is pay day at hand, followed by a day of rest. Among the males Monday is preëminently a day for suicide. Females prefer Sunday to Monday. Religious excitement may have something to do with this, but nearly a third of the domestic troubles leading to suicide come on Sunday. Of 10,000 cases, 3,687 occurred in the twelve hours before noon and 5,848 in the remaining twelve hours. Beginning with midnight there is a continuous increase until 6 P.M. The three hours from 6 to 9 P.M. show a falling off, while from 9 o'clock till midnight is the period of greatest frequency."

## Lepers in Northern Nigeria.

Dr. T. J. Tonkin, medical officer of the Hansa Association's Central Soudan Expedition, writes in the August and September numbers of the *Empire Review* of his experiences among the lepers in that part of the Soudan known as Northern Nigeria. . Leprosy is extremely prevalent there—more so, perhaps, than in any other locality of a like size in the world—so that the writer who spent a considerable time among the Nigerian lepers, is able to give valuable information as to their habits and mode of life, and his views with regard to the disease are worthy of close attention.

His opinions respecting the contagiousness of leprosy are in accord with those of Hansen and many other prominent authorities, but he combats the popular notion that the disease is incurable. With respect to this point he says: "Leprosy is supposed to be incurable. Incurable it certainly is, in the sense that at present we are not in possession of any remedy that affects its course as definitely as, say quinine affects that of malarial fever, and iodide of potassium another more common than reputable disorder. It is not incurable in any other sense, however. Recoveries from the disease are by no means of infrequent occurrence. As a matter of fact, it is a rare thing to hear of the actual morbid processes covering a period of more than twenty years. If the patient has survived so long it will often be found that all specific leprous manifestations have disappeared."

The influence of heredity on the spread of leprosy, Dr. Tonkin thinks, is another popular fallacy. He states that, in point of fact, direct heredity has nothing whatever to do with the spr leprosy, and that his Nigerian results bear d on this point. Of all the lepers examined in the Soudan, only 10 per cent. had any taint in their ancestry, leaving 90 per cen must have derived their disease or their te from other sources. Moreover, among the of leper parents, a percentage of less than veloped the disorder.

The writer regards defective diet as pla important part in the development of But he holds that leprosy is a contagious fectious disease, and in the Soudan is spre person to person mainly by the agency of clothes. He maintains that segregatio effectual means of checking the advanc disease and of finally stamping it out. This is, unfortunately, impracticable in the China, or India, but much the same cycle of may be anticipated in these countries place in England and in other lands where was once rife, but where it is now extin civilization progresses and as the countries i leprosy is now prevalent come under the western nations, sanitary methods and a manner of living will, in Dr. Tonkin's drive out the disease.

## The Drug Habit.

The New York *Sun*, October 4, gives an a this subject, which appeared recently in the *Daily News*. The drift of the argument is that the drug habit is largely on the inc Great Britain. Dr. Forbes Winslow is qu an authority for this statement, and inci he narrates some of his experiences when the Chinese quarter of New York. As to th in England, Dr. Winslow declares that it common there, and chiefly among ladies. regard to the increase of the habit in Engla said, "that it had increased very much. A ago as 1872 no less than 356,211 pounds of were imported into England, and if the indu were measured by this standard the decline a of the social system might be confidently predi There has been a great deal of discussion re respecting the increase of the drug habit, both i country and in Great Britain, and it may b with a greater or less degree of certainty that reports have been greatly exaggerated.

**Note on the Discovery and First Use of the St Tube by an American Physician.**—Julius Friedenwal that it is generally believed that two English su Jukes and Bush, are the inventors of the stomach This claim is based on an article published by Jukes London Medical Repository of 1822. That the cr this discovery is due to Dr. Physick there can be no Physick published his original paper, October, 1812. Eclectic Repertory, Vol. III, page 111, under the "Account of a New Mode of Extracting Poisonou stances from the Stomach. By Philip S. Physick, Professor of Surgery in the University of Pennsylv which is ten years prior to the appearance of Jukes' In this paper Dr. Physick gives an account of his use stomach tube in the case of two infants who were po by laudanum. The writer then carefully revie evidence of Physick's priority, and concludes that can be no doubt that he used the tube as early as and that he recommended it for many years in his le to his students, and that in 1812 he published the of successful results of its use in cases of poisoning, the work of Jukes first appeared in 1823.—*Bulletin Johns Hopkins Hospital.*

d after many of the treatments, and had found a ncrease in the excretion of the urea after the treatment, showing that there was a definite action, and that this treatment was something m psychical.

D. ROCKWELL of New York said that he believed xciting circulatory drainage much could be done y of relieving inflammatory action in the tubules ma of the kidney, a condition often spoken of as disease. There seemed to be, however, no sharp marcation between inflammatory and structural f the kidney. Electricity was certainly an agent ing congestion and increasing the blood-pressure omeruli of the kidney, and in this way it improved rition of that organ and, theoretically at least, e glomeruli from the products of inflammation. ld, in this connection, caution against too great n in the treatment of such cases, for it had taken years to secure five cases which, in his opinion, table for electrical treatment. All such cases had ated for periods of from three to eighteen months, had taken the precaution to have the accuracy of ical records vouched for by medical colleagues. ly believed that the method of treatment under on was of value in the milder forms of kidney

WILLIAM BENHAM SNOW of New York expressed rise that Dr. Reed should prefer the static induced wave current, and was disposed to believe that this cause Dr. Reed had not used a sufficiently great gap. Personally, he believed that the wave current give more uniformly good results than the static d, because the latter was more local in its action, oduced less nutritional effect. In treating the back his current he employed a spark gap of from 4 to es, and in obese persons a gap of even 8 inches.

G. BETTON MASSEY of Philadelphia said that some ago he had treated by static electricity a person urine contained a considerable quantity of sugar. eatment had been persisted in for several months, inary examinations had been made from time to Although the effect of the treatment on the quan- sugar was very favorable, the treatment was finally tinued because it was evident that a cure could not ected.

Reed, in closing the discussion, said that it was le that if he had used a more powerful static machine uld have secured better results from the wave current. ished it distinctly understood that he did not claim any of his cases had been cured, but simply that treatment for from one to three months the urine me free from albumin and casts, and that this ap- nt cure had lasted so long as these persons had rved a proper mode of life.

**me Principles upon Which Is Based the Use of Elec- y in Nervous Diseases.**—Dr. A. D. ROCKWELL of New k presented in this paper some theoretical considera- s concerning the manner in which electricity acts n the neurons, and discussed the possible identity of tricity and nerve force.

**-ray and Light in the Treatment of Tuberculosis.**— . RUSSELL HERBERT BOGGS of Pittsburg read this per. He declared that these therapeutic methods uld be placed first among the adjuvant measures in e treatment of this intractable disease, and that, too, thout regard to its location. The author objected to e static machine as a source of the *x*-ray because of its ncertainty and lack of volume. Personally, he made use a medium low tube excited by sufficient current to enetrate the chest. There was great difficulty in select- g the proper tube, and, at the present time, it seemed o be necessary to keep ten or more tubes on hand having pecial individual qualities. All tubes did not work equally well when used with the same spark gap. Of course, medicinal, dietetic and other acknowledged methods of treatment of tuberculosis should be employed in addition to the light therapy. In giving the latter, it was his custom to give an exposure of ten minutes on alternate days.

Dr. CHARLES R. DICKSON of Toronto queried whether Dr. Boggs had made any use of the static machine, because he personally believed that his own results with this machine had been fairly good.

Dr. W. B. SNOW said that if the static machine were used in such a way as to obtain a sufficient volume of *x*-rays the results with it would equal in every respect those obtained with the coil. He would also take exception to the author's statement that the fluoroscope was a better index of the quality of the *x*-ray tube than the spark gap. One could take a very low vacuum tube in which there was no fluorescence whatever, and excite it so as to produce a radiance which would show a picture of the bones of the hand upon the fluoroscope in white, just as with a high vacuum tube. This showed the fallaciousness of the fluoroscopic test. He personally believed that practically the same results could be obtained from both classes of apparatus.

Dr. ROBERT REYBURN of Washington, D. C., said that as there could be no question that some of these cases were cured by the *x*-ray it became an interesting question how such an agency could cure. He had come to the conclusion that both in tuberculosis and in cancer the *x*-ray surrounded the morbid cells with an inflammatory product, thus preventing systemic infection. Moreover, the *x*-ray increased the nutrition of the part, so that when aided by proper diet and hygiene this agency was able to overcome the tubercle bacillus and produce a cure.

Dr. T. A. PEASE of Norwood, N. Y., spoke of a case of extensive tuberculous involvement of the glands of the neck that he had cured by static electricity.

Dr. FRANCIS B. BISHOP thought the essayist was, in the main, correct in the statement that the coil as a rule yielded better results. To obtain as good results with the static machine as with the coil the machine must be run at a very high speed, the machine itself must be very powerful and a high vacuum tube must be employed. However, for superficial growths the static machine gave as good, if not better, results because there was less liability of burning the patient and less liability of breaking the tubes. One could not get the same volume of current through the tubes with the static machine as with the coil. He had usually obtained better results from the Toepler than from the Holtz machine. The treatment of tuberculosis by the *x*-ray opened up a promising field for research. He was satisfied that he had just succeeded in curing three cases of tuberculosis by means of a convective discharge from "a cage" directed upon the shoulders and chest. No less an authority than Dr. E. L. Trudeau was authority for the statement that the left apex of the lung, in one of these patients, which had been the seat of an active tuberculous process at the time of coming under treatment, had healed. Although he was ignorant of the method by which the *x*-ray accomplished these cures, he could not accept Dr. Reyburn's theory, because if these cases were exposed too long at first to the *x*-ray there was great danger of producing a general systemic infection, thus disprovng the theory of the formation of a protecting wall.

Dr. A. D. ROCKWELL thought that if vario-vacuum tubes were employed it would be found to be immaterial whether a static machine or a coil was used.

Dr. GEORGE Z. GOODELL of Salem, Mass., remarked that he had been treating tuberculous cervical lymph nodes for the past three months in a young girl of tuberculous family history, employing a tube excited by a Kinraide coil and a spark gap of three inches, but had observed no diminution in the size of the affected nodes.

Dr. Willis P. Spring of Minneapolis inferred from the superiority of the coil in connection with *x*-ray photography that it was better than the static machine in ordinary therapeutic work, and instanced a case of suspected fracture of a metacarpal bone in which the radiograph made with the aid of the static machine hardly showed any metacarpal bone, whereas the radiograph taken with the help of the coil, under precisely the same conditions as to exposure and development, showed the metacarpal bone very distinctly.

Dr. Boggs, in closing, said that he had not intended any one to infer from his statements that he believed it was impossible to do good work with the static machine in connection with the use of *x*-ray treatment, but only that with the static machine the treatment was far more difficult than with the coil and the dosage was more uncertain. In many of his cases the distressing cough had been quickly relieved for a period of several hours by the light treatment.

**Currents of High Frequency, Apparatus and Therapeutic Uses.**—Dr. Francis G. DuBose of Selma, Ala., sent a paper with this title, which, in his absence, was read by Dr. Massey. He described at length an apparatus used abroad, by which a current of unusually high frequency —several million oscillations per second—was obtained. The nerves were unable to convey the sensations produced by such rapid vibrations, and consequently a current of over 400 milliamperes could be passed without causing pain. The current from this apparatus had been found of very general therapeutic utility, and especially valuable in obstinate cases of chronic rheumatism and of joint enlargement. As a tonic in various depraved conditions it acted more rapidly than did drugs. Post-operative pelvic pain and various congestive conditions of the pelvis were very amenable to this current. In minor surgery it would, in most cases, replace cocaine or the infiltration method for the production of local anæsthesia. The writer has made use of this apparatus for over a year, and was of the opinion that it was the most useful of all electrotherapeutic apparatus. Some difficulty had been experienced in adapting this foreign apparatus to the commercial currents employed in this country.

Dr. A. D. Rockwell took exception to the author's statement regarding the amperage or magnitude of these currents, being of the opinion that in the step-up process magnitude was lost. The current described was probably not more than 3 or 5 milliamperes. He had had some experience with the high frequency or D'Arsonval current, and had come to the conclusion that there was no effect on the general nutrition from the hypostatic current, and that almost its only use was in the treatment of superficial diseases of the skin.

Dr. Francis B. Bishop said that a few weeks ago he had seen, in Dr. H. G. Piffard's office, a 16-candle power lamp brought to full incandescence through a D'Arsonval coil. He had used the high-frequency current with good effect in the treatment of enlarged joints in rheumatoid arthritis, and also in various forms of neuritis, and believed it was going to be more generally used than any other current in electrotherapeutics.

**Electricity in the Treatment of Chronic Deafness.**—Dr. George Z. Goodell of Salem, Mass., read this paper, which was based upon replies to a circular letter and on a study of the literature rather than upon any extensive personal experience with this method. The cases treated were non-suppurative; they were examples of chronic catarrhal otitis media. Several observers had spoken of relieving the tinnitus by a mild interrupted current, but none of them reported cures. It made no difference which pole was applied to the ear. Better results were obtained from the continuous current, the positive pole being applied to the ear through the medium of sterile water in the ear. Static electricity had been but little used in this field. Electrolysis of the Eustachian tube had been quite extensively employed recently, a method of which Dr. Arthur B. Duel and the late Dr. Robert Newman were strenuous advocates. However, many aurists were of the opinion that the results were no better than from ordinary dilatation of the Eustachian tube.

**Clinical Report on the Use of the X-ray in Lesions of the Spinal Cord.**—Dr. Charles W. Daniels of Savannah, Ga., was the author of this paper, which, in his absence, was read by Dr. Snow. Two cases of tabes were reported in which very great improvement was effected, although the associated pains could not be entirely removed. This suggested the possibility of employing this method of treatment in degenerative diseases of the spinal cord in the hope of improving impaired functions and preventing a further extension of the disease process. Two cases of arthritis deformans were now under treatment, and appeared to be improving. The author disclaimed any intention of asserting that this method of treatment would effect a cure in any case of tabes, although insisting upon its probable value in controlling degenerative lesions.

**Employment of Static Electricity in the Treatment of Nervous Diseases.**—Dr. William Benham Snow of New York presented this paper. He said that the treatment of diseases of the nervous system consisted largely in the relief of inflammatory conditions and the improvement of nutrition. An electrical current for improving nutrition should have a high potential, great penetration, and a small current flow. These conditions, in his opinion, were best met by the wave current. Such an application produced contraction of muscular tissue, polarization and electrolysis. There were very few nervous diseases that were not associated more or less with inflammatory processes. In acute neuritis it was his custom to apply at first as long a spark as possible, gradually increasing it for twenty minutes; then sparks were applied to the same region along the course of the affected nerve. In chronic cases sparks were the main reliance, and should be applied chiefly to the seat of the neuritis, that is, to the region in which the sparks cause the most pain. A great triumph in electrotherapeutics was the electrical treatment of anterior poliomyelitis. Excellent results were obtained in the very early stages, a soft metal electrode being applied to the spinal cord and the wave current with an extremely long spark gap. A number of cases of neurasthenia successfully treated by the wave current were reported.

Dr. R. J. Nunn of Savannah, Ga., said that radium exhibited the highest known vibration of what we might call the ether, and it was just such vibrations that we desired for treatment. The higher the vibration the greater the curative property. He believed that all electrical currents presented vibrations, and that the lower vibrations served simply as diluents of the higher ones. The lower vibrations burned the tissues; the higher vibrations penetrated them. These papers brought out very clearly the fact that the higher vibration was the curative element, and that the better we could learn to use this agent or dilute it to suit particular cases, the better would be the result.

Dr. T. A. Pease also believed that the chief curative action of electricity depended upon vibration. With his static machine of six revolving plates and a transformer made out of watch springs in a glass tube he was able to double the usual output of the high frequency current, and could make vacuum tubes glow in any part of his office without contact with the patient.

Dr. Charles O. Files of Portland, Me., said that for many years the only explanation he had been able to give himself for the relief obtained through the agency of electricity was that it relieved congestion. Electricity, for example, hastened the circulation through the capillaries in which there was more or less stasis, and so tended to relieve insomnia. Every form of congestion seemed to be relieved by electricity, but the applications must be frequently repeated in order to secure a permanently

good result. This theory certainly formed a good working hypothesis, and, in his opinion, was in accordance with the observed facts.

Dr. J. R. STUART of Minneapolis also spoke briefly of the great power of the high-frequency current to relieve pain and reduce congestion.

**A Year's Work in Electrotherapy.**—Dr. LAURA VIOLA JUSTIN-MACKIE of Attleboro, Mass., presented this paper, based upon a clinical experience with 125 cases. Many of these had been referred to her as a last resort after general practitioners had become wearied with their futile efforts to bring about some improvement. Young, anæmic women suffering from ovarian pain, leucorrhœa and other conditions arising from local pelvic disturbance, in whom pelvic examination was undesirable, could often be relieved by electrical treatment. In the treatment of uterine fibroids she had not made use of the very high currents. She had observed very little benefit in the treatment of arthritis deformans.

Dr. MARCUS M. JOHNSON of Hartford said that, like the author, his experience had been almost uniformly favorable with regard to the relief afforded by static electricity in the same class of cases. Mention was made of a severe case of exophthalmic goiter which had been rapidly and successfully treated in this way, that is, as regards the nervous symptoms.

**Electrical Treatment of Trachoma and Corneal Opacity, with Illustrative Cases.**—Dr. MARGARET A. CLEAVES of New York presented a paper with this title. In it she detailed the history of a very severe and long standing case of trachoma. She made thirty-seven electrical applications during three months and a half, using a zinc electrode and 2½ milliamperes of current for two minutes, with an indifferent electrode, 11 square inches in area, placed at the nape of the neck. There was a steady gain. In ten days it was noticed that nearly all of the sago bodies had disappeared and the circulation had been materially improved. About six weeks after coming under care the patient could count fingers, whereas at the beginning he had been utterly unable to do this. The applications were made three times a week, which was oftener than she was accustomed to give such applications in the other cavities of the body. This was because of the partial neutralizing action of the tears. The patient completely recovered from his trachoma. He was discharged in June, 1896, and on October 13 of the same year there was no sign of the trachoma, a fact which was substantiated by Dr. William Oliver Moore. An attempt was then made to treat the corneal opacity by cathodal electrolysis, using one milliampere for from one to three minutes, three times a week. This was always followed by the mechanical action of the induced current. In six months he had recovered fully two-thirds. The boy had originally been an object of charity, and the treatment had made him a useful member of the community and had prevented him from becoming a public charge.

**The Successful Treatment of Eighteen Cases of Granular Lids by the X-ray and High Frequency Vacuum Electrodes.**—Dr. ALBERT C. GEYSER of New York read this paper. The *x*-ray was used for the specific purpose of checking the granular hypertrophy. In carrying out this method the tube must not be brought nearer than 6 or 8 inches. Exposures of from three to five minutes were given on alternate days for two or three weeks, and then the high-frequency current was employed to improve nutrition. The eyelids were everted by attaching a strip of adhesive plaster and a weight, and placing a lead pencil underneath the lid to facilitate the eversion. The surrounding parts were protected by a shield.

*Wednesday, September 23—Second Day.*

**Exophthalmic Goiter and Its Rational Treatment.**—Dr. FRANCIS B. BISHOP of Washington, D. C., read this paper. The author took the ground that Graves' disease was superinduced by the early and continued use of the corset, and that anæmia, through faulty metabolism, often acted as a predisposing cause. In the management of such cases rest was an important factor. These persons should go to bed early and get up late. All pressure should be removed from the chest and abdomen, and deep breathing exercises should be enjoined. As to the diet, nitrogenous food was of the first importance, and although they would not gain flesh on this diet, the nutrition of the muscular and nervous systems would be materially improved. After years of medication the conclusion had been forced upon him that it was of little use. Owing to the low resisting power of these patients they should not be subjected to anæsthesia or operation unnecessarily. Many authorities agreed that the best results from treatment in this disease had been obtained by the proper employment of electricity. We knew that the vagus was easily stimulated in the neck, and that this could be done much more easily than stimulation of the sympathetic. By the stimulation of the vagus the heart's action would be slowed and steadied. The speaker preferred to apply the continuous current, stimulating both nerves at the same time. A large sponge electrode attached to the positive pole should be placed high up on the neck, and a bifurcated cord with two sponge electrodes placed on each side of the lower part of the neck over the pneumogastric nerves and impinging upon the thyroids. A current, the strength of which was increased up to the point of toleration, should be allowed to pass for ten or fifteen minutes, or until a decidedly quieting effect was produced, and then the current should be applied directly to the gland for about the same length of time. The applications should be made on alternate days. Recent experience in the treatment of these cases by the high frequency current had yielded very satisfactory results. He was convinced that much good came from what Dr. Rockwell called "circulatory drainage." The current strength was regulated in these cases by the effect upon the pulse.

Dr. G. BETTON MASSEY spoke of the recently published views of Sajous concerning the functions of the thyroid and their relation to the functions of the adrenals and the pituitary bodies.

Dr. T. A. PEASE of Norwood, N. Y., said that during the past two years he had developed a method of treating exophthalmic goiter which he could recommend. A 4-per-cent. solution of adrenalin was applied to the gland by means of a copper disk electrode, and the continuous current was passed until the skin was thoroughly blanched. The high frequency current was then applied through a modification of Dr. Snow's wooden electrode. This gave better results than any other method of treating exophthalmic goiter.

Dr. A. D. ROCKWELL believed that treatment of this disease by the galvanic current was superior to all other methods. About a dozen years ago he had published an analysis of about forty cases of exophthalmic goiter, twelve of which had been cured. Since that time almost every case had shown improvement, and a large number had been cured, largely as a result of the thoroughness of the treatment. He made use of a very moist and pliable clay electrode, 2 or 3 inches in diameter, applied over the ciliospinal center, and an electrode, 4 or 5 inches in diameter, over the solar plexus. With electrodes of this size and material his advice was not to be afraid of using too much current strength; with the arrangement just described he frequently employed a current of 75 milliamperes.

Dr. W. W. EATON of Danvers, Mass., said that he could confirm what Dr. Rockwell had said concerning the great efficacy of galvanic treatment in these cases, as he could recall only one case in ten years that had not been symptomatically cured along with the disappearance of the enlargement of the gland. He molded a clay electrode to the growth, and employed at least a current of 30 or 40 milliamperes, often very much more.

Dr. BISHOP, in closing, said that he, too, had found the

continuous current of the greatest benefit, but recently he had done still better with the high-frequency current as an auxiliary. He never used clay electrodes, preferring those made of sponge and having a tin foil backing. The electrode on the back should not be so large as to divert too much of the current from the thyroid. The patient should be in the reclining position, and the current should be very gradually increased, watching the effect on the pulse. He had occasionally used currents of 50 or 60 milliamperes, but had not found that such strong ones were often desirable.

**Effect of the X-ray upon the Eyesight.**—Dr. WILLIS P. SPRING of Minneapolis asked for experience regarding the effect of using the fluoroscope on the eyesight of the operator.

Dr. W. J. HERDMAN of Ann Arbor remarked that Mr. Rollins of Boston declared that there was a uniform deterioration of the eyesight from the use of the *x*-ray.

Dr. C. R. DICKSON of Toronto remarked that one of the absent members of the association had had his eyesight almost ruined in this way.

Dr. LORING of Boston said that a very simple means of protecting the eyes was to attach a thick piece of glass behind the fluoroscopic screen. He could recommend this from personal experience.

Dr. R. J. NUNN advised that the glass used as such protection should in all cases be tested to determine if it were really opaque to the *x*-ray.

**Zinc-mercuric Cataphoresis of Tuberculous Glands.**—Dr. G. BETTON MASSEY of Philadelphia gave a practical demonstration of this method. A sliver of zinc, sharpened at one end, is used for the active electrode. If the gland to be treated is unopened, the sliver of zinc should be uninsulated at first, and should not be dipped into the mercury until just before use, otherwise it would become too brittle. The point of introduction is chilled with an ethyl chloride spray and the puncture is made with a Hagedorn needle. Immediately afterward the zinc electrode should be inserted, and then a current of ½ to 3 milliamperes used for half an hour. A drop of a saturated solution of cocaine may be dropped in along side of the electrode. A cylinder of necrosed tissue comes away within a few days, and the treatment is repeated through this opening, using now an insulated zinc electrode, *i. e.* another sliver of zinc prepared as before. The gland becomes so impregnated with mercury that it drains downward and favorably affects other glands in the chain. The active agency in the treatment is the chloride of mercury and zinc. In addition to this, Dr. Massey said there was a marked general improvement in these patients, although no other method of treatment was employed at the time. He had used the method in six cases. A little girl was shown who had been treated for about three months, three times a week.

Dr. ROBERT REYBURN spoke against the use of the knife in these cases, as in cases of malignant disease, on the ground that surgical operation laid open so many channels for absorption and further infection.

Dr. M. A. CLEAVES said that about five years ago she had successfully treated one case of tubercular adenitis by the same method, using, however, copper instead of zinc as the electrode.

**A Plea for Electrotherapeutics Proper.**—Dr. WILLIAM J. HERDMAN of Ann Arbor, Mich., presented under this caption a thoughtful paper in which he decried what he called the recent tendency of the association to run after fads and fancies and "sell its birthright for a mess of pottage." He deprecated the disposition of the members to forsake the true electrical modalities, to foster whose special used the association had been organized, and to spend much time and energy in border-line studies. The author then reviewed in a simple and forceful manner the evidence showing the manifold and important therapeutic properties of these modalities. He declared that the therapeutic actions of the constant current, about which too little was heard in these latter days, was alone worth more than half of the drugs listed in the pharmacopœia or the instruments employed by the surgeon. As a case in point the speaker referred to an osteosarcoma of the jaw which he had successfully treated by electrolysis, making six applications at intervals of a week. The patient had practically no suffering, he lost no time from business, there was no impairment of deglutition or loss of symmetry of the face. This was but one of several similar cases, the evidence regarding which was in his possession, and he, therefore, asked his hearers whether they could honestly say that there was any other method that could accomplish so much.

Dr. MARCUS M. JOHNSON said that as he was a surgeon he could thoroughly appreciate the remarkable success of Dr. Herdman in the reported case of osteosarcoma of the jaw. Although it could not be said that the disease would not recur, it was a fact that the patient had not been subjected to torment nor his life jeopardized in the attempt to eradicate the disease. While surgery was doing a great work in many lines, yet in certain directions it had its limitations, and this was one of them. He therefore welcomed all the aid that could be derived from electricity.

Dr. F. B. BISHOP said that at the Buffalo meeting almost every one was speaking of the static current, and the old constant or direct current seemed to be almost forgotten. He thought there was a slight difference between the static current and the high-frequency current, especially in the use of the spark. The spark of the high-frequency current was very much more penetrating and was, at the same time, less painful.

Dr. W. B. SNOW said that the members were physicians, first, rather than electrotherapeutists, and it should be their earnest wish to do the best possible for their patients. They should, therefore, be able not only to use electricity, but any other physical agent, *e. g.* other forms of vibration, such as heat and light.

**Radiant Light Baths in the Treatment of Neuroses.**—Dr. THOMAS D. CROTHERS of Hartford read this paper. The author stated that another year's experience with this method had led him to think even more highly of it than in his former paper, and the patients who took both the Turkish bath and the radiant light bath uniformly preferred the latter, because of the great exhilaration during the bath, and the greater feeling of restfulness afterward. Observations on the pulse and temperature also seemed to point to the superiority of the light bath. The marked sudorific action of these baths resulted in a free elimination of toxins, and appeared to be largely instrumental in restoring the patients to health. The radiant light, penetrating the deeper tissues of the body, was thought to be turned into heat, thus achieving greater therapeutic results than the ordinary hot-air bath.

Dr. M. A. CLEAVES said that for the past ten years she had been interested in this subject, but her experience had been chiefly with the arc light. She thought the incandescent light bath was better for the special class of cases considered in the paper.

**A Case of Asthma with Fibroids and Pelvic Adhesions Cured by Galvanism.**—Dr. CHARLES A. COVELL of Syracuse reported this case. The asthma was of reflex origin, and ceased as the pelvic condition was relieved. The patient was cured by the electrical treatment, although a well-known gynecologist had declared that she could not be relieved except by the removal of the diseased pelvic organs.

Dr. GUSTIN-MACKIE remarked that at one time when treating the uterus for the control of hemorrhages arising from the presence of a small interestitial fibroid, she was surprised to find the patient's asthma relieved coincidentally with the pelvic condition.

**The Use of the X-ray in the Treatment of Malignant Growths.**—Dr. MARCUS M. JOHNSON of Hartford reported

this paper cases to illustrate the superiority of this method in certain cases over surgical operation.

**Radium, with a Preliminary Note as to Its Therapeutic Uses in Cancer.**—Dr. MARGARET A. CLEAVES of New York read this paper, which will appear in an early issue of the MEDICAL RECORD.

**The Present Status of X-ray Therapy in the Management of Cancer.**—Dr. CLARENCE E. SKINNER of New Haven read this paper. He said that it was impossible to formulate a positive verdict regarding *x*-ray therapy because of the careless and unskilful methods that had been employed by many who had reported cases treated by this agency. However, the *x*-ray might be said to be one of the best, if not the best, means at present at our command for the treatment of malignant disease, because a large a proportion of cures had been obtained by this method as by any other, and a smaller proportion of recurrences had been noted within a given period. Moreover, the majority of the recurrences had yielded readily to another application of the *x*-ray. In the early stages it was now thought best, when practicable, to resort to thorough removal by surgical operation, following this by a thorough course of treatment by the *x*-ray. There was almost unanimous agreement as to the advisability of using the *x*-ray following all operations for cancer in order to prevent recurrence and to relieve pain. He knew of but one operator who claimed to have effected a cure in cancer of bone by means of the *x*-ray. As to whether *x*-ray hastened metastasis was still *sub judice*, yet the evidence seemed to favor the view that it did not have such action. His personal belief was that there was a therapeutic difference between the action of the *x*-ray as obtained from the coil and from the static machine. The general opinion now was that tubes giving soft rays of high penetration were best for the treatment of deep growths, and that tubes of either high or low penetration might be used for superficial growths. There was now some evidence to show that a person who had been constantly exposed to the *x*-ray for a long time was liable to develop cancer of the superficial tissues. The notion that a person who had been tanned by the *x*-ray could not be burned must undergo revision, for he had recently had a case showing the falsity of this view.

**The Rontgen Ray as an Aid in Diagnosis.**—Dr. HERMAN GRAD of New York made a plea in this paper for a systematic and extensive use of the Röntgen ray for the detection of gross pathological changes, just as the microscope was now depended upon for the detection of minute changes of this kind. Both the positive and negative value of the Röntgen ray in fracture were emphasized by the report of illustrative cases and the presentations of radiographs of the same. Some of the uses of the *x*-ray in general medicine were also dwelt upon.

**The Use of Galvanic Electricity in the Treatment of Cancer and Kindred Diseases.**—Dr. WILLIAM WINSLOW EATON of Danvers, Mass., read this paper. In the earlier cases reported in the paper the continuous current was used from a forty-cell battery. The strength of the current used varied up to 75 milliamperes ordinarily, the application lasting for fifteen minutes and the full strength being attained in two or three minutes. A number of cases were reported, some of them of a most desperate character, in which treatment by the galvanic current had resulted in marked improvement, and, in some instances, had kept the patient in comparative health and usefulness for a period of several years. Of the eight cases reported, one was living at the end of one year, one at four years, one at six and two at seven years after the treatment. These cases of internal cancer were advanced and inoperable. The author was of the opinion that this potent but harmless agent, the continuous current, should be used in every case of cancer, and should be reinforced, if necessary, by the use of the *x*-ray.

Dr. G. BETTON MASSEY said he was convinced that in some cases of supposed cancer of the breast the use of the simple galvanic current had been followed by an increase of the growth, due, no doubt, to the increased nutrition of the part. He thought some of the cases reported might have yielded still better results, and without incurring undue risk, by the employment of mercuric cataphoresis.

Dr. A. D. ROCKWELL said that while he had been interested in the cases just reported, his own discouraging experience with the galvanic current in the treatment of cancer twenty-five years ago led him to feel that this question must still be considered as *sub judice*. It was probable that the good results secured by Dr. Eaton were largely attributable to the use of the *x*-ray.

Dr. ROBERT REYBURN expressed his belief that cancer was not a germ disease, but rather of the nature of a retrograde metamorphosis. The recently published views of Dr. Robert Bell of Glasgow gave color to the view that many factors, which caused deterioration of the general health, might enter into the etiology of cancer, and made it probable that the successful treatment of cancer in the future would embody careful and rational medical treatment.

Dr. Eaton, in closing the discussion, said that most of his cases had been treated before mercuric cataphoresis for cancer was known, and that it was only in the past two years that he had made proper use of the *x*-ray. In external cancer he had found the *x*-ray very efficacious, but apparently of little avail in deeply situated cancers. He was of the opinion that with the galvanic current there was a certain chemical dissolving effect that was not obtainable with the electrical modalities.

*Thursday, September 24—Third Day.*

**Report of the Committee on Current Classification and Nomenclature.**—Mr. WILLIAM J. JENKS, E.E., chairman of the committee, presented an exhaustive and highly instructive report. He said that the term "galvanic current" should never be used, and that, so far as possible, the term "constant current" should take its place. The faradic current should always be referred to as an induced current, or better still, as the magnetic induced current. The preliminary report presented by the committee one year ago had been sent to many electrical engineers, inviting their criticism, but up to the present time practically no criticisms had been received, thus indicating that the suggestions of the committee regarding nomenclature had met with very general approval. The speaker then exhibited a number of diagrams representing the combinations of primary static generators and secondary or modifying apparatus used by physicians. He said that it was evident that intelligent classification of these must be based primarily upon the curves which properly represented the resulting currents. The report here gave at length the observations and conclusions of Prof. Samuel Sheldon of the Brooklyn Polytechnic Institute. This observer, working with the well-known make of static machine, found that when this machine was running at 315 revolutions per minute without excitation it consumed 106 watts, and that the loss due to friction was 30 watts, or $\frac{1}{25}$ of a horse-power. After exciting the machine, the total power consumed was 184 watts, or about $\frac{1}{4}$ of a horse power. It had been found, to the surprise of the committee, that the machine, under certain conditions, would deliver 27 per cent. of the energy put into it by the motor. If the machine were operated with its discharging rods in contact the current should be directly proportional to the speed. While the discharging rods were in contact there was very little difference of potential in the parts of the machine situated between the collecting cones. The report then described three different kinds of currents obtained from these machines, viz., (1) The current taken from the discharging rods, the latter being separated; (2) the current taken from the outer coating of Leyden jars whose inner coatings were

connected with the separated discharging rods, and (3) the current taken from a coil of wire connected with the outer coatings of the Leyden jars whose inner coatings were connected with the separated discharging rods. Mr. Jenks then went on to say that a condenser of large capacity would tend to produce relatively slow oscillations. The electrical engineer could determine in advance with mathematical accuracy the result that would be obtained by the introduction of such modifying devices, but when living human tissue was interposed an absolutely unknown factor was introduced as regards its effect upon the rest of the circuit. No accurate measurements, so far as known, had yet been made with regard to the effect of the human body on currents of alternating character and high pressure. This physically active section of the external circuit must, therefore, be investigated before one could determine the curves of the currents employed. Dr. Kellogg had made a series of experiments on the curves of the currents employed by physicians, but apparently without the patient in the external circuit. The various currents employed in therapeutics were then described in detail with the aid of diagrams.

**A Plea for an Accurate and Scientific Method of Röntgen Ray Treatment.**—Dr. MIHRAN K. KASSABIAN of Philadelphia presented this paper. He exhibited a ruled blank record with headings intended to provide for accurate notes concerning the history of the patient, the kind of apparatus and technique employed, and for the diagnosis. It was advised that photographs should be taken just before and immediately after treatment on isochromatic plates, and, if possible, life size. Instruments for measuring the interruptions and the power of individual *x*-ray tubes were described and criticised. The author insisted that the effect upon the patient was not dependent upon the length of the exposure, but upon the number of interruptions and the extent to which the tissues were penetrated. One great difficulty encountered in practice could be eliminated by employing self-regulating tubes. It was recommended that a voltmeter and an ammeter be introduced where the current goes into the primary, and so determine approximately the intensity of the rays, because other methods of measurement were dangerous either to the hands or eyes of the operator.

Mr. R. G. BROWN, E.E., remarked that he could not see that any reliable measurements could be made with the meters placed as described, and in this opinion Dr. Boggs concurred.

**Perineuritis.**—Dr. A. W. BAER of Chicago read a paper with this title. The author called attention to the fact that one of the best means of differentiating between facial neuralgia, due to suppuration at the root of a tooth, and a neuritis was by the application of electricity. When there was abscess formation the patient almost invariably complained of increased discomfort when electricity was applied. The static treatment was the easiest, but it was not so beneficial as the continuous current. Several cases were reported.

Dr. A. Z. GOODELL of Salem, Mass., reported a case of severe neuritis and writer's cramp that had yielded most satisfactorily and promptly to the high frequency derived from the Kinraide coil.

**The Electrothermal Bath.**—Dr. CHARLES H. SHEPARD of Brooklyn recommended in this paper the conjoined use of the hot-air bath and of electricity as a means of improving nutrition. .

Dr. W. J. HERDMAN thought it very encouraging that a hydrotherapeutist should take such a broad view of the subject. The use of the induced current afforded an admirable stimulant and corrective for the debility consequent upon the use of the bath as an eliminant.

**Death of Dr. Robert Newman.**—Suitable resolutions on the death of Dr. Newman were adopted, and a committee was appointed to collect his writings into one volume.

**Officers Elected.**—*President*, Dr. A. D. Rockwell of New York; *First Vice-President*, Dr. Willis P. Spring of Minneapolis; *Second Vice-President*, Dr. William Winslow Eaton of Danvers, Mass.; *Treasurer*, Dr. Richard J. Nunn of Savannah, Ga.; *Secretary*, Dr. Clarence Edward Skinner of New Haven. *Executive Committee*, Dr. Francis B. Bishop of Washington, D. C.; Dr. Daniel R. Brower of Chicago, and Dr. Maurice F. Pilgrim of New York.

**Next Meeting.**—The next annual meeting will be held in St. Louis on September 13, 14, and 15, 1904.

## MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

*Fifty-third Annual Meeting, Held at York, September 22, 23, and 24, 1903.*

**Special Report to the Medical Record.**

*Tuesday, September 22—First Day.*

THE meeting was called to order at 9.30 A.M. by the President, Dr. William M. Welch of Philadelphia, and was opened with prayer by the Rev. E. T. Jeffers, of York after which addresses of welcome were delivered by Hon. M. B. Gibson, Mayor of York, and Dr. N. C. Wallace, President of the York County Medical Society.

**The Address in Surgery** was delivered by Dr. WILLIAM L. ESTES of South Bethlehem, in which the author discussed the prognosis of surgical cases, believing the most important elements to be heredity, environment, and habits and physical condition.

**The Address in Hygiene and State Medicine** was delivered by Dr. SENECA EGBERT of Philadelphia. He called attention to the fact that in 1900 the population of those districts of the United States in which a system of mortality registration had been organized was 28,807,260, as compared with 19,659,440 in 1890: the death rate during the intervening decade having decreased from 19.6 to 17.8 per 1,000, which would mean the saving of 51,853 lives in the registration area annually. He demonstrated the value of the purification of the water supply, installation of better systems of sewage-removal and disposal, supervision of milk and food, improved quarantine regulations, improved street pavings, development of parks, etc., by giving statistics showing the mortality rate in different cities before and after the introduction of these factors. He remarked particularly the value of preventive measures for the avoidance of smallpox, pneumonia, diphtheria, scarlet fever, typhoid fever, malaria, and believed that in order to secure the best results the co-operation of the general public should be secured, which could best be done by as free a dissemination of knowledge on sanitary subjects as possible.

**The Address in Neurology** was delivered by Dr. CHARLES B. MAYBERRY. He argued for better results in the treatment of the insane, which he believed could be obtained by (1) More extensive instruction psychiatry, both didactic and clinical, in the courses of our medical schools; (2) The construction of small psychopathic hospitals for the separate treatment of the acute curable insane; (3) The organization of a system of out-patient departments, by which the discharged patients may be kept under observation for one year after leaving the institution; (4) The creation of a central laboratory for the investigation of pathological conditions underlying mental disease.

**The Practical Treatment of Pulmonary Tuberculosis** was the subject of the Address in Medicine, which was delivered by Dr. H. M. NEALE of Upper Lehigh. He said he believed that improved nutrition of the patient by forced feeding, not however to such an extent to overburden the stomach, was one of the most important factors in the treatment of consumption. This should be in conjunction with fresh air, sunlight, rest, and cleanliness. He did not believe high altitude was essential to the cure of consumption, and, in fact, felt that it was detrimental, if the patient purposed returning to his home later, for the dilatation of the air vesicles induced by the prolonged

sidence in the high altitudes was a positive disadantage.

**The Medical Expert Witness.**—Dr. G. W. WAGONER of ohnstown read this paper He emphasized the importance f having men of the highest character and ability to act i this capacity. For the accomplishment of this result e believed the following suggestions would be of value: ;) Make the expert witness a State witness to be paid just and dignified fee by the State. (2) Have them ppointed by the Court; one at the suggestion of the rosecution, one at the suggestion of the defence, and a iird by the Court; all of them to be practitioners, of arning, skill, wide experience and honorable standing in ie profession. (3) Require these witnesses to hear the stimony, receive the contentions of the counsel, make he scientific examinations necessary, and submit a report f their conclusions to the Court. (4) The report may be xplained by any or all of the experts in response to uestions by the Court, but the experts may not be ross-examined. Their report to go to the jury with the roper legal instructions of the judge, but uncontaminated y the objections of counsel, as is his charge.

**Streptococci and Antistreptococcus Sera.**—Dr. D. H. BERRY of Philadelphia in this paper stated that the earlier lassification of streptococci into S. longus and S. brevis, as ell as the differentiation of S. pyogenes and S. erysipelatos ad been demonstrated to be erroneous, and that in the light f recent studies upon other groups of bacteria, the proession must be prepared to expect the same variations of e morphological, biological, and pathogenic characters of ultures of streptococcus derived from different sources. t the same time these variations were insufficient to arrant the separation of these different types of organms into distinct species. The studies of Michaelis and Aronson indicated that the antistreptococcus sera were ot bactericidal in their action, since streptococci grow most equally well in normal and immune serum. The nclusions reached by these two investigators were that e immune serum stimulates the activity of the phagotes, and that when this stimulation can no longer be duced the serum treatment is without avail.

**The Necessity for the More Careful Instruction of Medical udents in the Diagnosis of Preventable Diseases.**—Dr. ENJAMIN LEE of Philadelphia, in his paper by this title, mphasized the importance of clinical observation of the arious types of contagious disease in conjunction with idactic instruction, giving especial attention to typhoid ver and smallpox. He felt that the tendency, with both udent and instructor, was to devote too much attention o therapeusis and not enough to diagnosis.

**The Effect of an Improved Municipal Water Supply upon e Prevalence of Enteric Diseases.**—Dr. J. FRANK SMALL f York in this paper suggested that the water supply in ork, as supplied by a private corporation, The York ater Company, be compared with that furnished in other d larger cities. A table was presented showing the typhoid rve before and since the installation of the filtration stem, which demonstrates that the rate per thousand s regularly diminished. In conclusion is given the reults of bacteriological examinations of the water made at arious times. It is believed that an efficient filtration f a municipal water supply has a decided effect in lessening the prevalence of enteric disease.

**A Contribution to the Clinical Study of Cerebrospinal eningitis.**—Drs. THOMAS C. ELY and J. J. SNYDER of Philadelphia presented a paper upon this subject, which as read by Dr. Ely. The cases reported represent a eries composed of twenty-three sailors from the U. S. Training Ship *Minneapolis*, at League Island, Philadelphia, and treated at the Naval Hospital, Philadelphia. The marked irregularity of the temperature and pulse were noted and varied clinical pictures, such as the comparative constancy of Kernig's sign, the marked variability of Babinsk's sign, the "crane-like" posture of the head, being set back in rounded shoulders with chin tilted forward, and the rarity of paralysis of individual cranial nerves. There was no case of blindness, and only one of deafness. Early death in some cases was accredited to the action of specific toxins on cardiac or respiratory centers. A notable feature was the vagueness of symptoms in some instances; one patient complained of rheumatic pains, while closer examination disclosed some rigidity of the muscles of the neck, and Kernig's sign was present and other well-marked phenomena. One had symptoms and a rash like typhoid fever. Widal's reaction was negative. Pneumonia masked the symptoms in the first case and in some others, and many cases resembled influenza. Only in epidemics would these cases have been classified, and the fact led to the query whether sporadic cases were not often overlooked.

**Aneurysm of the Left Subclavian Artery Treated by Wiring and Electrolysis.**—Dr. JUDSON DALAND of Philadelphia reported this case. The patient was a man aged fifty-two years, a laborer. Two years ago he first noticed a tenderness in the left side of the neck and pain in the left shoulder and arm. Seven days later he observed a pulsating mass in the left side of the neck which gradually increased in size until, at the time of first examination, April 24, 1903, it was as large as a cannon ball. Examination of heart, lungs, liver, spleen, and urine gave negative results. The diagnosis of aneurysm was made. Twenty feet of gold wire was introduced into the sac through a hollow needle and a galvanic current gradually increasing from 1 to 80 milliamperes was employed for about 110 minutes. The pulsation and size of the tumor temporarily decreased, but afterward increased, and death occurred twenty days after operation. Necropsy showed a cocoanut-shaped aneurysm involving the left subclavian artery from its origin to the axillary artery. Its cavity was occupied in large part by a clot in varying stages of organization through which the wire was well distributed.

**Typhoid Fever.**—Dr. L. B. KLINE of Catawissa called attention to the increasing ravages of typhoid fever, of which cities of all sizes and country places furnished their due proportion. In the treatment he approved of the maintenance of the intestinal tract in an aseptic condition. Special antipyretic treatment should be given by cold sponging or cold baths when not contraindicated, and by cold water or ice to the head. Medicinally quinine might be used to reduce fever. Coal-tar products should be interdicted. The heart should be sustained by strychnide in doses of gr. $\frac{1}{30}$ to $\frac{1}{10}$ every four to six hours as indicated.

**The Dietetic Treatment of Chronic Nephritis.**—Dr. J. M. ANDERS presented this paper. He stated that the dietary that fails to meet the requirements of nutrition plus the loss of albumin is inadequate. Efforts to lessen the degree of albuminuria at the expense of the quality of the blood and general nutrition are not so much blessings as evils. By means of a proper diet it is possible to postpone, if not at times prevent, the later development of true contracted kidney. It is not possible to formulate a dietary suitable to all individual cases. Indications also vary with the stage of the morbid process. In his experience the long continued restriction of the diet to milk alone produced an undue general weakness. In advanced cases of granular kidney active heart disease is a constant concomitant and the integrity of the cardiovascular system must be preserved. He expressed the view that clinicians manifest a general tendency to supply the system with an insufficient amount of albuminous aliment, in view of the constant systemic drain, and pointed out that the proteids form the essential basis of all tissues, and that perfect metabolism cannot be accomplished without a certain definite quantity of nitrogen. He is of the opinion that red meats show as good nitrogen-excretion as white meats. Fats are allowable, and butter, except in cases of obesity. Whole milk should be a con-

siderable portion of the diet, meats should be somewhat restricted, while fruits and green vegetables and rice may be given rather freely. He emphasized the fact that the normal physiological quantity of food is required, which is practically: 110 to 130 grams of albumen, 350 to 400 grams carbohydrates, 75 to 110 grams of fat, 2,500 to 3,000 grams of water, and 18 to 30 grams of inorganic salts. The extent to which the given diet contributes to the nutrition and development of bodily strength must be carefully estimated. This is accomplished by noting the effect upon the degree of albuminuria and also upon the kidney elimination of the normal metabolic products. The importance of carefully recording the bodily weight of the patient was emphasized.

Dr. THOMAS D. DAVIS of Pittsburg advised giving milk to these patients in a cup instead of in a tumbler; they could not see what was coming and therefore their minds were not prejudiced against it. The addition of a bit of ice and some vanilla was an advantage.

**Recovery from Perforations in Typhoid Fever.**—Dr. JOHN H. MUSSER of Philadelphia in this paper reported a case of typhoid fever seen in a relapse. In the primary attack the patient had pleuropneumonia, on account of which he was extremely prostrated. The temperature was normal on the 29th and 30th of May. On the 31st it began to rise gradually. By the 5th it was 104° in the evening. On the morning of the 4th, after a slight chill, it fell to 102°. The pulse rose to 130 and there was slight abdominal tension. Frequent micturition was marked; pain occurring as soon as there was small accumulation of urine in the bladder. Dr. Musser saw the patient with Dr. Mueller. The patient was in moderate collapse and the abdomen was distended. There was no rigidity. Pain was complained of at a point half way between the pubis and the umbilicus. The absence of rigidity suggested appendicitis, especially as the bladder symptoms had not abated. The vermiform dipped into the pelvis. Rectal examination showed slight tenderness in the pelvis but no undue fulness. Vomiting took place four or five times during the day. Notwithstanding the indefinite nature of the symptoms it was believed that perforation had taken place. The patient was so desperately ill and had been so very ill from the previous penumonia, resolution not having fully taken place as yet, that it was deemed unwise to interfere. On the following days the temperature remained between 103° and 104°; pulse 120 to 130. On the 9th day the temperature fell to 99°; pulse to 106; respirations to 18. On the morning of the 10th day the temperature was again 104.5° and continued at this point through the day. In the evening it had fallen to 101°. Blood was found in the stools. Repeated discharge of blood throughout the remainder of the night and all the following day showed that a continued hemorrhage was in progress. Death occurred on the 11th day from exhaustion. At the autopsy a small ulcer in the ileum was found to have perforated the bowel and formed adhesions to the bladder. There was very decided localized peritonitis, but no extension to the general peritoneum.

*Wednesday, September 23—Second Day.*

**X-ray, Light, and High-frequency Electricity.**—Dr. RUSSELL H. BOGGS of Pittsburg sent a paper with this title in which he directed attention to the three distinct rays composing sunlight or white light, *i. e.* the caloric, luminous, and the actinic or chemical rays, which may be filtered from the compound rays by the employment of colored glass or other media. He emphasized the value of individual attention to each case, and the necessity of adapting the treatment to each particular case. He stated that the effects produced upon pulmonary tuberculosis had demonstrated that the value was not confined alone to superficial conditions. He reviewed the process of inflammation which takes place and mentioned the value of the *x*-ray applied to the surface painted with iodine for rheumatism, as it will force it into the tissues. In lupus, epithelioma, and carcinoma, he believed the *x*-ray to be of great value. He remarked the value of the *x*-ray also in rheumatism, rheumatoid arthritis, neuralgia, and tuberculosis of various parts of the body.

**The X-ray Treatment of Chronic and Malignant Diseases of the Skin and Superficial Tissues** was read by Dr. SAMUEL H. HELLER of Lancaster, in which he reported the following results: Carcinoma responded quickly in all cases, pain being entirely absent in a few days and contraction beginning at once. In six cases a permanent cure was effected. In epithelioma some cases had responded, others showed no improvement or reacted very slowly. In lupus erythematosus, he had four cases, all of which were cured. In tuberculous lupus his results were equally as good, the scales coming off in successive drops until a clean smooth surface was left with scarcely any scarring. A case of fissure eczema involving the palmar surface of both hands was much benefited. In cases of ivy poisoning, acne, and papilloma, good results were obtained.

**Röntgen Rays as a Palliative in the Treatment of Cancer**—Dr. CHARLES LESTER LEONARD of Philadelphia read a paper dealing with the prophylactic and palliative value of the Röntgen rays in cancer. He said that the Röntgen rays were the most valuable and active agents that had ever been found for the treatment of cancer, but the permanence of the cures had not been established, and he believed that every case of cancer, with but few exceptions, should be operated upon at as early a period as possible to remove the great mass of disease, and then treated by the Röntgen rays to destroy the small masses that might have escaped the surgeon. This would give the patient the benefit of the two best methods known. In many hopeless cases in which operation was impossible the Röntgen rays had produced apparent cures. In others they had restored partial health, while in all they had been of benefit, relieving much of the distress and suffering that accompany the final stages of the disease.

**Röntgen Rays in Therapeutics.**—Dr. MIHRAN K. KASSABIAN of Philadelphia considered at length the conditions amenable to this method of treatment. He contrasted the treatment of carcinoma by the *x*-ray with operation, and believed the growth should be removed, if possible. The superficial growths were more easily reached than the deep-seated ones, and the production of dermatitis is due to faulty technique.

**Some Problems in Surgery.**—Dr. GEORGE D. NUTT of Williamsport read a paper with this title in which he stated that a thorough practical knowledge of the practice of medicine, and diagnostic ability, as well as skill in the use of the knife, were essential in surgery, and the surgeon should possess the highest ideals of integrity and professional honor. He felt that more care should be used in operative technique, so as to leave less postoperative deformity, discomfort, and dangerous sequences; and particularly is this true in small operations, especially on exposed parts of the body. In the surgery of the hands and fingers the utmost care should be taken to leave as little deformity as possible and to save every portion that may be of use to the patient. By the improved means of examination and treatment better results and less deformity should be obtained in cases of fracture. He urged that in all abdominal work which is not included under the term, emergency surgery, we should not lose sight of nature's forces and her ability to overcome and eradicate disease, nor the neurotic element which enters into so many cases that seek surgical advice; and that the patient should never be submitted to an exploratory operation until every other means of diagnosis has failed to reveal the true state of the case.

**Proctocolitis, with Special Reference to Treatment** was the title of a paper read by Dr. WILLIAM M. BEACH of Pittsburg, in which he stated that (1) proctocolitis is a

disease that attacks old and young—in the experience of the author occurring more frequently in the male sex. (2) The essential symptoms are pain, constipation, and membranes. (3) In diagnosis, appendicitis, malignant and pelvic diseases are to be eliminated. (4) Reflex symptoms must be recognized when they occur, as neuralgia, anæmia, vertigo, dyspepsia, cardiac irritation, asthma, and neurasthenia. (5) The history of acute dysentery of bacillary origin and the neuroarthritic diathesis must be reckoned as causal factors. (6) Ptosis of the abdominal viscera, appendicitis and tumors may be complications in severe cases. (7) The diet should consist for the most part of soft foods, eliminating green vegetables, fruit, nuts, and alcohol. Milk is the standard aliment. (8) Certain medicines, such as castor oil, to secure normal action of the bowels; tincture of nux vomica in doses of two drops every three hours for anorexia; antitoxins, such as salol, bismuth salicylate, soda salicylate, and guaiacol carbonate, to relieve the reflex symptoms of autointoxication, and dilute nitric acid in ten to fifteen-drop doses for the relief of hyperchlorhydria, are of use when indicated, but should be selected and used with great care. (9) With the above regimen the most efficient procedure is to wash out the colon.

**Modern Treatment of Fractures.**—Dr. H. S. McCONNEL of New Brighton read this paper. Fractures, he said, were imperfectly treated owing to faulty teaching of anatomy and surgery in the schools, the subject not being presented so the student associated structure with function. An attempt should be made in every case of compound fracture to convert it into a simple. Tight bandaging was harmful. Splints snugly secured were to control muscular action rather than to make direct pressure upon the fragments. In fractures of lower end of the humerus, involving the joint, the extended position enabled the surgeon to inspect and redress without pain, and led to complete restoration of function in shortest possible time. The proper splints for these fractures were made of absorbent cotton rolled upon itself, covered with gauze and extending from shoulder to fingers. In fractures of the leg, the fracture box should be discarded as a relic of barbarism. The permanent dressing for this injury was best made with three pieces of canton flannel twice the width desired, posterior extending from middle of thigh to malleoli, side pieces from upper border of patella to two inches below the sole; these folded upon themselves, smooth side out, and covered with from six to eight layers of a moist 3-inch plaster-paris bandage by a to-and-fro motion, lengthwise; then the uncovered portion of flannel brought over the plaster, makes them ready for use. The posterior was first applied snugly—while firm extension was made—with a few turns of wide gauze bandage; then the side splints overlapping posterior, but leaving a space anteriorly of not less than one inch exposing spine of tibia. The advantage of this method was that a light, firm dressing could be molded into all the irregularities. The use of canton flannel and overlapping of splints made it impossible to constrict the limb.

**Surgical Treatment of Recent Fracture of the Patella.**—Dr. EDWARD MARTIN of Philadelphia read a paper with the following conclusions: (1) The conservative treatment of fracture of the patella is applicable to blow or tear fractures in which the separation of the fractures is not greater than one-half an inch when the knee is flexed to a right angle and in which there is no great joint tension. Conservative treatment consists in fixation for ten days, the application of adhesive strips to approximate the fragments, the use of elastic bandages to prevent inflammatory exudation, and the employment of massage and passive movements. (2) All fractures of the patella, independent of the amount of fragment separation, attended by marked immediate joint tension should be treated by the open method. (3) All fractures of the patella in which the fragments are separated more than one-half of an inch when the knee is bent to a right angle should be treated by the open method. The torn tendinous expansions of the quadriceps being closed by mattress sutures and the patellar fragments being united by silver wire, the insertion of the latter being facilitated by the use of a bone drill with an eye in its end.

**Retrodisplacements of the Uterus.**—Dr. J. MONTGOMERY BALDY of Philadelphia read a paper in which he said that retrodisplacements of the uterus were usually secondary to some other lesions, and in order to treat the condition successfully the primary cause must be removed. While there were cases that seemed to be without any primary cause, which were cured by the replacement of the uterus, he felt that the probabilities were that the real seat of the trouble was undiscovered, and that the case had been benefited without the remedying thereof, and would probably burst forth again upon any irritation, such as sexual relation incident to married life, puerperal sepsis or gonorrhœal infection. The most common associated condition is inflammation of the pelvis. In the way of treatment he believed the preferable operation was the intraabdominal on the round ligament, believing it was much more desirable than either Alexander's operation or hysterorrhaphy and that pregnancy could just as well occur thereafter as after either of the other operations.

**Some Observations on the Pathology and Treatment of Empyema.**—Dr. P. Y. EISENBERG of Norristown read a paper with this title. He remarked the fact that pleuritis was not only due to cold or injury, but might be developed by the extension of an inflammatory or other morbid process from some of the neighboring tissues to the pleural membrane, and that the suppurative form existed either as a primary or as a secondary infection. He outlined in detail the process by which the infection was communicated, and the pathological conditions present. This condition was usually preceded by three or four weeks of a pleuritis or pneumonia, its existence becoming manifest by a continued pain of an aching, throbbing character in the affected side—headache, thirst, anorexia, profuse perspiration, especially at nights, with a full bounding, but easily compressible, pulse, accelerated respiration, and a temperature of 102 to 103 or more, accompanied by rapid emaciation of the body and exhaustion; and in conjunction with this are the physical signs of effusion in the pleural cavity.

Dr. W. W. KEEN of Philadelphia said that the pyogenic infection was much less frequent than either the typhoid or the pneumococcus, and emphasized the need for especial care where there existed a mixed or pyogenic infection. He reported the case of a man who had pleurisy followed by rupture and discharge of a large quantity of very foul pus, the empyema being of about two and one-half years' duration at the time he came under the speaker's observation. At this time the cavity was very much contracted and very difficult to follow, resection of two ribs and removal of the parietal pleura being necessary. The flaps were inverted and united to the margin of the pleura, leaving a cavity 3 or 4 inches in diameter, which in eight weeks after the operation had entirely healed.

**Some of the More Infrequent Causes of Obstruction of the Common Bile-duct.**—Dr. LEVI J. HAMMOND of Philadelphia read this paper, in which he said that while the majority of cases of obstruction of the common duct resulted from infections through the gastrointestinal tract, there were many cases which so far as could be determined by exploration were in no way associated therewith, and he believed the lymphatics in other regions were a fertile source of infection. These cases were impossible of diagnosis before obstruction and very difficult even after. The anatomical construction of this region should be borne in mind, particularly the relation of the common bile-duct and the pancreatic duct, and the arrangement of the lymphatic glands. A case was reported of obstruction of the common duct following

pneumonia, which was believed to be due to lymphatic infection from the right pleura. Another case reported was caused by fibroid thickening with adhesions of the head of the pancreas to neighboring organs.

**The Results of the Surgical Treatment of Ascites Occurring in Cirrhosis of the Liver.**—Dr. HERMAN B. ALLYN of Philadelphia referred to the fact that Talma and Drummond were incited to the use of this operation by observing at autopsies that in the cases in which the anastomoses were most abundant the ascites was least, and they thought that if the adhesions could be increased and adequate collateral circulation secured, portal congestion would be relieved and the ascites cured. The usual operation consisted in opening the abdomen in its upper right quadrant, draining away the ascitic fluid and gently rubbing the parietal surfaces of the liver and spleen and abdominal wall with gauze sponges, and sewing the omentum to the margin of the abdominal incision. He believed the high mortality of the operation could be partly accounted for by the fact that many of the cases operated upon had been in a most desperate condition, and recommended that the case be carefully selected, as he did not feel, unless the patient seemed to be in a condition to survive the operation five or six months, the prognosis was favorable.

**Abdominal and Pelvic Surgery with Electrothermic Hæmostasis** was the title of a paper read by Dr. ANDREW J. DOWNES of Philadelphia, in which, he stated that the essential elements in his method were pressure and heat. He gave a full description of the instruments and the technique, and gave in detail the results of various operations—ovariotomy, salpingo-oophorectomy, hysterectomy, appendicectomy, and other operations on the stomach, intestines, and omentum in which he had used these instruments. He stated that he had not used a ligature within the last two years

(To be continued.)

# Medical Items.

**Contagious Diseases — Weekly Statement.** — Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending October 3, 1903:

| | Cases. | Deaths. |
|---|---|---|
| Measles | 69 | 2 |
| Diphtheria and croup | 284 | 32 |
| Scarlet fever | 85 | 2 |
| Smallpox | ... | ... |
| Varicella | 15 | ... |
| Tuberculosis | 279 | 150 |
| Typhoid fever | 89 | 15 |
| Cerebrospinal meningitis | ... | 2 |

**Ovarian Tissue as a Hæmostatic in Hæmophylic Persons.**—S. Zavadier states that as in families of bleeders the females are usually spared from hæmophylia, they merely serving to transmit the tendency to their male descendants, it must be that one or other organ peculiar to the female exerts an important influence most probably on the coagulability of blood or less likely on blood vessels. The author inferred that the ovaries serve this function, from the fact that severe attacks of epistaxis are most common in females at the age of puberty and shortly after, when the functions of the ovaries are often getting deranged. He reports the case of a young woman who had a severe attack of epistaxis, to which she was subject. Styptics were of no use and plugging on the side of the throat was impossible because of the patient's sensitiveness. Two ovarian tabloids, five grains each, were prescribed every half hour in milk. The epistaxis stopped completely after four tabloids had been taken, and the patient was able to get up on the fourth day, whereas in previous attacks she had been laid up for a couple of weeks. A colleague successfully stopped a severe hemorrhage in a hæmophylic boy (whose bleeding from a small cut could not be stopped by a hypodermic injection of a ½ dram of defibrinated blood taken from the boy's grandmother. The author suggests treating cases of bleeding of hæmophylic persons with ovarian tissue internally, or with hypodermic injections of a healthy woman's blood.—*The Edinburgh Medical Journal.*

**Tonsillar Hemorrhage.**—Lawrence R. Ryan reports several cases of severe tonsillar hemorrhage, and from his experience he tabulates the plans of operation in the following order as productive of the most danger: (1) Removal by the bistoury, a plan which is almost obsolete. (2) Removal by the tonsillotome, which elevates the tonsil. (3) Removal by the flat tonsillotome. (4) Removal by the galvanocautery snare. (5) Removal by the cold snare. (6) Dissection, or tonsillectomy by the galvanocautery knife, requiring several sittings. He adds that he would hesitate now about removing by amputation the fibrous tonsils of people over twenty-five years of age, especially if they are densely fibrous.—*Illinois Medical Journal.*

**Health Report.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service during the week ended October 3, 1903:

SMALLPOX—UNITED STATES.

| | | | Cases. | Deaths. |
|---|---|---|---|---|
| Alabama, Mobile | Sept. 19–26 | | 4 | ... |
| California, Los Angeles | Sept. 12–19 | | 2 | ... |
| Illinois, Belleville | Sept. 19–26 | | 3 | ... |
| Chicago | Sept. 19–26 | | 2 | ... |
| Danville | Sept. 19–26 | | 1 | ... |
| Maine, Oldtown | Sept. 19–26 | | 8 | ... |
| Maryland, Baltimore | Sept. 19–26 | | 1 | ... |
| Massachusetts, Fall River | Sept. 19–26 | | 2 | ... |
| Michigan, Detroit | Sept. 19–26 | | 1 | ... |
| Port Huron | Sept. 19–26 | | 3 | ... |
| Minnesota, Crow Wing Co. | Sept. 14–21 | | 23 | ... |
| Stearns Co. | Sept. 14–21 | | 3 | ... |
| Stevens Co. | Sept. 14–21 | | 1 | ... |
| Mississippi, Natchez | Sept. 13–20 | | 1 | ... |
| New York, Niagara Falls | Sept. 19–25 | | 2 | ... |
| Ohio, Cincinnati | Sept. 18–25 | | 1 | ... |
| Cleveland | Sept. 19–26 | | 1 | ... |
| Pennsylvania, Altoona | Sept. 19–26 | | 1 | ... |
| Butler | Sept. 12–19 | | 1 | ... |
| South Carolina, Charleston | Sept. 19–26 | | 2 | ... |
| Tennessee, Memphis | Sept. 19–26 | | 3 | ... |
| Wisconsin, Milwaukee | Sept. 19–26 | | 2 | ... |

SMALLPOX—INSULAR.

| | | | | |
|---|---|---|---|---|
| Philippines, Manila | Aug. 1–15 | | 1 | 1 |

SMALLPOX—FOREIGN

| | | | | |
|---|---|---|---|---|
| Austria, Prague | Sept. 5–12 | | 1 | ... |
| Belgium, Brussels | Sept. 5–12 | | ... | 1 |
| Brazil, Pernambuco | Aug. 1–15 | | ... | 0 |
| Rio de Janeiro | Aug. 23–30 | | 46 | 23 |
| China, Shanghai | Aug. 8–15 | | ... | 2 |
| Colombia, Barranquilla | Sept. 6–13 | | ... | 1 |
| Great Britain, Bradford | May 30–June 20 | | 51 | 4 |
| | June 20–Aug. 1 | | 42 | 4 |
| | Aug. 1–29 | | 46 | ... |
| | Aug. 29–Sept. 12 | | 16 | 1 |
| Dundee | Sept. 5–12 | | 3 | ... |
| London | Sept. 5–12 | | 9 | ... |
| New Castle-on-Tyne | Sept. 5–12 | | 5 | ... |
| South Shields | Sept. 5–12 | | 1 | ... |
| India, Bombay | Aug. 24–Sept. 1 | | ... | 3 |
| Netherlands, Amsterdam | Sept. 12–19 | | 5 | ... |
| Russia, Moscow | Aug. 29–Sept. 5 | | 1 | 1 |
| Odessa | Aug. 29–Sept. 5 | | 5 | ... |
| Warsaw | Aug. 22–29 | | ... | 1 |
| Turkey, Smyrna | Aug. 31–Sept. 6 | | ... | 42 |

YELLOW FEVER—UNITED STATES.

| | | | | |
|---|---|---|---|---|
| Texas, Laredo | Sept. 24–28 | | 13 | 3 |

YELLOW FEVER—FOREIGN

| | | | | |
|---|---|---|---|---|
| Colombia, Panama | Sept. 14–21 | | 2 | 1 |
| Mexico, Vera Cruz | Sept. 12–19 | | 35 | 10 |
| Venezuela, Cagua | Sept. 19 | | Epidemic | |
| San Felipe | Sept. 19 | | Epidemic | |

CHOLERA—INSULAR.

| | | | | |
|---|---|---|---|---|
| Philippines, Manila | Aug. 1–15 | | 32 | 24 |
| Provinces | Aug. 1–15 | | 1,991 | 1,407 |

CHOLERA—FOREIGN.

| | | | | |
|---|---|---|---|---|
| China, Shanghai | Aug. 8–15 | | ... | 2 |
| India, Calcutta | Aug. 15–20 | | ... | 18 |
| Madras | Aug. 15–22 | | ... | 1 |

PLAGUE—FOREIGN.

| | | | | |
|---|---|---|---|---|
| Africa, Cape Colony | July 26–Aug 8 | | 1 | ... |
| Brazil, Rio de Janeiro | Aug. 23–30 | | 19 | 10 |
| China, Hongkong | Aug. 8–15 | | 13 | 11 |
| Egypt, Alexandria | Aug. 22–28 | | 7 | 6 |
| Damiette | Aug. 22–28 | | 7 | 5 |
| India, Bombay | Aug. 24–Sept. 1 | | ... | 79 |
| Calcutta | Aug. 21 | | ... | 29 |
| New Caledonia | Aug. 29 | | 23 | 17 |

# Medical Record

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## Original Articles.

### RADIUM: WITH A PRELIMINARY NOTE ON RADIUM RAYS IN THE TREATMENT OF CANCER.*

BY MARGARET A. CLEAVES, M.D.,
NEW YORK.

NOT only the scientific world, but the lay as well, listens with bated breath to the marvelous tales of radium; tales which, especially when accompanied by demonstrations of the apparently magical phenomena of this new element, seem more befitting fairy lore than abstruse scientific fact; and one can but wonder whether radium may not prove a veritable Aladdin's lamp to medical science as well as to physics.

"All nature is vibrating, from the lowest musical note to the highest pitch of the chemical rays," and in radium the highest form of etheric vibration is to be found.

The electrotherapeutist with his high-frequency discharges from vacuum tubes, his ultraviolet rays, his cathode and *x*-ray must, of necessity, have not only a scientific but a practical interest as well in radioactivity.

Radium, polonium, uranium, actinium, and thorium form a group of radioactive metals which have been extensively experimented with, and studied by Professors Becquerel, Thompson, Rutherford, Crookes, Lodge, Laborde, and Professor and Mme. Curie.

With radium, polonium, actinium, and thorium light is given off the moment they are created, without having to be stimulated by any form of heat, light, electricity, or any other form of energy so far as is at present known.

A vast amount of speculation and some interesting hypotheses have been evolved to exlain the phenomena observed in experimenting with these substances. "It is believed that from them much will be learned about the constitution of matter and the co-relation of the vital and physical forces, more, in all probability, than any substances which have been created since the world began."

Following upon the investigations into the phenomena produced on the interior and exterior of various kind of vacuum tubes to which great importance must be attached, came the discovery in 1896 of M. Henri Becquerel of the radiations emanating from uranium and which are known as Becquerel rays. A vast array of well-known names is associated with investigations into vacuum-tube phenomena, names which are veritable household words to the physicist, among whom may be mentioned, Varley, Hittorf, Crookes, Lenard, Röntgen, Hertz, J. J. Thomson, Goldstein, Schmidt, Ebert, Weichert, Geissler, Kauffman, Puluj, Perrin, Villard, Wien, Weidemann, Majorama, Birkland, Deslandres, Poincaré, Edison, Tesla, Rowland, Michelson, E. Thomson, Moore, Rollins, and Campbell-Swinton.

To Becquerel, however, the science of radioactivity owes its foundations.

*Read at the meeting of the American Electrotherapeutic Association, Atlantic City, September 22-24, 1903.

In 1898 Prof. Pierre Curie and Mme. Sklodowska Curie, when investigating the radiations from uranium discovered by Becquerel, found that some samples of pitchblende or uraninite, from which uranium is extracted, gave forth radiations much more powerful than any uranium they had found, having four times the activity of metallic uranium.

Painstaking research resulted in the discovery of a substance associated with bismuth and resembling it very much in its chemical characteristics. To this substance Mme. Curie gave the name of polonium, in honor of Poland, the land of her nativity.

Polonium is to be had in the form of a metal and in the form of a subnitrate. The metallic polonium resembles particles of nickel and the subnitrate is a white powder. The only specimen of metallic polonium in this country is in possession of Mr. W. J. Hammer, from whose exhaustive and interesting monograph[1] on radium many facts set forth herein have been gleaned. He also has the subnitrate, and both specimens possess an activity of 300. Just here it may be well to state that the radioactivity of uranium is taken as a standard of comparison, and polonium of 300 radioactivity, or radium of 7,000 radioactivity, means that the one is 300 and the other 7,000 times more powerful than the original radiations emanating from uranium or Bequerel's rays.

In the same year, 1898, Professor and Mme. Curie isolated a second substance from pitchblende, which was associated with barium and possessed many chemical and other characteristics of that substance. To this they gave the name of radium. In 1899 Debierne discovered actinium.

Radium, actinium, and polonium have a million times the activity of uranium, according to Professor Curie.

Gietel finds that polonium has both deviable and non-deviable rays, and Elster states that when it is placed in a vacuum it is found to be deviable by a magnet to a much greater extent than radium. The rays from actinium are also deviable, while the rays from radium are deflected from a straight line, differing in that respect from the Röntgen or *x*-ray.

Professor Curie regards radium as distinctly a new metal; it has never been found, however, in a metallic form, but it is to be had as a chloride or bromide.

Radium bromide is the strongest radium salt yet produced, and there is but little of it in existence, the amount having been estimated at as little as four grams. This statement probably refers to activities higher than 7,000. All radium of higher radioactivity than 7,000 has until recently been retained for the experiments of Professor and Mme. Curie and their associates, but recently information was received from Director Boulay of the Société Centrale that they expected shortly to put upon the market a preparation of radium, chemically pure, or nearly so, at a cost of $6,000 per gram. It is estimated by Professor Curie that the three years' work done in both Germany and France had, a few months ago, resulted in the production of but one pound of radium, including

all grades and qualities. There has been no radium on the market in this country, until very recently, save the German radium, which Professor Curie has never found to have more than 300 radioactivity. Recently, however, there has been imported, from the Société Centrale, the French radium prepared in the laboratories of Professor and Mme. Curie, of both 3,000 and 7,000 radioactivity, in sealed glass tubes containing a decigram each.

The radiations of radium have the power to penetrate opaque solids as does the *x*-ray. It has been demonstrated, however, by the work of Becquerel, the Curies, Rutherford, and others that there are three distinct types of rays emanating from radium, known as the "*A*," "*B*" and "*R*" rays. In the first instance it was pointed out by Rutherford that uranium possessed two distinct types of rays, "*A*" and "*B*," the former easily absorbed even by gases, whilst the latter are very penetrating but little absorbed by gas. In radium the "*A*" rays constitute the major proportion, are by far the most important class, and are the most active in the ionization of the gas which has been observed under experimental conditions. They are the rays which possess certain characteristics of the Röntgen or *x*-rays, and in a strong electrical field 45 per cent. of them have been deflected by Rutherford. They are readily absorbed and a thin screen of metal suffices to cut off the most of them. Hammer shows, among a considerable number of radiographs, one of a steel tool made by radium in twenty-four hours, acting through two thick *x*-ray plate envelopes, of a mouse made in twenty-four hours by laying it directly on the plate, and of a mouse in a trap, exposed for three days. In the latter the wooden part of the trap is transparent as with the *x*-ray. He also photographed a dead human hand, exposing it for eight days. A slight trace of the bones can be seen. It is supposed to be the first picture of the human hand made with radium. Through Mr. Hammer's courtesy I am enabled to show these radiographs to the association.

Rutherford estimates that the energy of the "*A*" rays is a thousand times greater than that of the "*B*" rays, and is also authority for the statement, that all radioactive substances, including polonium, as well as excitable bodies and their emanations, give out "*A*" rays.

The "*B*" rays are much longer, have greater penetrative power, are readily deflected by a magnet and correspond in every particular to the cathode rays.

With them electrified bodies are discharged by ionization of the air, photographic plates affected, etc. These rays are projected from the cathode at a speed approximating 70,000 miles per second. They were proven by Villard, in 1899, to be negatively electrified corpuscles or fragments of atomic hydrogen. These "corpuscles" so named by J. J. Thomson are shown by him to be the one-thousandth of the mass of a hydrogen atom. The "*R*" rays are the rays possessing the greatest penetrative effect, and they will excite or produce radioactivity at a distance of three feet or more. Rutherford's experiments show the relative penetration of the three classes of rays through aluminum sheets of varying thickness before there is a loss of half the intensity, which is formulated as follows:

"*A*" rays through a thickness of aluminum .0005 cm.

"*B*" rays through a thickness of aluminum .05 cm.

"*R*" rays through a thickness of aluminum .8 cm.

According to Professor and Mme. Curie, radium rays act in many ways like light.

They reduce silver salts, peroxide of iron, and bichromate of potash in presence of organic substances; while glass, porcelain, and white paper are colored by them, and yellow platino-cyanide of barium is transformed into the brown variety.

Becquerel, in referring to the chemical action of radium rays, states that white phosphorus is transformed into red in twenty-four hours, mercuric chloride, in the presence of oxalic acid, is reduced with the precipitation of calomel, and after long exposure the germinating power of seeds is destroyed. To the same chemical action the coloration of glass, porcelain, paper, and certain crystals, as well as the painful physiological effects, are due The coloring of glass by radium rays finds it counterpart in the coloring of *x*-ray tubes. Those who have tubes steadily in use, have noted that often they assume a violet tinge similar to the flask spoken of by Hammer, colored by radium rays. It is also found by Becquerel that radium rays have the same power as the electric spark, under exposure to heat, of restoring phosphorescent properties to a body deprived of them by overheating. The same is true of ultraviolet light.

Diamonds exposed in the dark to radium rays fluoresce and scintillate in the most brilliant fashion. False stones are therefore easily detected.

By its action gases are thrown into a state of vibration which causes the production of their characteristic spectrum. The phenomena of the emission of heat is unique and unprecedented, and a given specimen emits sufficient heat in an hour to melt its own weight in ice; while it maintains itself at a temperature of 1.5° C. above that of the sorrounding medium. Nor is it affected by a wide range of temperature, the emission of heat going on without perceptible variation, whether on a summer day or at the temperature of liquid air. A sample of bromide of radium, weighing 0.7 gram, tested by Dewar's method, was found to be capable of volatilizing an amount of liquid oxygen and hydrogen equivalent respectively to 6 c.c. and 73 c.c. of the gases measured at the ordinary temperature. In liquid hydrogen, however, radium shows that it is not always unaffected by external temperature, for, within a comparatively short distance of the absolute zero, the emission of heat, so far as present data can be relied upon, is augmented at the temperature of liquid hydrogen. This extraordinary phenomenon is increased in intensity at a point where all but the most powerful chemical affinities are in abeyance. This tremendous evolution of radiant energy goes on perpetually without combustion, without chemical change of any kind, without alteration of the molecular structure of the radium salt and without appreciable loss of weight. For one square inch of surface this loss of weight in ten million years is estimated at but one gram.

All of these facts are an apparent violation of the law of conservation of energy. From a close study of the phenomena exhibited by radium, Professors Crookes, Laborde, and Curie adduce an hypothesis that falls into harmony, not only with the law of conservation of energy but as well with the periodic law of atomic weights, or Mendeleeff's theory.

They discard the old atomic theory and tell us that each atom is composed of a definite number of infinitely smaller but absolutely identical units, "each in constant motion in its intraatomical orbit.

Thus the hydrogen atoms consist of 700 "ions," the oxygen atom contains 11,200 "ions" and gold 137,200 "ions" per atom. The 120,000 "ions" which compose a radium atom are in such a violent

ate of vibration or revolution in their orbits, that ey are constantly flying apart and escaping from e atom into the ether, similarly as meteors leave e solar system.[2] This active dissociation of intra-omical units is termed radioactivity.

Professor Lodge regards this atomical disintegra-n as the normal process of nature, but proceeding so slow a rate in the more stable atoms, that mil-ns of millions of centuries would be consumed in completion, while in radium the process is so pid it can be observed.

The Curies put forth two hypotheses as to the urce of the energy of radium. "One of these con-ts in supposing the atoms of radium evolving and ansforming into another simple body, and despite e extreme slowness of that transformation, which nnot be located in a year, the amount of energy olved in that transformation is tremendous. The cond hypotheses consists in the supposition that dium is capable of capturing and utilizing some diations of unknown nature which cross the space ithout our knowledge.[3]

The theory is advanced by Professors J. J. Thom-n and Rutherford that there is a succession of emical changes going on, causing the spontaneous rojection of larger masses of material at enormous elocities, and that while certain portions are con-antly dying out and becoming inert, other portions re constantly increasing in strength and power.

Substances which have been in contact with dium become radioactive and their radio-ctivity lasts for varying periods of time. Pro-essor Curie states that it is impossible for him o go near his instruments to make any measure-ents for hours, after being near radium, and those ho works with it, find it extremely difficult to eep their tools, instruments, and themselves free rom the radioactivity imparted by the radium. alling rain and snow are for a time quite powerfully adioactive, and lightning rods and even the leaves f trees also become radioactive. It was found by IcLennan that rain caught in a vessel and immedi-tely evaporated to dryness, imparted a radioactiv-ty to the vessel. Hammer found a piece of card-board, which had formed the box holding his radium, uminous in the dark after six days. This radioac-ivity was stimulated by burning magnesium wire before it.

Physiological effects: Becquerel, Gietel, the Curies, nd others have given important evidence as to the erious physiological effects of radium. Becquerel from carrying a specimen in his pocket for six hours received a serious burn on his abdomen. Hammer felt the effects for weeks from carrying a wooden box containing eight tiny tubes under his arm for several hours. He also experimented with an elec-tric torpedo in the Aquarium at Naples by placing six tubes of radium on the back of the fish, which is shaped like a flounder, leaving them there for twenty minutes.

Prior to doing this, both he and the members of his party had received powerful shocks from the tor-pedo's batteries. Upon removing the radium he tried for fifteen minutes to get a shock from the fish in the same manner as before but without success. He admits that the fish "might have been out of shocks," but the question which naturally arose was whether a partial paralysis had not been induced by the action of the radium rays. This seems more than plausible in view of the fact that Professor Curie found that a few milligrams of radium intro-duced beneath the skin of a mouse over the vertebral column produced death by paralysis in three hours; and tubes of radium placed in contact with the back of the neck of guinea-pigs have paralyzed these ani-mals in a few hours, according to the length of the exposure.

M. J. Danysz[4], in a report to the Academy of Sciences, states that the application of a tube containing a salt of radium to the skin produces an ulcer in from eight to twenty days. A few moments application is followed by a congestion of the human skin. When applied to the skin of a rabbit, destruction of the epidermis follows, but when applied under the skin there is only a feeble reaction on the epidermis. It seems to penetrate the muscles with difficulty. Danysz also found that the intestines and the serous surfaces, when the tubes containing the radium were introduced into the cavity of the guinea-pigs and allowed to remain for several hours, were but little affected, and no lesions produced comparable to those of the skin. Its action upon the nerve centers was noticed in all animals, subjected to experiment, but it was comparatively feeble in those whose osseous tissue protected the nerve centers. Application of the tubes containing the salt to the cranium caused paresis, ataxia, and convulsions, followed later by death. The same observer found that the salts of radium dissolved in distilled water, emits certain emanations which prevents the development of anthrax bacilli. E. Aschkinass and W. Caspari[5] found that the germs of the *micrococcus prodigiosus* when exposed to a radium preparation were effectively killed in about three hours by the action of the ray. The ocular phenomenon or sensation of light when a tube is held close to the eye or near the temple is one of the most familiar of the phenomena of this agent. This is attributed, by Hammer, to the phosphorescence of the pupil of the eye, and also to a possible effect on the nerve centers. Interesting in this connection are the observations of M. Javal[6] who suggests that blindness, with alteration of the retina, can be distinguished from that due to glaucoma or corneal opacity, because patients with the latter conditions see rays from radium as well as do those of sound vision. This would indicate, to the writer's mind, that the effect is upon the nerve center. Professor Curie is authority for the statement that he would not care to trust himself in a room with a kilo of pure radium, as it would burn all the skin from his body, destroy his eyesight, and probably kill him. From its physical properties and physiological effect, a therapeutic action is predicated. As yet there has been but little done.

M. Danlos[7] reports a case of lupus of the face exposed at two points to the action of a salt of radium which had a radioactivity of 19,000 for from twenty-four to thirty-six hours. The result was disappearance of the disease with the formation of a smooth, white cicatrix, blending into the surrounding normal tissue.

M. M. Hallopeau and Gadaud[7] report that too prolonged exposure to the emanations from radium led to atonic ulcerations which lasted from five to six months. Dr. Blandamour has also used radium in lupus. His best results followed the use of salts with a radioactivity of 5,200 and 19,000 respectively.

The exposures were made from twenty-four to forty hours, and were followed by profound erythema with maceration of the tissues exposed and even ulceration. The recovery was perfect and the cosmetic effect good, the resulting scar being white, smooth, and soft. By modifying the power of the radium and shortening the exposure, he expressed the hope that the desired effect might be obtained without ulceration. Recently there were two cases reported to the Viennese Society of the Imperial Academy of Science,[8] which had been submitted to

the action of radium. One, a man, aged sixty-two years, had been repeatedly operated upon for cancer of the palate and lip, but with no benefit. Further operative measures had been declared useless. In the published report falling under the writer's notice, the radioactivity and technique were not given, but a bromide of radium was used. The tumors gradually and completely disappeared. The patient was treated in the clinic of the late Professor Gusenbatter. The second case was one of melanosarcoma, which was also reported cured.

Equally interesting is the case of Mr. Mackenzie Davidson at the Charing Cross Hospital, London. A recurrent epithelioma of the nose, rodent ulcer type, unsuccessfully treated by the *x*-ray, was exposed for a short time to the action of radium. Four exposures, aggregating an hour, were given at intervals of a few days. In three weeks time healing was established, and in six weeks, after two other applications, the cure was complete.

For two years the writer has entertained the thought of trying the radium emanations in the treatment of malignant diseases, but owing to the limited supply, as well as the great expense, it was only recently made possible.

On September 15, through the courtesy both of Prof. Charles Baskerville, Director of the Laboratory, Department of Chemistry, University of North Carolina, and Eimer & Amend of New York, the writer was enabled to use one gram of bromide of radium contained in a sealed glass tube, and having a radioactivity of 7,000 in the treatment of two cases.* One, a case of sarcoma involving the left cheek, entire buccinator region, and the mucous membrane of the lower left maxillary region, from the extreme angle of the jaw, extending upward and along the ramus of the jaw; the other, an inoperable primary pelvic case of epithelioma, involving the cervix, anterior and posterior vaginal walls, almost to the introitus; rectum, bladder, and both broad ligaments. Both cases have been under treatment, the first for five weeks, the second for three months, by means of the *x*-ray and ultraviolet light, and both had been declared inoperable by the best surgical talent.

The case of sarcoma had been treated by external applications of the *x*-ray, twelve exposures for one month prior to coming under the writer's care, and not only without improvement, but with a steady loss. Since under care, now five weeks, the *x*-ray has been applied to the interior of the mouth as well as externally and applications of ultraviolet light, through focusing quartz lenses from a 25 ampere arc, made as well. By this treatment the patient had been relieved of the intense pain for varying periods of time, but the relief did not persist. When first under treatment he gained three pounds. This he had lost, pain and distress were constant, facies, anxious and worn, sleep very much impaired, appetite poor, progressive loss in weight, intense headaches. The ulcerated area was larger, and on September 11 was covered with a dirty grayish exudate, foul to a degree, with ragged and necrotic edges.

The growth involving the region of the buccinator muscle was tense, hard, and extremely painful. Just inside the mouth under the upper lip, left angle of the mouth, there were two prominent tubercles; unable to open his mouth, save for a scant half an inch, and impossible to take anything but liquid food. On the night of the 13th and the morning of the 14th of September he had a severe hemorrhage. Duration of the disease is placed at one year. Active evidences followed removal of an upper tooth one year ago. Tooth removed because of pain. Disease has steadily progressed since that time. September 15, 1903, the growth involving the left buccinator region was exposed to the radiating surface of one gram of radium bromide, of 7,000 radioactivity and contained in a sealed glass tube. The tube was held by means of a pair of long dressing forceps at three-quarters of an inch from the skin for ten minutes, followed by a five-minute exposure made in the same manner to the skin over the ulcerated area. Upon the suspension of treatment the patient said he was relieved, and that he could open his mouth with greater ease and comfort, and that he felt better than any time since coming under care. He reported, on the morning of the 16th, that he had slept better the preceding night than for three months, that he suffered no pain and was only wakened by the dribbling of the discharge from his mouth. On the way to the writer's office he had a feeling of faintness which was ascribed to his weakness and the intense heat and humidity. Appetite better, the 15th after treatment and also the morning of the 16th. Opened his mouth the merest trifle wider and without pain. Practically no odor and but little discharge, no pain save a little upon deglutition, feels well.

Physical Examination: Facial expression bright and pain free, looks rested; indurated tissues softer and more yielding to touch, softness characterizing the more superficial part of the induration; mucous membranes pale (pallor since use of radium), ulcer not so dirty looking but still gray in appearance. September 16, radium rays used as before, the surface exposure lasting but ten minutes; then the tube of radium salts was placed in a small test tube, the upper lip raised and an application of two minutes made at the upper left angle of the mouth, directly to the tubercles.

September 18, 1903. In response to the morning salutation, instead of the former "not any different" or "I am in great pain" the response was prompt and cheery "I am very well." Restless in the night, but no pain, discharge thinner, diminished in quantity and of different odor, *i. e.* not characteristic. Present condition, no pain save a slight sticking pain to left of left alæ nasi, indurated tissues much softer, softness extending deeper than on the 16th. Ulcer clean and bright, red at its base, edges still somewhat ragged, entire surface of ulcerated area bathed in an exudate serous rather than characteristic gray. The upper lip at the left angle before immobile with prominent tubercles is now readily handled, the tubercles are much smaller and the mucous membrane is smoother and of a more healthy color.

Five days subsequently the patient was still almost entirely free from pain and was conscious of the cavity inside the mouth. This he had not spoken of at any time before. As there has been a good deal of numbness in all the affected tissues, it is thought that this simply indicated a return to normal sensibility, as the anæsthesia was better elsewhere. Discharge still about the same in quantity, thin and of a serous nature; no characteristic odor, sleep improved; appetite fair; induration softer than at previous visit; mucous membrane has lost the profoundly anæmic appearance which followed upon first treatment. The reaction established in the ulcerated area has passed, the circulatory conditions are less good and there is more gray exudate with ragged edges.† The usual *x*-ray treatment was

*Since reading this paper a third has been added to the list, a recurrent epithelioma, rodent ulcer type, involving loss of scalp and skull plates (the latter from arsenical paste) of from four to five inches in lateral and antero-posterior diameter. This case was treated September 25 for ten minutes.

†September 25, 1903 Better, has gained one pound; no pain until September 24; no odor; discharge as before; ulcer cleaner; edges smooth; normal color, induration less.

given at this time, as the writer had been obliged to return the tube of radium to Professor Baskerville.

The pelvic case had been under care for three months and has improved to date under the combined influence of the *x*-ray (internal applications entirely) and ultraviolet light. Infiltration of vaginal walls is largely absorbed, hemorrhage under control, discharge also and the foul odor has entirely disappeared. Healing has taken place in the ulcerated area involving the cervix and the right posterior fornix. The patient's general condition is much improved, there is no characteristic pain, no cachexia, no loss of weight, her functions are well performed and she eats and sleeps well. There is, however, a discharge of blood from the rectum upon defecation and now and then at other times. Because of this, and believing that the radium rays would penetrate more deeply than the *x*-ray, the radium was used.

Prior to its use a physical examination was made showing elastic vaginal and rectal walls, no bleeding from the manipulation, no discharge, no odor, no ulcerated tissue, no pain, but the cervix uteri and adjacent vagina through the glass water-jacket of a vaginal *x*-ray tube, inserted to contain the tube of radium, were seen to be intensely congested, just ready to bleed, and streaks of blood were numerous, especially from the right fornix and posteriorly. In this water-jacket, closed at its distal end, the tube containing the radium bromide was placed and allowed to lie on the posterior surface of the water-jacket for five minutes. It was then held five minutes more near the anterior surface of the tube, because of the vesical involvement.

September 16, 1903, the cervix uteri was found to be completely blanched and also the vaginal walls, with here and there tiny little punctate spots of bright red, not larger than the smallest pin head. There was no discharge, no odor, and no pain. The writer questioned the advisability of making another exposure at this time, but as it was the only opportunity of doing so before returning the radium to Professor Baskerville, a five-minute application was made as before.

September 18, 1903. Speculum examination showed the cervix uteri and vagina intensely congested and bleeding; no treatment given. It is evident from the reaction that a mistake was made in reapplying the radium in this case on the second day.

September 21, 1903. Five days subsequent to the use of radium, no bleeding, no odor, no discharge, no ulceration, and vaginal and cervical mucous membrane normal in appearance. General condition good, but complaining of some vague discomfort, which may be attributed to the fact that her occupation necessitates much standing and walking. There has been no bleeding from the rectum since the radium was used.*

This report is made because, taken in connection with the experience of others, it seems to foreshadow an important place in medicine for radium. The writer offers no opinion as to the outcome of these two cases. They will be carefully watched and ultimately reported. The technique evolved is given, in the absence of any knowledge on the subject. It may not stand the test of time. Further experience can only prove this. There is absolutely no guide for the therapeutic applications of radium, and the writer preferred to err on the side of least danger to the patient. The profound physiologic action obtained would seem to indicate that the more powerful activities and long exposures are not necessary.

*September 28. Is looking and feeling well. No symptoms; still no bleeding from rectum since radium first used, two weeks since.

Of the three sets of rays in radium "*A*," "*B*," and "*R*" evidence points to the identity of the "*A*" ray with the Röntgen or *x*-ray, in the matter of penetrating opaque bodies. This and subsequent facts suggest to the writer's mind, a corroboration of the position taken by the Drs. Shields,* that it is not the *x*-ray, but the cathode ray which establishes physiological action and secures a therapeutic effect. To *x*-rays however produced, whether from an excited *x*-ray tube or a radium salt, the power of penetration of opaque bodies is then due. In the "*B*" rays a higher vibration is reached analogous to the cathode rays, while in the "*R*" rays a still higher degree of vibration is attained, capable of a more powerful chemical action and profounder physiological effect. This is what we seek in combating diseases of the nature of cancer. In a daily experience with these cases the writer has come to feel that if a higher, more penetrative and a more active chemically disorganizing vibration than is obtained from an *x*-ray tube could be applied, in a *lethal dose*, to the cancer cells, better results would necessarily accrue. So much is accomplished with the *x*-ray that one can but feel that an energy of the same kind, but of greater intensity, would do more. In establishing the treatment by means of radium rays the purpose would be best met by a full dose, whatever that proves to be, in order to act destructively upon the foci of disease.

The fact that radium emits rays of a greater penetrating power and of a higher vibration than the cathode rays, *i.e.* the "*R*" rays taken in connection with the change in appearance and relief obtained in the writer's case of sarcoma and the cure of the cases reported, stimulates the hope that in radium a therapeutic measure of value over and above the *x*-rays is at command. In the case of sarcoma the best resources of excited *x*-ray tubes has been faithfully tried, even to the production of an *x*-ray dermatitis, but up to the time of the use of the radium he was rapidly losing ground. Unless radium should prove for him an Aladdin's Lamp of more than fabled power, he is doomed.

There are submitted herewith two tubes of radium bromide, one containing a decigram of 3,000 and the other a gram of 7,000 radioactivity. At night, in the dark, they look like glow-worms as they lie on my study table. They can be placed within the accessible mucous cavities, according to the location of the disease, within the nose, uterus, or urethra, and a device could unquestionably be constructed permitting the placing of one in the œsophagus or stomach even, if it is found that a mucous membrane contact is the better one. In breast cancer a puncture could be made with the electrocautery, in order to secure a bloodless opening, and the tube could be carried directly within the malignant mass.

To the over-tired *x*-ray machine and tube worker, the thought of securing the same, and perhaps better, results with one of these quiet, inoffensive, and unaggressive tubes of radium salt is entrancing. The use of radium can never be common, not alone on account of the initial expense, but because of its scarcity. The tube with which the writer's work has been done is valued at $200. Future work will be done with the same radioactivity.

Just here, as showing not only the unity of scientific interest but the universality of humanitarianism, is appended a letter received from Professor Baskerville on the 21st.

My Dear Doctor: . . . I am very glad you kept the radium long enough to make some use of it, and I wish to say right now that while I wanted it here and shall need

it off and on, if you can save the patient about whom you write so interestingly, by its use, wire me and I will send it back to you.

Yours very truly,

CHARLES BASKERVILLE.

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N AVENUE.

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# STRICTURE OF THE MALE URETHRA.

### DEFINITION, ETIOLOGY, PATHOLOGICAL ANATOMY, SYMPTOMS, AND CLINICAL COURSE.

BY HENRY G. SPOONER, M.D.,

NEW YORK.

A STRICTURE is a narrowing of the normal dilatable diameter of the urethra, caused by organic alterations in its wall. This lessening of the normal dilatability advances slowly and progressively, causing secondary affections of the entire urinary tract.

In this definition we do not include transitory conditions, such as the so-called inflammatory strictures, which are caused by swelling and œdema of the mucous membrane. In the acute stage of gonorrhœa we have such an intense swelling of the mucous membrane of the urethra that the patient can pass his urine only with difficulty. In this case we have a narrowing of the normal dilatability of the urethra, but the hindrance to micturition gradually disappears without leaving any permanent narrowing of dilatability.

When the folds of the urethra, are encroached upon from without by abscesses, hemorrhages, or by an enlarged prostate, we speak of such conditions as compression strictures.

Under all circumstances urethrospasmus is a transitory phenomenon. This spasm of the urethra is a reflex action, caused by strong irritation in the urethra or its vicinity. There is no more reason for speaking of this condition as a stricture than there is in the case of spasmus glotticlis, or spasm of the rectum. The spasm always occurs in a reflex manner, in contradistinction to the sympathetic purely nervous urethral spasm, which comes on under psychical influences, such as anger, shame, or fright.

The spasm renders a certain hindrance to the passage of a sound that is just as apparent as if there were a true organic stricture.

Thus it can be seen we reserve the term of "stricture" for an organic and permanent narrowing of the normal dilatability of the urethra.

From an etiological standpoint strictures are divided into two groups: (1) Inflammatory strictures, and (2) traumatic strictures.

As chronic gonorrhœa is the most evident cause of the first group, these strictures are commonly called gonorrhœal strictures.

Since Sir Henry Thompson proved statistically the number of strictures that were caused by a chronic gonorrhœa, all the later authors have taken this view. Thompson gathered 220 cases of stricture of the urethra. In 164 cases gonorrhœa was the only cause.

As not every clap leads to a stricture, we are compelled to assume that harsh medical treatment causes one patient to get a stricture, while his more fortunate contemporary who is more scientifically treated, escapes.

The early use of strong solutions of corrosive sublimate, silver nitrate and chloride of zinc used to abort the disease have been found to be particularly responsible for the development of strictures.

The injections now used, such as the newer silver compounds, by preventing the chronicity of gonorrhœa, prevent the formation of strictures.

Tertiary syphilis, in the form of a gumma, leads to the formation of a stricture. Sometimes the healing of a tuberculous ulcer of the urethra causes the same result, but these conditions are rare.

We next come to traumatic strictures. Blows or falls on the perineum arising in all possible ways may lead to the formation of strictures. A tear in the urethra may occur with or without outer wound. A callous forms and leads through the contraction of scar tissue to the narrowing of the normal dilatability of the urethra at the location of the injury.

Fractures of the pelvic bones are very often complicated with a torn urethra. Nearly all these injuries pass through the pars-fixa urethræ, while the pars pendula is hardly ever involved—the pars pendula may be ruptured in cases of chordee, owing to an attempt of the patient in his anguish to straighten the curved penis.

Bullet wounds of the urethra are very rare—there were only 105 cases in our civil war. In the Franco-Prussian war there were only eight cases. In these cases the prognosis is very unfavorable, as grave complications nearly always set in.

Any foreign body that passes through the urethra, such as a stone from the bladder, or any instrument or article that is introduced into the urethra, may cause a tear which, when cicatrization sets in leads to the formation of a traumatic stricture.

*The Pathological Anatomy.*—Strictures of the urethra were known to classical antiquity, but the most peculiar theories were advanced concerning their origin and pathological anatomy. The formation of what was called "proud flesh" and "wild flesh" were regarded as the pathological changes.

John Hunter was the first man to hold more correct views. He differentiated the permanent urethral strictures caused by structural changes in the urethra from the purely spasmodic and from those caused by compression of the urethra by outside growths.

With the histological work that has been done during the past twenty years concerning chronic gonorrhœal urethritis and strictures of the urethra, our knowledge of the pathology of strictures has advanced. The works deserving particular attention are those of Dittel, Wossidlo, Oberländer, Finger, Wasserman, and Halle.

To-day we know that the gonorrhœal stricture rests on the same pathological process as chronic gonorrhœal urethritis, and that both diseases can only be gradually differentiated. In other words, the gonorrhœal urethritis is the first stage of a pathological process whose end is that of the formation of cicatricial tissue.

The gonorrhœal inflammation attacks (1) the mucosa urethræ. From this initial source of infection the chronic inflammation stretches out to (2)

the submucous connective tissue, and then to (3) the corpus cavernosum urethræ.

The final result of this process is the formation of a tough fibrous connective tissue, detracting from the normal dilatability of the urethra.

Macroscopically, the thickening of the urethral wall may be seen. Its lessened dilatability can be seen by the endoscope. The form and normal

Fig. 1.

properties of the urethra are altered, and, indeed, not only at the narrowest diameter of dilatability, but also on the folds of mucous membrane of the urethra that have only been attacked by a very mild grade of the chronic inflammation.

In conditions of rest the mucous membrane of the normal urethra lie in narrow folds one upon the other. The normal urethra has a caliber only when urine or seminal fluid passes through its canal,

Fig. 2.

thus stretching out the folds of the urethra according (1) to the pressure exerted; (2) the elasticity of the urethral walls, and (3) the resistance caused by the orificium externum.

On looking at the folds of mucous membrane through the endoscope, we can learn how these folds are normally arranged in the different parts of the urethra.

The meatus externus through which we can see

Fig. 3.

the urine come, is placed horizontally. The endoscope when inserted inside the meatus and anterior to the pars navicularis, is composed of three folds forming a triangle, the two longer folds making the apex of the triangle above, the under fold has begun to form in order to make the transition from the longitudinal opening at the meatus to the transverse position of the folds found in the pars navicularis of the urethra, as shown in Figure 1.

When the endoscope is in the middle of the pars navicularis, the upper two folds shown on last figure will be found to have come together, and the transverse fold has lengthened, giving the transverse folds found in the cavernous portion of the urethra, as shown in Figure 2.

Fig. 4.

In the middle of the penile portion of the urethra, on the upper wall, can be found the openings of the glands of Littré, as can be seen in Figure 3.

When we come to the pars membranacea we find the folds placed in a horizontal position, as we found them placed at the meatus externus. This is a very important fact to bear in mind in any endoscopic study of the urethra, as by bearing this fact in mind

Fig. 5.

we can tell when we are entering the posterior urethra, Figure 4.

In the middle of the prostatic urethra the folds round over the verumontanum, as seen in Figure 5.

Just before we enter the neck of the bladder, the folds can be seen going out from the middle of the picture, as seen in Figure 6.

Thus it can be seen that in a state of rest there is no opening in the urethral canal, therefore we cannot

Fig. 6.

correctly speak of the caliber of the normal urethra, as the folds of the urethra rest one upon the other; second, that the folds of the urethra, although differing in size and color in different urethras, present definite formations in the different anatomical divisions of the urethra.

In the chronic inflamed urethra the elasticity

and the picture of the folds of the mucous membrane are altered so that a more or less swollen lumen of the urethral canal can be noted. If the chronic gonorrhœal inflammation has developed a stricture then the urethra assumes the form of a canal, and its form will vary according to the contraction of the various structural changes. On endoscopic examination a stricture has the form of a small hole or gaping cleft with non-elastic walls of variable forms, as shown in Figure 7.

FIG. 7.

It is possible to classify a number of certain anatomical types of stricture: (1) Often the stricture is cylindrical; (2) More often still it is funnel-shaped; (3) In many cases it is in the form of a ring embracing the whole circumference of the urethra; (4) The half-ring formation is more common. Aside from the forms mentioned there are a great many irregular forms that cannot be grouped in any of the above divisions.

When, as is often, the case multiple strictures are formed, they generally belong at first to the same variety, but they soon become differentiated in form.

By small cicatricial alterations the urethra loses its elasticity, and in extreme cases it is scarcely possible to see the opening with the naked eye.

The axis of the stricture is not always in the same plane as the axis of the urethra. A stricture can follow a winding course and then have various axes. The opening of the strictured canal is not always in the middle of field of vision; it lies very often excentrically. The length of the stricture is generally not marked; it depends upon the amount of tissue involved in the pathological process that caused it. However, the length of gonorrhœal strictures is seldom greater than one centimeter.

The number of strictures in the urethra are dependent on their etiological cause. While traumatic strictures are single, gonorrhœal strictures on the contrary are often multiple. However, it is rare that more than three strictures can be found in the urethra.

The position of the stricture is dependent upon the situation of the pathological process that caused it. The traumatic stricture develops where the urethra was torn. As wounds which lead to tears of the urethra occur mostly in the region of the perineum, traumatic strictures occur most often in this location.

The gonorrhœal strictures develop in the place or places where the chronic inflammatory process has reached its greatest intensity.

Sir Henry Thompson investigated 320 anatomical preparations in order to find out the most frequent position of gonorrhœal strictures. For the purpose of classification he divided the urethra into three divisions.

1. Embraces the region of transition between the bulbous and membranous parts, embracing 2.5 centimeters in front, 1.8 centimeters behind this line of division.

2. From the forward boundary of the first division to 6.3 centimeters from the meatus.

3. From the meatus externus to 6.3 centimeters or to the forward boundary of division 2.

The strictures are divided into these arbitrary divisions, according to Thompson, as follows: Total number of strictures, 320. In region 1, 215, or 67 per cent; in region 2, 51, or 16 per cent; in region 3, 54, or 17 per cent. Of these, 185 had only one stricture in region 1; 17 had only one stricture in region 2; 34 had only one stricture in region 3. It was found that there were 8 cases in which all three regions were strictured, 10 cases in which strictures were found in regions 1 and 2, 10 cases in which strictures were found in regions 1 and 3, 10 cases in which strictures were found in regions 2 and 3.

Thompson ascertained that in the museums of London, Edinburgh, and Paris there were only two specimens of stricture of the prostatic urethra.

Rollet gives the following measurements of the dilatability for the different parts of the male urethra. Orifice, 7–8 mm., 21–24 Charrière; fossa navicularis, 10–11 mm., 30–33; behind the latter, 9 mm., 27; middle of pars cavernosa, 10 mm., 30; bulb, 12 mm., 36; pars membranacea (middle), 10 mm., 27; pars prostatica (beginning), 10 mm., 30; middle of same, 15 mm., 45; posterior part of same, 11 mm., 33.

Thus it can be seen that next to the orifice the bulbo-membranous junction is one of the least dilatable parts of the urethra.

Endoscopy has, however, taught us that there are a much greater number of intensely chronic inflammatory changes of hard infiltrated formation in the pars anterior than were formerly recognized.

From the above-mentioned figures of the dilatability of the urethra it can be seen that we cannot rule out the presence of a stricture in cases in which a sound 16–20 Charrière has been passed easily through the urethra.

In the anterior portion of the urethra we find a great many strictures of wide caliber as shown by Otis. Finger in his monograph on this subject has pointed out the importance of recognizing these strictures of large caliber at an early date in their formation, as an important aid to preventive treatment.

Passing now to the macroscopical examination of the changes caused by cicatricial tissue, we find important periurethral changes. The section of mucous membrane is much thicker in the location of the stricture, whiter and harder than in the other parts of the urethra. There no longer exists any sharply marked boundary between the mucous membrane and the corpus cavernosum. In severe cases the mucosa and the corpus cavernosum are changed into a hard callus. The cavernous connective tissue has lost its normal appearance. It appears homogeneously hard, of an equally pale color, atrophied and sclerosed. The normal vascularization has disappeared to a greater or less extent on the surface. Microscopically we find a change in the strictured urethra in the form of an alteration of its epithelium.

In the first grade of inflammation we find epithelial alterations, consisting of a thickening, swelling, and partial desquamation. The epithelium has a tendency to change from the normal cylinder epithelium into pavement epithelium.

Finger has differentiated three types of pavement epithelium. (*a*) It resembles that of mucous membranes with pavement epithelium, *i.e.* it consists of an undermost layer of cubical cells, several layers of polygonal and an upper layer of pavement epithelium. (*b*) The epithelium is epidermoidal; consists of a lower layer of cuboidal cells, followed

by several layers of polygonal or spindle-shaped cells analogous to the reti malpighii. These cells constantly grow larger and flatter toward the surface. (*c*) The epithelium is like that over cicatrices, and consists of several layers of very flat pavement epithelium.

This conversion of cylinder into pavement epithelium, which causes a xerosis of the mucous membrane, is connected with the changes in the subepithelial connective tissue.

The first type we find in fresh cases, the second in cases in which old round-celled infiltration has taken place, the third in cases in which thick, hard connective tissue has been formed.

The changes of the subepithelial connective tissue in the early cases of chronic urethritis consist in an infiltration of mononuclear and epithelial cells.

"The older this infiltration becomes, the more spindle cells can be seen. The connective tissue substance becomes thicker and harder, and a connective tissue mass is formed that resembles anatomically the callus, but caused not by ulceration, but by a connective tissue hyperplasia"—Finger.

The chronic infiltration of urethritis can remain on the surface or it can press in as a periglandular infiltration into the deep parts of the corpus cavernosum the length of the glands of Littré. There develops in the cavernous connective tissue through the process of small cell infiltration a fibrous connective tissue that changes the mucosa and corpus cavernosum into a thick, broad, contracting callus.

Where the process existed in the first stage the trabecular of the corpus cavernosum appears thickened and infiltrated, with round and spindle cells. The more the fibrous degeneration advances, the more the infiltrated tissue shrinks, and the more the cavernous tissue is obliterated. The compact, newly built tissue which has taken the place of the cavernous tissue shows here and there the altered tissue elements (the elastic fibers, muscles, and blood vessels embedded in the fibrous mass).

The blood vessels of the corpus cavernosum are attacked by an endoperiarteritis. This process advances until the vessels are obliterated.

The glands of the urethra are often no longer to be recognized in the lumen of the stricture. They have played an important part by their production of deeply seated tissue changes. By conveying the inflammatory process to these deeper regions, the glands themselves become atrophied, destroyed, embedded in the fibrous tissue, the production of which they have caused.

These deeply seated calluses, the result of the chronic urethritis, are the foundation of the stricture. We can therefore see that the stricture has been caused by the chronic cirrhosis caused by the chronic urethritis, complicated with periurethritis and cavernitis.

In the case of traumatic stricture an unyielding connective tissue develops in the walls of the urethra and surrounding tissue, and follows the same course that scars do in other parts of the body.

*Symptoms and Clinical Course.* — While the traumatic stricture develops in a seemingly short period after the urethra has been torn, a long period of time separates gonorrhœa and the first symptoms of the stricture.

Generally four to eight years after the clap the patient gradually appreciates that there is a narrowing of the urethra. This narrowing slowly and insidiously develops, causing a painful and slow urination. A mucopurulent discharge may begin, notwithstanding the fact that many years have passed since the cessation of the acute gonorrhœa.

A small amount of secretion may be unobserved. Generally the attention of the patient will be called to this chronic secretion through the onset of other symptoms, such as a narrowing of the urinary stream.

Patients have mostly regarded the little morning drops of pus as a matter of no importance, and this is perhaps the reason that this symptom is paid so little attention to.

This little morning drop is the sign of the long existence of the chronic gonorrhœal inflammation. This symptom can disappear for a long time, but it may start up again after excesses in baccho or venere. The former clear, watery secretion again becomes cloudy, yellow, and more purulent.

In spite of the constancy of this secretion in the morning, the patient does not begin to realize that he has a stricture until his stream has become somewhat diminished in volume. Very often the patient does not consult the doctor until it becomes necessary to strain very greatly to empty the bladder.

The symptoms come on slowly, and therefore gradually increase in severity.

The patient first notices an alteration in his stream of urine. In the case of young people, in whom the expulsive strength of the bladder is good, the stream will be regular in caliber for a longer time, as the regularity and strength of volume are dependent just as much on the powers of the bladder as on the resistance caused by the relative narrowness of the meatus externus urethræ.

When the quantity of urine contained in his bladder diminishes, as at the end of the act of micturition, the form and projection of the stream are altered. The same condition may arise when we have a full bladder with diminished expulsive force.

Therefore, while observing the stream of urine, we must consider: (1) The strength of the bladder, particularly toward the close of urination; (2) the dilatability of the urethra, and particularly the amount of resistance caused by the orificium externum; (3) the other pathological changes of the urethra that cause an increased resistance to the flow of the stream, such as hypertrophy of the prostate.

In proportion as the expulsive force of the bladder is lessened and the resistance of the urethra is increased, so will the bow that the urine normally makes when expelled be foreshortened and the stream narrowed.

In the case in which a stricture of wide caliber is situated in the anterior part of the urethra, there will scarcely be any change. If the opening through tight strictures is more on the upper wall, the stream divides, while a part of the urine drops down in drops on to the floor. This bifurcation of the stream has been noticed in strictures of the bulbomembranous junction, and particularly when a mucous plug has blocked the meatus. In this case the divided stream appears at the beginning of micturition, but as soon as the plug is eliminated it assumes again its undivided form.

If the urine at the beginning comes only a drop at a time and then into a thin stream with a short bow, there is a long and narrow stricture in the forward part of the urethra.

The further back the stricture is located, the thicker is the stream and the more foreshortened is the bow. When the stricture is located at the orificium externum we have a splashing urethral stream. As a stricture contracts the stream of urine becomes thinner, then only a drop of urine comes at a time, and finally we have a total suppression.

As the stricture narrows, the patient must take more time to empty his bladder. He seeks, first by assuming different positions, secondly by straining, he endeavors to pass his water more easily. He brings the accessory muscles of the abdominal wall and thorax into a state of rigidity in order to increase the pressure on the contents of the bladder.

As the stricture becomes narrower, the efforts the patient must make become increased. As a result of this great pressure brought to bear on the bladder, gas and fæces are expelled.

As this great straining is increased, the face becomes plethoric, and even a hemorrhage of the brain may be caused. An inflammation develops in the neighboring parts of the urethra and bladder, causing secondary complications. The urine is now passed with great difficulty, owing to the painful tenesmus. The pain persists not only during micturition, but persists afterward, shooting into the pelvic regions and testicles. The agony of the patient caused by this painful strangury gives him no rest. Yet in spite of this straining and agony the patient cannot entirely empty his bladder. An increasing amount of residual urine is left in the bladder, and entire strangury results. As the bladder tries to meet these extra demands always in an increasing ratio, it loses its power of contraction, causing the amount of residual urine to increase. Through a constant dribbling of the urine an eczema results to add to the suffering of the patient.

As regards the general constitutional symptoms, the patient gradually loses in weight and strength, as his appetite diminishes owing to his continuous suffering and sleepless nights.

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## THE NEED OF ORGANIZED EFFORT IN THE PREVENTION OF THE SPREAD OF TUBERCULOSIS.*

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In this age of multiplicity of organizations, it is well for us to inquire whether there is need for an organization such as the Southern California Antituberculosis League, and I have chosen to make the answer to this question the burden of my remarks at this the first public meeting of our society.

Tuberculosis is not a newly discovered disease. Even before the Christian Era it was credited with being man's greatest enemy. Down through the ages it has strewn its path with suffering and death. The discovery if its cause and nature, however, brings the subject before us in a new light, and gives us our first hope of staying its progress. As long as the old crude notions of its heredity were held, it was not thought possible to prevent it; but when Robert Koch in the year 1882 showed that the disease was caused by a specific germ, he paved the way for its eradication. If the measures which are now known to science were enforced, it would be possible to free the world of tuberculosis. Professor Nocard said: "With suitable assistance I will rid France of bovine tuberculosis in eight years." What can be done in cattle, can be done in man; but to accomplish the eradication of human tuberculosis is more difficult. Diseased cattle we can kill, but diseased men we must educate to a realization of the responsibility which rests upon them.

It has been estimated that tuberculosis causes 2,000,000 deaths annually, that is nearly four per minute. In the United States, where the mortality is among the lowest of civilized nations, it kills nearly 150,000 people a year, or one every three and one-half minutes. According to the Public Health Reports for the year ending December 31, 1900, there were in eight cities and towns in the southern part of California, having an estimated population of 147,449, five hundred and twenty-one deaths from tuberculosis, or a death rate of ten per week. This means that since Koch's discovery of the cause of tuberculosis, which showed the disease to be communicable, and likewise preventable, it has been allowed to produce death in a number of individuals which is far greater than the entire population of these United States. In the United States, in that time, there have died nearly 3,000,000 people from tuberculosis, or twice the present population of California. Let us compare this loss of life with that caused by the Civil War. It is estimated that that sad conflict caused the death of about 300,000 men; tuberculosis, on the other hand, causes the death of 600,000 individuals every four years. Think of it! An army of 150,000 of our fellow-countrymen destroyed annually by tuberculosis, a preventable disease. Is this not enough to warrant the formation of our society?

Appalling as these figures are, they might fail to secure your interest were it not for the fact that this disease is so widespread. What one of us can say that we have neither a relative or friend who has tubercolosis? What one of us can be sure that we may not some time be afflicted? If we have not that altruistic spirit which will make us care for the health of our neighbors, we certainly have an interest in the prevention of tuberculosis from the standpoint of selfishness. We may not realize it, but the interest in the prevention of this disease is universal.

Science has shown us that every one of these 150,000 people who are lost to our nation annually were infected from some previous case of tuberculosis. Every one died because some previous case scattered infection. It is well for us to stop for a moment and inquire whence come these infecting organisms? They are found in all tuberculous processes and given off in discharges from tuberculous ulcers. The principal source of infection, however, is the sputum of the patient who is suffering from pulmonary consumption. This often contains bacilli in great numbers. This sputum, when expectorated, if allowed to soil the clothing, carpets, or furniture, becomes dangerous; for when it dries, then the bacilli enter the air as dust and may infect those who come in contact with them. Every one who breathes tubercle bacilli into his system does not become infected. It seems that there is a certain predisposition necessary to infection. One man will resist while another under the same circumstances will become infected; but so far as science is able to determine, every one is liable to become infected if the conditions are right at the time he is exposed to the bacilli. Those things which favor infection are such as lower vitality, and make the resisting power of the individual low.

A patient in an advanced stage of pulmonary consumption will cast off in his expectoration several millions of tubercle bacilli in a day. If these bacilli were all virulent and all remained so, the entire race would certainly perish of tuberculosis. With one hundred and fifty thousand people dying annually in the United States from this disease, and most of

*President's address at the first annual meeting of the Southern California Antituberculosis League, Los Angeles, Cal., June 2, 1903.

these expectorating their millions of bacilli daily for months before death, where is the hope of checking the ravages of the disease?

This is certainly a dark picture; but I have only shown you the dark side. If we look at the other side it is radiant with hope. This disease which destroys so many lives and leaves in its wake so much suffering and sorrow is a preventable disease. Ordinary precautions on the part of the afflicted individual will make infection rare; and painstaking care on his part will protect his attendants fully. Perhaps I could impress upon you the difference between care and carelessness in dealing with this disease in no better way than to show you the difference between tuberculosis in the tenement houses, and that in sanatoria. The tenement houses stand for everything that is unclean and insanitary, the sanatoria are examples of hygiene and sanitation carried to the highest point of excellence. The inmates of the former are ignorant of sanitary laws, careless in their personal hygiene, so poor that it would be all but impossible to be careful if they knew how. The inmates of sanatoria, on the other hand, are taught to be cleanly in their habits, live in sanitary quarters and are furnished with everything that is necessary to prevent the spread of infection. As a result, tenement houses are hotbeds of infection, while sanatoria are, from the standpoint of infection, most desirable places in which to live.

In the Fourth and Sixth wards of New York (which include the thickly populated tenement districts), during the years 1894–5, and 6, cases of tuberculosis were reported from 38 per cent. of the dwellings and from twelve houses in this densely populated district, 136 cases were reported to the authorities in eight years previous to 1897. Since only about one-half of the cases were reported, it is probable that twice as many, or about 275 cases, occurred in twelve houses in eight years. That means that those rooms were so thoroughly infected that no one should have occupied them until they had been thoroughly renovated and disinfected. What could better present to your minds the things that are favorable to the spread of infection?

Now let us see how the nurses and attendants who are intimately associated with tuberculous patients in sanatoria fare. In the Brompton Hospital in London there have been treated in the past twenty years fifteen thousand cases of tuberculosis, and yet neither a nurse nor an attendant has become infected. The same freedom from infection on the part of attendants has been enjoyed at Falkenstein in Germany. The Adirondack Cottage Sanatorium and the Winyah in the United States. These examples show plainly that tuberculosis can be prevented. Here we have a prolonged association in an intimate manner of attendants and patients; but because of the sanitary surroundings and the care on the part of those afflicted, there is no danger of spreading the infection.

These examples teach us two important truths: first, experience in the tenement houses shows that tuberculosis is a communicable disease and that it can be communicated from one person to another; second, experience in the sanatoria teaches that tuberculosis is not a contagious disease in the ordinary sense in which that word is used, and that the afflicted and the well may associate intimately together without infection taking place, provided the necessary care is taken. In other words, tuberculosis is preventable.

If tuberculosis is preventable, why is it not prevented? This is a very pertinent question. There can be but one answer: the people have not learned that it is preventable and consequently have not endeavored to learn how to prevent it.

While tuberculosis is found in all lands and all climates; in the country as well as the city; and while it affects the rich as well as the poor, nevertheless it is preëminently a disease of the city and preëminently a disease of the poor. Those who live in poorly lighted, badly ventilated, overcrowded rooms and who subsist on insufficient and badly prepared food are the most prone to infection. It is perhaps not far from the truth to say that 85 per cent. of the people who are suffering from tuberculosis have not the means to place themselves in the proper surroundings for regaining health.

This disease is not only preventable, but it is also curable. At least 50 per cent. of those who are treated early can get well, and with the best of care and treatment a much larger percentage than this. This blessed message of hope is but a mockery as it falls on the ears of the poor; for without help there is no hope for them.

Those of us who are in better circumstances cannot look upon tuberculosis among the poor with indifference. If our love for our fellows does not appeal to us, if the suffering and misery that this disease produces in these wretched homes does not call forth our sympathy, we still cannot shut our eyes to the fact that as long as there is tuberculosis among the poor there will also be tuberculosis among those in better circumstances. Carelessness, ignorance, and poverty are the greatest factors in the spread of tuberculosis, and these we find are working in combination among the under class, preventing any active sanitary measures.

This, in brief, is the statement of facts as we find them. What is to be done? In the first place, public opinion must be aroused. No great movement can go ahead of public opinion. Tuberculosis is so common that the aid of society as a whole is necessary in order to check its ravages. The public must be made to understand that the enormous death rate and the indescribable sufferings which are caused by this disease are unnecessary and that they are caused by a disease that is preventable. The fact of its communicability must also be impressed upon the minds of the people. They must be taught to understand how the disease is communicated from one individual to the other, what things favor this spread of infection and what ones prevent it. While we are teaching these truths, we must be careful not to create an unnecessary alarm. The tuberculous patient should not be treated as a leper. There is no danger in associating with him if he is careful. Humanity should prevent us from heaping additional burdens upon him when science tells us that they are unnecessary. It is our duty to instruct tuberculous individuals how to destroy their sputum, and also to impress upon society that, when this is done, the danger of infection is taken away.

Not only must those who are well be considered, but those who have been so unfortunate as to become afflicted. If 50 per cent. of those who are afflicted can be cured when treated early, as statistics show, then the public conscience should be aroused to its duty to see that those who are afflicted are given the opportunity to get well. Then, too, if one-half of those wo are ill can be saved from reaching that stage in which they are giving off so many bacilli a day, it can be readily seen that this would be an important move in the prevention of the spread of the disease. Every case that is prevented from reaching the advanced stage, and every case which has already reached it that is cared for, as is done in hospitals, is a step in the ultimate eradication of the disease.

In order to prevent the spread of tuberculosis it is not only necessary to care for the afflicted; to educate them how to care for their sputum; and how not to infect their surroundings; but also to educate the well so that they may withstand infection. The danger of spreading tuberculosis is not all on the part of the afflicted. On the contrary, people are doing those things every day which lower vitality and make infection easy. The pernicious habit of living in poorly ventilated and badly lighted apartments which is so common in civilized lands is accountable for much of the tuberculosis among us. I do not mean that living in such quarters alone will produce tuberculosis, but that the evil effect of such a life makes the organs of respiration weak and unable to resist the germs of infection which are taken in, and also renders the general resistance low, so that when the germs have found lodgment they have little to oppose their progress. So, while we are teaching the people how to prevent the spread of the germs that cause tuberculosis, let us not forget that it is equally important to teach the necessity of living natural lives with a generous supply of sunlight in our homes and surrounded by fresh air day and night. The principles of hygiene and sanitation must be made to be the guides of our lives.

How are these truths to be taught? How is public sentiment to be aroused? Only through organization. There must be some central body whose business it is to teach the people how to prevent tuberculosis. It must be the duty of this organization to teach the people that this disease is communicable, that it is preventable, and that it is curable; to educate public sentiment and guide it in the right channels.

Here let me quote from my address on the occasion of the first meeting of the Board of Directors of this organization:

"The work of the Southern California Antituberculosis League should be carried out along several lines. In the first place, we should educate the people to the fact that tuberculosis is communicable. We should teach them just where the danger lies, and that if the bacillus-bearing discharges, of which the sputum is the chief, and in most cases the only, one, are destroyed, there is no danger from the tuberculous individual. While we must insist on the enforcement of sanitary laws, yet we must avoid creating in the minds of the people an unnecessary fear which will work undue hardships on those afflicted. Nowhere can it be said with greater justice that "a little learning maketh mad," for those who have learned that tuberculosis is a communicable disease, and have learned nothing more, have become frightened, and are associating, in their minds, tuberculosis with such diseases as smallpox. We must emphasize with equal, if not greater, care that tuberculosis is preventable. We must furthermore teach them how to prevent it; give full and explicit directions for the afflicted, and also for those who must care for him. The necessity of sunlight and fresh air must be emphasized,

"Sanitary laws relative to the prevention of infection, such as those forbidding expectoration in public places, providing for the notification of tuberculous cases and the disinfection of rooms occupied by tuberculous individuals before being reoccupied, should be passed. In order to facilitate and encourage early diagnosis in the cases among the poor, free examination of sputum should be made of those who are too poor to pay for the same. Laws regulating the height of buildings, the height of ceilings, the ventilation of workshops and tenement houses, preventing the construction of insanitary dwellings and overcrowding, would do much to prevent that lower vitality which facilitates infection and would offer less opportunity for the bacilli to thrive.

"Lest I be misunderstood, I would like to offer a word on the subject of notification, before passing. There is objection raised to this on the part of some, believing that it would work as a quarantine. Not so. It is only intended that the case be reported, that the health officer may see that precautions are carried out. No one but the attending physician and the health officer need know that the individual is tuberculous. It should work in favor of the afflicted instead of against him.

"Another important field of work for our league is found in caring for the afflicted poor. This is a necessary measure from the standpoint of prevention and desirable from the standpoint of the humanitarian. As long as the poverty-stricken tuberculous individual is compelled to care for himself, he will be forced to occupy insanitary quarters, and will scatter infection about him, either because of ignorance or because of a spirit of apathy. Since each patient, on an average, infects about one new one, and each careless one may infect several, it can be plainly seen that the care of the helpless poor bears a very important relation to the problem of prevention of tuberculosis, and since hospital facilities are provided for those suffering from other diseases, it is but just that they should be provided for these.

"The Antituberculosis League could perform for the tuberculous poor an act of mercy, render society a noble service, and do itself a great honor, if through its efforts there should be established in our midst a system of dispensaries in the cities where those afflicted could come for advice and those who suspect the disease could be examined while they are in a curable stage; and further, if through its agency there should be provided sanatorium facilities for those who are curable and hospitals for those in the advanced stage.

"Such is the work that has been done by organizations of similar aim. Such is the work that, I hope, will be accomplished by ours. We have to work slowly, for we can not go faster than public opinion, but by the distribution of carefully written pamphlets, by the delivery of thoughtfully prepared lectures, and by the judicious use of the public press I believe that it is possible to secure a hearty coöperation on the part of the people."

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**A Case of Malta Fever in Washington, D. C.**—W. B. Banister reports a case first seen in January, 1903. The patient had been in the Philippines, where he had suffered from fever which was believed to be malarial. For two months the author had him under observation, and found that his disease presented the clinical features of Malta fever—presenting a series of febrile attacks, each lasting a week or more, followed by apyrexial or relatively apyrexial periods of several days' or weeks' duration. Rheumatic-like swellings of joints were absent in this case, but are a frequent complication, as are diaphoresis and anæmia. Serum reaction with the micrococcus melitensis was decided, as evidenced by marked agglutination. There is no specific for Malta fever, and there is no drug known to influence its course. Excessive pyrexia should be reduced with cold baths or the wet pack; constipation relieved, and during a pyrexial period liquid diet should be given. Codeine controls the cough when troublesome, and secures sleep without increasing the tendency to constipation. The debility should be combated with strychnine and tonics. The mortality of Malta fever is low, only 2 per cent. The most serious effects are the debility and anæmia which it entails.—*Washington Medical Annals.*

## EXTENSIVE BRAIN LOSS WITHOUT IMPAIRMENT OF INTELLECTUAL FACULTIES.

By WALTER KEATE, M.D.,
NACOZARI, SONORA, MEX.

The following are the details of an accident which occurred near here on May 18, 1903:

John G., a miner, aged forty years, was preparing to spring a hole with dynamite in which he had 6½ sticks of giant powder inserted. While he was arranging them they accidently exploded while his face was directly over the hole. I reached him two hours after the explosion. His pulse was 30 per minute, and very weak. The eyes were blown out, the skin and muscles and forehead were partly blown off, with the anterior portion of the skull cap turned back over the parietal bones. The orbital plate of the frontal bone, forming the roof of the orbit, was blown into the brain, and the brains exuded through the opening into the cheek. There was a hole in the frontal bone about the size of a silver ten-cent piece. The hole was located at about

the center of the frontal bone, through which the brains exuded.

The membranes of the brain—dura mater, arachnoid, and pia mater—were badly lacerated, as were also the frontal lobes of the brain. The end of the nose was badly cut, the face and lips were badly burned with powder and literally filled with small rocks and dirt.

After trephining to make the opening a little larger, and to smoothe the ragged edges, I removed from the brain twenty small stones and several pieces of bone, together with considerable dirt Most of the foreign bodies were located at a point corresponding to the anterior fontanelle, deeply buried in the brain. A large piece of bone corresponding to the roof of the orbit was extracted from the brain through the opening in the forehead.

The amount of cerebral matter which came away weighed one ounce. It may sound incredible, but it is a fact that the patient has never for one moment been unconscious. His mind has been perfectly clear, and he can readily recognize his friends when they speak to him. He answers all questions intelligently, and describes accurately the details of the accident. He has never complained of pain, and says the anterior portion of the head feels paralyzed. His appetite is, and always has been, fairly good.

The first two weeks his temperature ranged between 100° and 103°, but the last two weeks it has been practically normal.

He has been able to get up every day since the accident, and locomotion is good. It has been just a month to-day, and as I write this article the patient is sitting in a rocker on the porch in the fresh air, chewing tobacco.

Both eyes are completely destroyed. The picture of the patient gives but a faint idea of how he really looks.

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## ECZEMA CURED BY MEASLES.

By G. W. SQUIRES, M.D.,
EAST AVON, N. Y.

Mark D., aged eighteen months, naturally born and healthy at birth, with the age of ten months became sadly afflicted with facial eczema. Except for some constipation and the eruption the child seemed perfectly healthy. Various kinds of medicines within and ointments and washes without were without effect. The exudation of serum was such that at night the pillow on which the child lay would be wet, and often when the crusts formed and cracked the child's hands, sheets, and pillows would be stained with blood. At this juncture, when the parents were despairing of a cure, an older brother contracted measles at school, came home, and had a hard attack. Much alarm was felt lest the baby should contract the measles and, with his already bad skin eruption, die. The baby, in due time after exposure, got very dangerously sick with the measles. He had fever and delirium and the skin was as red as a boiled lobster. In due time convalescence set in, and what was the surprise of physician and friends to see the eczema melt away like snow in the spring time, and every trace of the former eruption disappear, leaving the skin as soft and clean as a baby's can be. Now, after a year, there has never been the slightest symptom of a return of the facial eczema.

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**Thrombosis of the Femoral Veins Following Aseptic Laparotomy.**—E. R. Secard reports a case of operation for bilateral oblique inguinal hernia, which was carried out under the strictest aseptic precautions. Convalescence was uneventful, and the stitches were removed on the tenth day, primary union having occurred in the most satisfactory manner. Pain in the left groin, popliteal space and calf of the left leg began on the twelfth day, and a condition of extensive venous thrombosis set in. It ran a more or less benign course. It occurred on the side where the less extensive operation had been done, where there was less handling of the parts and less hemorrhage, but where a truss had been more or less constantly worn for twelve years. A study of this and other cases leads the author to the conclusions: (1) That no one etiological factor is alone responsible for the occurrence of this complication; (2) that the rate of infection in otherwise non-infective cases does not appear to be an important one; (3) conditions of sudden decrease of pressure dependent on the operation probably have a causative influence; (4) treatment should be prophylactic, as by avoidance of unnecessary traumatism, or hemorrhage, or of suddenly decreased tension, as by having the wound area well supported by firmly applied dressings. (5) So far as the author is aware there has been no mortality in the reported cases, but the occurrence of pulmonary embolism in a certain proportion warns us that this termination is not an impossible one.—*The Montreal Medical Journal.*

# MEDICAL RECORD:

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## THE STATE LAW AGAINST FAITH CURE.

THE vexed question regarding the legal status of the so-called Faith Cure in this State has at last been definitely settled by a recent decision of the Court of Appeals in the case of J. Luther Pierson of White Plains, N. Y., whose child died of bronchopneumonia while under the care of a Christian Scientist. He was convicted by a jury for intentionally failing to provide medical aid for the patient and sentenced to five hundred days in jail with a fine of five hundred dollars. The Appellate Court reversed the judgment of conviction on alleged errors of law. The majority of that court entertained the view that the indictment failed to charge a criminal offence for the reason that it did not contain an allegation that the case was one in which a licensed physician ought to have been called. The Court of Appeals duly reversed the decision of the Appellate Division and the final judgment of conviction now stands. The interest in the case for the medical profession, not only in this but in other States, rests upon the argument in support of the decision in question. Judge Haight writes the following opinion in which the other judges concur:

"Section 288 of the Penal Code, so far as is material upon the question under consideration, provides as follows:—'A person who (1) wilfully omits without lawful excuse to perform a duty, by law imposed upon him, to furnish food, clothing, shelter, or medical attendance to a minor . . . or (4) neglects, refuses, or omits to comply with any provisions of this section . . . is guilty of a misdemeanor.'

"It would seem that the legislative intent in adopting this provision of the code is reasonably clear, although possibly more precise language could have been employed. It contemplates that there are persons upon whom the law casts a duty of caring for minors, but it does not specify the persons. They are, however, those upon whom the duty is 'by law imposed.'

"We quite agree that the code does not contemplate the necessity of calling a physician for every trifling complaint with which the child may be afflicted, which in most instances may be overcome by the ordinary household nursing by members of the family; that a reasonable amount of discretion is vested in parents, charged with the duty of maintaining and bringing up infant children; and that the standard is at what time would an ordinary prudent person, solicitous for the welfare of his child and anxious to promote its recovery, deem it necessary to call in the services of a physician."

In defining what is meant in law by the term "medical attendance" the learned judge thus very pertinently says:

"The Legislature first limits the right to practise medicine to those who have been licensed and registered, or have received a diploma from some incorporated college conferring upon them the degree of Doctor of Medicine; and then the following year it enacts the provision of the Penal Code, under consideration, in which it requires the procurement of medical attendance under the circumstances to which we have called attention. We think, therefore, that the medical attendance required by the code is the authorized medical attendance prescribed by the statute, and this view is strengthened from the fact that the third subdivision of this section of the code requires nurses to report certain conditions of infants under two weeks of age 'to a legally qualified practitioner of medicine of the city, town or place where such child is being cared for,' thus particularly specifying the kind of practitioner recognized by the statute as a medical attendant."

Regarding the purely religious aspect of the question, the court does not feel itself competent to give an opinion, as from a purely legal point of view it is manifestly incompetent to decide on the soundness of any purely doctrinal faith. From a strictly scientific view, however, the line must be drawn between mere faith or belief and practice endangering life. Thus trusting in faith cure in the case of actual disease demanding active medical treatment is obviously a species of criminal neglect deserving legal punishment in the interest of public welfare.

## MIXED INFECTIONS AFTER VACCINATION.

No. 355 of the *Sammlung klinischer Vorträge* contains the experience of Dr. Leonhard Voigt, Director of Vaccination in Hamburg since 1874. Since that date 400,000 persons have been vaccinated at his institution, and 600,000 within the Hamburg territory, and since 1884 589,586 children have been vaccinated. Voigt has made a careful study of all anomalies following vaccination, and since 1890 all such cases, and the causes of all deaths occurring shortly after vaccination, have been reported to him.

Only such records can, Voigt rightly remarks, refute the objections raised by the opponents of vaccination. The following are all the mixed infections observed: *Suppuration of pustule:* 35 cases (1 death). *Suppuration of axillary glands:* 12 cases. *Erysipelas:* 13 cases; as this disease develops within twenty-four hours of its inoculation, the time of its appearance determines which cases are chargeable to the vaccination, and 10 of the cases (including the one fatal case) were not so chargeable. Moreover, the other 3 cases occurred so late and healed so rapidly that they may fairly be conjectured to have been not erysipelas but an unusually violent local vaccine action, which can give rise to a dusky red around the pustule and swelling up to the shoulder and down into the forearm. *Phlegmon:* 4 cases (2 deaths), 2 to 4 weeks after (and independent of) vaccination. *Eruptions:* As a rule no pure vaccinal eruptions occur; with sensitive skins, however, a fugitive redness, often resembling scarlatina, German measles, or measles, develops. Many times

an urticarial, rarely a pustular, stage is reached. Among 354,000 vaccinations, 1893-1902, 293 cases worthy of mention were seen, 85 of them in which eczematous eruptions had pre-existed, under which condition the vaccinal irritation many times awakens renewed activity during the vaccinal week. The other 208 cases gave no evidence or history of precedent rashes. As, however, they occurred sporadically among a number vaccinated from the same stock of virus who remained free, they evidently were not due to any eczematogenous factor in the vaccine. *Urticaria:* The same may be said of these 32 cases, several of them only revivifications of a precedent eruption.

Secondary pustules, due to self-infection by scratching, are important only when implanted at the meatus urinarius, on the eye, or on eczematous patches (especially crusta lactea, in which the surface rapidly becomes covered with confluent pustules and life may be endangered). Six such infections (of non-vaccinated persons) were seen. The itching of blepharitis favors secondary infection by scratching, and the secondary pustules are liable at least to cause the loss of some eyelashes. Involvement of the eye may lead to a cloudy corneal scar, or may fan up an existing scrofulous inflammation. *Eye inflammations:* 30 were seen, many of them clearly exacerbations of precedent eczemas, or the fortuitous appearance of a sty. Once croupous (but non-vaccinal) inflammation existed. The remaining cases showed inoculation usually at the outer canthus, 6 times on the globe. Twice former scrofulous inflammations lighted up and continued some months after vaccination. *Impetigo:* When vaccinal impetigo appears it occurs not sporadically but over the group inoculated with the infected lymph. Then the pustule develops into strongly itching vesicles which burst early and result through self-infection in an irregularly distributed, very contagious eruption. One such instance occurred in 1878, when animal lymph had not yet acquired its present exclusive place. As a rule, however, impetigo develops because a small patch pre-existed. Besides these cases, 85 cases were seen during or shortly after the vaccinal week, among 590,000 vaccinations. A non-vaccinal cause was evident in 50, the pustule was impetiginous in only 3 (that is, 26 of the 29 fairly made out post-vaccinal cases were not vaccinal in origin), which, moreover, occurred scattered among a number of vaccinations.

In *ichthyosis* vaccination runs a normal course. With *psoriasis* it is otherwise, 2 cases among 12-year old school children having shown transitory increase in the psoriasis. Spite of all vaccinatory precautions, every year some cases of *measles* and *varicella* coincide with the vaccinal week, their general distribution and long incubation period favoring such concurrence. In general, the measles and vaccination run their normal course, the pustule appearing to heal somewhat more slowly. The coincidence of the two fevers involved 2 deaths, and a third occurred from pneumonia the twelfth day after vaccination and the ninth of the measles. Much more frequent is the concurrence of varicella. Only 1 death was observed, from convulsions the sixteenth day after vaccination and the tenth of the varicella.

*Scarlatina* rarely concurs: five cases, with 1 death in a one-year-old, who the second day after vaccination developed varicella, and the fifth day scarlatina, and on the twenty-fourth day after vaccination died of bilateral middle-ear disease, with brain symptoms. *Diphtheritic inflammation of the cervical glands:* two children of one family died, the three others simultaneously attacked recovering; a fourth case, with aphthous stomatitis, impetigo, measles, diphtheria and staphylococcus and streptococcus infections, died. *Aphthous stomatitis* not rarely coincides with the vaccinal week; both diseases run their normal courses. *Mumps:* 4 cases, suppuration of the glands occurring once; also once mumps, impetigo, and pertussis, pronounced by a "nature doctor," vaccinal syphilis. *Syphilis, tuberculosis:* No instance of such infections observed. *Brain disease:* The past twelve years 4 children died (on the sixth, sixteenth and twenty-seventh days after vaccination). While one will not err in thinking that here vaccination influenced unfavorably the precedent disease (tuberculous inflammation), it would be erroneous to believe the former the cause, inasmuch as the post-vaccinal weeks show only one-ninth as many children dying from such inflammation as the expectation for those ages would justify us in looking for. Swelling of two phalanges of the finger, and swelling of the diaphyses of both tibiæ: each one case, resembling tuberculous bone diseases; the latter cured after eight months, the outcome in the former not stated. *Tetanus:* 1 case, four days after vaccination, in a child who some days before vaccination had fallen on his head on to the floor, but without external wound; the known minimal incubation period being 6 days, the cause could not be accepted as vaccinal.

The author then shows by a somewhat extended calculation, that not only is it not true that the three weeks following vaccination are weeks of exceptional danger, but that the exact reverse is the case, namely, that those weeks constitute a period in which the death rate from such diseases as bronchitis, pneumonia, diphtheria, measles, scarlatina, cholera, convulsions, brain inflammation and diarrhœa, falls to one-seventh to one-twentieth of that to be expected from the known mortality for the given ages. Thus for pneumonia and diphtheria there should have died 51.6 and 20.8 respectively, whereas actually only 7 and 3 died; and similarly, whereas for diarrhœa a mortality of 200 should have occurred, only 10 died. It would thus seem that the vaccination process prevents, or possibly only delays, the development of other zymotic diseases. Among other conclusions Voigt says that from his experience he must doubt the production by vaccination in previously free persons of eruptions which long outlast the vaccinal period, and that the foregoing associated diseases are mostly not to be regarded as consequences of the vaccination, but as mixed infections in the vaccinated, which occurring so extremely rarely are merely unfortunate intercurrent accidents which for the most part can be prevented by greater care in the household.

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**College of Physicians of Philadelphia.**—At a stated meeting, held October 7, Dr. Chas. W. Burr presented a portrait of the late Dr. Frederick A. Packard.

### Camp Life for the Insane.

Out-of-door life for the tuberculous insane, since Dr. Macdonald's successful experiments in thus treating that class of patients, has been everywhere favorably referred to. The New York *Sun*, October 4, contains a description of an experiment upon similar lines, which was carried out by Dr. Eugene Howard, Superintendent of the Rochester State Hospital, at the direction of the State Commission in Lunacy, the patients in this instance being the ordinary insane. A summer camp was formed on the shore of Lake Ontario, eight miles from Rochester. The site covered four acres of land, on which stood a large cottage and barns. Tents were erected and accommodation provided for about thirty patients, who were sent thither under the care of a corps of nurses. The patients chosen for the experiment were those who were harmless and partly recovered, and no patient was allowed to remain longer than a week or two, so that the largest number possible might receive the benefit of the change. According to the article in the *Sun*, "during the summer 72 men and 128 women patients were sent to the camp and their progress was carefully noted. So successful has the experiment been that Dr. Howard, in his annual report to the State Commission, which he is now compiling, will recommend the purchase of a farm of sixty acres adjoining the present four-acre camp. He will recommend the erection of several cottages and a more complete equipment, so that the experiment can have a more thorough trial."

The treatment of harmless lunatics, in permitting them to enjoy the health-giving properties of a life in the open air, together with the distraction and pleasure afforded by a change of scene and by a different manner of living, must have a beneficial effect upon their physical condition, and should also act favorably upon their mental state.

### Colonies for Consumptives.

It is generally allowed that occupation of some kind is beneficial to those suffering from certain diseases. Indeed, when possible, it is always better that sick persons should be employed, so that they should not be continually brooding over their condition. This statement applies, with perhaps as much force to consumptives as to the victims of any other malady, as, although the phthisical patient is frequently unconscious of the gravity of his case, yet in a very large number of instances, he worries and exaggerates the seriousness of his affection. At any rate the fact cannot be gainsaid, that the consumptive on the whole is much more likely to improve in health if employed. For the consumptive of the working class, it would seem that an industrial colony could not but be a great boon, while, if not entirely self-supporting, it might at least be made to produce a portion of the cost of maintenance.

According to the *Medical Magazine*, the undertaking of such a project has been strongly advocated by a writer in the *Newcastle Chronicle* of a recent date. The writer, who is undoubtedly a medical man, points out that by the establishment of industrial colonies, the advantages of sanatoria may be procured, and in addition, the patients will become once more wage-earners. There would be no rivalry between the two institutions, for the one would be supplementary or complementary to the other. In these "colonies," workers and non-workers alike could live, although it would be better that they should be distinct and separate. The inhabitants of the "industrial colonies" would work and live under practically the same conditions of medical supervision and advice, and the knowleged that they were wholly or in part earning their livelihood would be advantageous to their morale. The enforced idleness of sanatorium life is irksome after a time to most patients, and the constant self-nursing which is generally their sole occupation has certain quite obvious disadvantages.

The writer states that as yet there is not a single colony for consumptives. He is probably thoroughly acquainted with his subject, and it would seem that he is certainly correct when he says that "all interested in the sanatoria movement fully recognize the fact that colonies are desirable adjuncts to them." Many other details in reference to the scheme are mentioned, which it is not necessary to write of here, but the main idea of establishing colonies and industrial colonies for consumptives seems to be a good one and might commend itself as such to the many persons in this country who are deeply interested in the welfare of the sufferers from this disease.

### The Effect of Lecithin upon Growth.

The *American Journal of Physiology* for September 1, 1903, contains a study by Shinkishi Hatai, of the University of Chicago upon the effect of lecithin on the growth of the white rats. In 1895 Danielewsky found that frogs' eggs gained three times as much in weight when incubated in water containing lecithin in the proportion of 1-1500, as when incubated in ordinary water, and since then other observers have shown that lecithin exercises a similar effect upon the growth of higher animals. Thus, Desgrey and Zaky saw the same effect in guinea-pigs, and they advanced the opinion that the action of lecithin is that of a stimulating agent. Hatai studied the effect produced by the continuous daily administration, both by injection of 5 milligrams, and by the feeding of 10 milligrams, control animals being used in both series and every case under precisely the same conditions. Omitting the details of the experiments, the conclusions of the author may be cited. They are: White rats receiving lecithin, either by injection or feeding, gain in body weight more rapidly than do the control rats, the gain in the experimented rats being on the average 60 per cent. greater than that observed in the control rats; the weight of the central nervous system relative to that of the whole body, is mal; and the nervous system contains the same relative proportion of solids and water as in the controls, which affords another indication of the normal character of the growth. The normal character of the growth in the peripheral nerves is shown by the same relative area of the cross section of the axis cylinder of the nerve, as compared with the area of its sheath, in both the experimented and control rats; and that his results confirm strongly the claims of former investigators that lecithin is a stimulant agent for normal growth. One other observation was particularly interesting, namely, that the rats to which lecithin was administered showed a greater power of resistance to unfavorable influences; for example, their growth was more uniform, that of the control rats showing a much more variable growth curve in connection with various deterrent factors, such as variability of temperature, etc. On the whole, it would seem then that lecithin may some day come to have a standing in practical therapeutics.

### Goat Cure for Smallpox.

Superstition dies hard, and some quaint beliefs are still held to in rural districts in all parts of the world. Of course an old country as England is, is not exempt from this human failing, and in some

parts of that land the credulity of some of the peasantry is almost pathetic. The Eastern counties of England are particularly distinguished for the persistency with which the inhabitants adhere to the lore of their fathers, but the report that the *London Daily Express* gives as to happenings in Cambridge recently, almost passes credence. Cambridge, the seat of one of the most renowned universities of the world, is undergoing an epidemic of smallpox. The diagnosis of the disease has presented some difficulties, and many well-known physicians have given their opinion on the matter, and the most modern methods have been put into force in order to stamp out the disease. There are, however, within Cambridge itself, despite its colleges and learned men, a goodly number of citizens who have no faith in "new-fangled views on medicine," and who follow with admirable doggedness the old-time methods of treatment handed down to them by their forefathers. Thus the Cambridge correspondent of the *Daily Express* writes, "It is practically a set-down rule in the Newmarket Road district of Cambridge, known as Barnwell, that where a goat goes smallpox will not follow, and almost every householder is fully in sympathy with the idea. A good samaritan of the locality keeps a goat. After daily work is completed in the evening, one of the men takes the goat out on a chain, and, followed by a large congregation of children, goes from house to house until both the goat and man are tired. When in a house the goat is treated with great kindness—in fact, it is regarded almost as a doctor. It is led into every room, and after circling it several times, passes on to the next, and the house is henceforward regarded as clean, and its occupants continue their duties in the fixed belief that they will never have smallpox."

## News of the Week.

**Increase in Contagious Diseases in Philadelphia.**—For the week ended October 10 there were reported to the Philadelphia Bureau of Health 82 cases of diphtheria, with 9 deaths; 84 cases of scarlet fever, with 2 deaths; 78 cases of typhoid fever, with 9 deaths; and 11 cases of smallpox, with 3 deaths. The total number of deaths for the week was 395, as compared with 400 for the preceding week and with 352 for the corresponding week of the previous year.

**The American Academy of Railway Surgeons.**—At the tenth annual meeting of this society, held in Chicago, on October 1 and 2, 1903, under the presidency of Dr. L. Sexton of New Orleans, the following officers were elected: *President*, Dr. Samuel C. Plummer of Chicago; *Vice-Presidents*, Drs. A. L. Wright of Carroll, Iowa, and W. U. Cole of Columbus, Ohio; *Secretary and Treasurer*, Dr. Thomas B. Lacey of Council Bluffs, Iowa; *Assistant Secretary*, Dr. H. B. Jennings of Council Bluffs, Iowa; *Editor*, Dr. D. S. Fairchild of Des Moines, Iowa. The next annual meeting will be held in Chicago in the autumn of 1904.

**The Oregon State Medical Society.**—At the annual meeting of this society, held last month, the following officers were elected: *President*, Dr. W. T. Williamson of Salem; *Vice-Presidents*, Drs. G. W. Tape of Hot Lake, E. E. Ferguson of The Dalles, and Mae H. Cardwell of Portland; *Secretary*, Dr. L. H. Hamilton of Portland; *Treasurer*, Dr. Jessie McGavin of Portland; *Councillors*, Drs. S. E. Josephi, W. F. Amos, W. J. May, J. S. Fulton, George F. Wilson, W. T. Williamson, William House, C. S. White, R. C. Coffey, and S. T. Linklater; *Delegate to the American Medical Association*, Dr. J. C. Smith of Pendleton; *Alternate*, Dr. K. A. J. Mackenzie of Portland.

**The Board of Police Surgeons.**—Police Commissioner Greene has recently taken away the power of electing their own officers from the police surgeons and has vested the power of appointment and removal at will in the Commissioner himself. Soon after the change in rule was announced the commissioner appointed Dr. E. T. T. Marsh chief surgeon and president of the Board of Police Surgeons and Dr. Henry P. de Forest secretary.

**A Plague Congress.**—An International Sanitary Congress for the Adoption of Means of Defense against Cholera and the Plague opened in Paris on October 10. Representatives of twenty-five powers were present, including Surgeon Anderson, United States Navy, Medical Inspector of the United States European station; Colonel Gorgas, formerly Chief Sanitary Officer of the United States at Havana, and Dr. Giddings, representing the United States. Foreign Minister Delcasse, in the opening address, pointed out the necessity for international coöperation in resisting the spread of epidemics.

**A New Intoxicant.**—Major Jennings writes in the *Journal of the Royal Army Medical Corps* for October that during the South African campaign the British soldiers discovered a new and extraordinary form of intoxication. Ingenious Tommy Atkins found that when deprived of gin and beer he could get all the excitement he wanted by eating the cordite used to charge cartridges. This form of smokeless powder is composed of nitroglycerin, guncotton, and vaselin, and comes in the shape of long cords (whence its name), similar in appearance to vermicelli. Major Jennings, on learning that the men had been eating cordite, made experiments himself. On sucking a strand he found it sweet, pleasant, and pungent, but the indulgence usually results in a headache which lasts for twenty-four hours. Dissolved in tea it produces almost immediate exhilaration, "inciting almost demoniacal actions," followed by a heavy sleep and stupor of from five to twelve hours, according to the amount taken. If beer is taken after the cordite tea it produces the worst effects, exciting a quarrelsome and destructive mania and producing the most rapid intoxication. From his study of eight cases of cordite addiction the writer concludes that the symptoms and effects produced by the poison are sufficiently forcible and unpleasant to prevent any but the most depraved resorting to it as either a cerebral stimulant or sedative.

**Tuberculosis Sanatoria in Madeira.**—The Portuguese Government has granted a concession to Prince Frederick Charles v. Hohenlohe for the erection of sanatoria for the treatment of tuberculosis in the island of Madeira. These establishments will be exempt from taxation, and no customs duties will be levied on imported material employed in their construction. In return, the Government reserves for the State the right to 20 per cent. of the beds in the sanatorium for the poorer classes. The Prince, accompanied by Drs. Frankel and Pannwitz and a physician appointed by the Portuguese Government, is now in Madeira for the purpose of selecting sites in the central part of the island for two large sanatoria for patients and a hotel for people accompanying the invalids. The buildings will be similar to those in German watering-places. The buildings will be begun as soon as the report on the sites decided upon has received the approval of the Board of Health.

**The New Bellevue.**—Work on the new Bellevue Hospital is to be begun at once. The Aldermen

recently sanctioned the closing of Twenty-eighth street so that the block to the north of the present site can be used for the enlargement of the hospital. The condemnation of this block has already been authorized. The Board of Trustees has requested the War Department to permit the extension of the pier bulkhead 200 feet into the East River. This will give the new hospital site a river frontage of 710 feet.

**The Report of the Surgeon-General of the Army.**—In the report of Surgeon-General R. M. O'Reilly for the year ending June 30, an interesting comparison is made between the three races—Caucasian, African, and Malay—represented in the army. "The enrolment of about 5,000 native Filipino scouts," he says, "having added a new racial element to the army, it becomes a matter of much interest to study the comparative effects of disease on them and on our white and colored troops. For the whole army, at home and abroad, during the year 1902, the white troops showed an admission rate of 1706.33 a thousand and a death rate of 14.40. The negro troops had 1897.74 admissions and 24.11 deaths a thousand, and the Malay scouts 1707.21 admissions a thousand and 24.04 deaths. The white race, therefore, gave the lowest figures in sickness and much the lowest mortality. The black race led in both, although the Malay closely approached it in death rate. The freedom of the Filipino from the vice of drunkenness is strikingly shown when we find that out of 5,000 men only three individuals were treated for alcoholism in one year, and that while white soldiers were admitted to sick report on account of misconduct in the use of alcohol at the rate of 24.78 per thousand, and colored troops at the rate of 11.70, the Malay scouts showed the extremely small admission rate of 0.62 per thousand." The report shows an increase in the death rate of the entire army from 13.94 per thousand in the year ending June 30, 1902, to 15.49 per thousand in the year ending June 30, 1903. This increase is attributed to cholera, which caused 3.54 deaths a thousand. A slight improvement appears in the admission rate for disease and injury, which declines from 1791.59 a thousand to 1716.51. A slight diminution of insanity occurred in the army during 1902. There were 138 new cases, equivalent to the admission rate of 1.71 per 1,000, which is almost identical with the rate for the decade 1891 to 1900. Additional testimony regarding the increase in vice which the closing of the canteens has entailed is given in the following words: "The steadily increasing prevalence of venereal diseases is the most discouraging feature in the sick report of the army. During 1902, 13,000 admissions were from this cause, equivalent to a rate of 160.94 per thousand. Admissions to sick report from alcoholism in 1902 were slightly in excess of the number (including volunteers) for 1901. A total number of 1,830 cases, equivalent to 22.65 per thousand in strength, occurred. It is impossible not to attribute a large part of the steadily increasing venereal diseases of the army to the loss of the canteen, where the soldier, if he so desired, could get his beer throughout the month, but was not subjected to the temptations to intemperance and vice now attendant on the expenditure of a full month's pay at the low resorts infesting the outskirts of our military reservations."

**A Vaccination Complication.**—The high school girls in an Indiana town have risen in revolt against a recently enacted city ordinance, which declares that those not previously vaccinated must submit to the operation at the hands of the doctors in the employ of the Board of Health. They refuse to be vaccinated on the arm and have told the principal of their school that the medical students, as they term the young physicians sent by the Board of Health, shall not vaccinate them on the leg.

**Koch's Work in South Africa Criticised.**—Comment is made in a recent issue of the *British Medical Journal* upon an article in the *Natal Witness*, from which it appears that the observations which Koch has recorded upon the cattle disease in Southern Rhodesia have not escaped hostile criticism in South Africa. The article in question, entitled "The Inconsistency of Dr. Koch," contains a vigorous protest against the discrepancies and confusion in which, it is alleged, Dr. Koch has involved the whole subject of red-water fever in cattle. According to the writer, the German professor commits the blunder of identifying both Rhodesian fever and Texas, or red-water fever, with the cattle fever of the East Coast of Africa, whilst at the same time maintaining that the two former fevers are not identical with one another. In support of this charge extracts are quoted from Dr. Koch's reports of 1897, when he was commissioned to investigate the cattle fever on the East Coast of Africa, and are compared with quotations from his report, dated May 23 of the present year, on the cattle disease in Southern Rhodesia. It certainly appears that Koch has not succeeded in reconciling his various statements in a very clear or convincing fashion. It is only fair to add, however, that the writer in the *Natal Witness* is evidently prejudiced against the Berlin professor, and it is possible the latter may be able, when his time to be heard comes, to vindicate his position against the charge of scientific inaccuracy.

**A Sanatorium Physician Shot.**—The husband of a woman who recently escaped from a sanatorium on Long Island, where she was under treatment for a nervous trouble, shot the owner of the institution. Upon learning of his wife's disappearance the man became greatly excited, and breaking in upon the physician in his study, wildly fired a revolver several times, one of the shots taking effect in the doctor's thigh and inflicting a serious wound.

**Death of Dr. David Franklin.**—Dr. David Franklin of this city died on October 6, after an operation for appendicitis. His wife died three weeks ago. During the course of her illness he was seized with appendicitis, but deferred operation until the recovery of his wife, which both confidently expected. After her death he submitted to operation but it was then too late. He was born in this city and was graduated from the New York University Medical School in the class of 1878. After serving a term as interne in Bellevue Hospital he went to California, but after a short stay returned to this city and entered upon active practice. He was president of the Harlem Medical Society, and was also a member of the Society of Alumni of Bellevue Hospital. He was visiting physician to the Hebrew Ophan Asylum.

The following resolution was unanimously passed at a meeting of the Harlem Medical Association, held October 7, 1903:

"*Whereas*, By the inscrutable ways of a Divine Providence, we have lost in the death of Dr. David Franklin, one of our most loyal, conscientious, and faithful members, for many years the treasurer and a trustee, and at one time president, of the Harlem Medical Association, Therefore be it

"*Resolved*, That we enter upon our records this minute of our lasting regret at his untimely death and our deep appreciation of the many traits of his character which endeared him to all.

"Dr. Franklin was known to us as a model of quiet patience, perseverance and determination of character, and as one of nature's noblemen; a skilful physician, a cheerful councillor, and a loyal friend.

As a physician he was thorough, clear-headed, and scientific, studying each and every case intrusted to his care with the patient minuteness of detail so requisite, and his large and successful practice bears every evidence of the success that follows such painstaking attention. His faithful service as physician to the Orphan Asylum for twenty years abundantly shows his unswerving attention to duty. Not only were his services eagerly sought by those suffering, but he became endeared to those who knew him, and his counsel was often asked and as eagerly accepted, as it was cheerfully given. As a friend he was all that the name implies, ready to respond to any call made upon him, self-denying and self-effacing, tried, faithful, and true. Although taken from those who loved him at the very zenith of his career, when there was every reason to believe that there was a future of happiness and fame awaiting him, his all too short life brings to us all a lesson we may profit by. We shall ever bear him in fond remembrance, and place this record of his manly, loyal, consistent, gentle, and true character upon our records, as they are engraved in our memories."

EMIL MAYER, RICHARD VAN SANTVOORD, MONTROSE R. RICHARD, Committee.

**Obituary Notes.**—Dr. WILLIAM D. WOOD died at his home in Jamaica, Queens Borough, New York, on October 4, at the age of eighty-three years. He was born in Lincolnshire, England, but came to this country early in life, and obtained his medical degree from the Castleton Medical School, Vermont, in 1854. During the Civil War he was a surgeon in the Eighty-ninth New York Volunteers. For the past ten years he had practically retired. He leaves a son, Dr. P. M. Wood of Jamaica, and two daughters.

Dr. WILLIAM JOHNSON DALE died on October 7, at his home in North Adams, Mass., aged eighty-nine. He was graduated in arts from Harvard in 1837 and in medicine from the same university in 1840. He was appointed Surgeon-General of the State in 1860 by Governor Andrews. He served in the army throughout the Civil War as a surgeon. He was always greatly interested in sanitary matters and did much practical and efficient work in that science.

Dr. CORNELIUS SHEPERD died in Trenton, N. J., on October 7. He was born in Bucks County, Pa., in 1837, and was a graduate of the University of Pennsylvania in 1861. He was prominent in local politics and active in establishing the present school system of New Jersey.

Dr. JOHN B. JOHNSON of St. Louis died in that city on October 7, at the age of eighty-six years. He was born at Fairhaven, Mass., and was graduated from the Berkshire Medical College, Pittsfield, Mass., in the class of 1840. He was formerly professor of the principles of medicine at the St. Louis Medical College, and was one of the first vice-presidents of the American Medical Association. He had practised medicine in St. Louis over sixty years.

Dr. THOMAS J. L. KENNEDY, aged twenty-seven years, died at St. Vincent's Hospital, in this city, on October 8, of typhoid fever. Up to the time of his illness he had been President physician of the New York Foundling Hospital. He was graduated from the College of Physicians and Surgeons, New York, in 1900. He served two years as interne in St. Vincent's Hospital, three months in the Morgan Lying-in Hospital, and nine months as resident physician in the New York Foundling Hospital.

Dr. HAMILL M. ALEXANDER of Marietta, Pa., died on October 13 at the age of fifty-two years. He was a graduate of the Medical Department of the University of Pennsylvania in 1876. He was the owner of the Lancaster County Vaccine Farm.

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

NOTIFICATION—THE MIDWIVES' BOARD—STEPHEN COLERIDGE'S LOGIC—BEDLAM R.A.M. COLLEGE—DR. CANNEY'S SCHEME—SOCIAL SERVICE—TEMPERANCE HOSPITAL SURGERY—THE DUBLIN EPIDEMIC—MEMORIAL TO WM. CADGE—DR. PARKES—OBITUARY NOTES.

LONDON, September 25, 1903.

THE report of the Asylums Board for 1902, which has lately been issued, contains some facts about errors in reporting infectious diseases. This subject has been the source of numerous gibes in the press, and on that account deserves further notice in the light of official figures. Referring to the last epidemic of smallpox, it appears that mistakes of diagnosis were made in 600 cases, and these errors are attributed to the slight acquaintance of our practitioners with the disease. To afford them and students an opportunity of studying the disease the smallpox hospitals are in future to be utilized for clinical instruction. It is like some officials to make this concession after the epidemic. There are many doctors in full practice who have never seen a case of smallpox, and to whom, therefore, its features are only known by description. In the same way, though to a less extent, the isolation of other infectious diseases in the board's hospitals withdraws from the general practitioner's observation a considerable proportion of such cases. As notification is made compulsory, and as the authorities are ready to take proceedings for neglect of this duty, when the doctor delays to perform it, early notice is necessary to avoid vexatious prosecution. And yet it is in the early stage that difficulty is most felt. Indeed, experienced clinicians are so frequently uncertain at this stage that I cannot admit the infallibility of the medical officers charged with the reception of cases in the isolation hospitals. The report named above states that during the year 7,896 patients were landed at the Rotherithe wharves. Of these 7,842 were certified to be smallpox. Of these 607 proved not to be such. Over 200 were chickenpox, 74 were skin cases, 48 measles, 7 German measles, and 4 scarlet fever. There are two circumstances which must be taken into account in reference to errors in diagnosis. The proportion of mistakes was 7.7 as against 13.3 in the previous year, and the cases are now sent off at an earlier stage than formerly. Even the acting medical officer of the River Ambulance Service, Mr. W. M. Wanklyn, complains of this tendency to enforce early removal being carried to extremes, so that some patients reached him before any characteristic manifestation had appeared. But what is the unfortunate general practitioner to do? The least delay in notification is likely to bring him a summons—if he waits for a bacteriological diagnosis, the magistrate will hardly give him credit for good intentions, and when an epidemic is raging and neighbors falling victims, the alarm of the householder may take the initiative and thereby bring about a prosecution, if the case prove eventually one for notification. No wonder he feels inclined to notify and throw the responsibility on the hospital officers These points are aptly illustrated by the action of one of the Borough Councils asking explanations from their local practitioners of their differences of opinion with the Asylum Board's officers, and why in doubt they did not avail themselves of the "diagnosis test" which the council offered. No doubt the councillors mean well, and think they have grasped the matter, but they seem to have forgotten that they have no right to ask for any explanation or to exercise their judgment on the matter. When a doctor has notified a case he has no further responsibility. The local authority has only to pay the half-crown awarded by the act and carry out its own duties. There are councillors who think that half-crown ample remuneration. They should remember that in supporting notification the profession is sacrificing itself to the public. A case notified is a patient lost, and it would be difficult to estimate the monetary loss to the profession by this and other preventive measures which it has always supported.

The profession seems to be waking up from the apathy with which it permitted a few busybodies to pass the Midwives' Act. The regulations framed by the Midwives' Board and issued by the Privy Council come as a surprise on many who regarded with indifference the warning that an inferior class of practitioners was being created to feed the practice of consulting obstetricians at the expense of general practitioners. A midwife trained and examined and certified under Act of Parliament is not going to confine her work to attending the poorest women of her district under the direction of the doctor. She will sport her qualifications as freely as

the women who were certified by the Obstetrical Society which had no authority for its action, but which the apathy of the profession permitted without much remonstrance. It suited the consultants on the council, and ordinary members allowed them to act. A few warnings were raised, but disregarded until the Obstetrical Society's diploma became a scandal and its certificated midwives rival practitioners in the poorer localities, taking all the women and children and treating them on terms which medical men consider degrading. Fears are already expressed of an extension of the evil, but it is too late. The discontented ones should have taken warning before the act was passed.

The rules of the Midwives' Board tend to exalt rather than otherwise those trained according to them. They are being criticised as evidently largely due to those who do not understand the requirements of the poor, and who seem unacquainted with what has been done. For example, these rules seem to disqualify the women who have been trained at the Dublin Rotunda—one of the finest schools in the world, and give preference to the certificates of the Obstetrical Society, which really represent little more than a contribution to its funds.

When any disease is thought to be on the increase there are plenty of people who offer explanations of the supposed fact without waiting to inquire whether the observation is correct. Thus bicycling and other athletic exercises are alleged as causes of appendicitis, another self-sufficient know-all starts the rumor that frozen food is to blame. This last tale is considered worth serious refutation by Dr. Kent Hughes of Melbourne, who says appendicitis is much more frequently diagnosed in Melbourne, Sydney, and Adelaide than formerly, though frozen food is practically never eaten in Australia. A hundred years ago, or so, there was a talk of "suppressed itch" being on the increase. The discovery of the parasite of scabies put a stop to such stuff.

This week we have another example of this kind of thing. Mr. Stephen Coleridge writes to the papers with his usual disregard of logic to attribute an increase of diphtheria and typhoid fever to vivisection and the serum treatment. He quotes the Registrar-General's returns, and in doing so exhibits apparently an incapacity for statistical investigation. He would frighten the public by saying that antitoxin causes diphtheria and accounts for its increase—quoting rates per million of the population—instead of the case mortality. Further, he blames vivisectionists for the increase of cancer. Again some diseases for which there is no serum have decreased, because, he says, of the absence of that cause. He is, I believe, a graduate of Cambridge. Could you have supposed such logic could have proceeded from any one who had spent a term at the Mathematical University?

"Bedlam," as Bethlem Royal Hospital for Lunatics, to use its proper name, is still often called, is about to extend the accommodation for paying patients, a limited number being up to the present received at two guineas a week. The charity commissioners have just issued a supplemental scheme for dealing with the institution. One point of the scheme is that five houses in Lambeth Road belonging to the hospital may be adapted for a home for paying patients who are not certified lunatics but are suffering from neurasthenia and other ailments which, in default of treatment, may develop into insanity, the number not to exceed twenty, and the payment not to exceed four guineas per week. These figures, however, are not unalterable, as the scheme reserves power to the charity commissioners to vary them from time to time on the application of the governors. The hospital was founded in 1247 and incorporated by Henry VIII, 1547. It contains about three hundred beds. Of course this is a small number compared with the great county asylums of 2,000 and upward.

The War Office plumes itself on its action in creating the Royal Army Medical College. The result of the first course of instruction is satisfactory, so far as the examination for captains just held shows, as all passed. The reports from the staffs of the hospitals to which the officers were attached also testify favorably.

Dr. Canney's scheme for supplying armies in the field with boiled or sterilized water is beginning to attract the attention of the public, and much interest is expressed of the War Office. Some think such matters should not be discussed outside the services, but the *Times* lately devoted a leader to it, and public opinion is dissatisfied with the neglect of the official mind to examine all proposed plans of preventing disease in armies.

The Christian Union for Social Service, an unsectarian organization, maintains homes in Surrey and Westmoreland for poor epileptic children, and has now opened for epileptic boys whose friends can contribute something toward their cost. An inclusive sum for maintenance and education will be charged, varying in amount with the nature of the case. No doubt there will be no dearth of patients, indeed I learn that applications for such cases have often been received by the union, to which circumstance the new departure is principally due.

Sir Wm. Job Collins, among other officers, has long been surgeon to the Temperance Hospital. The Registrar, Mr. Hosford, has extracted from the hospital records the statistics of his operations. From 1888 to 1902 he performed 113 amputations with only two deaths. One of the fatal cases was morbus coxæ, amyloid degeneration, the other sarcoma of thigh, secondary growths in the pelvis and liver. This last case was the only one in which alcohol was administered.

The Hospital Saturday Fund is taking up the subject of sanatoria for workers suffering from tuberculosis, and has appointed a committee, of which Mr. W. G. Bunn is honorable secretary. It is hoped that by January next the various societies interested will have appointed representatives on this committee when the question of providing increased sanatorium accommodation will be discussed.

The epidemic of smallpox in Dublin seems to be over, according to a report of the Health Committee, after lasting up to July. The total number of cases was 255 with 33 deaths, a mortality of 12.9 per cent. The able M.O.H., Sir Charles Cameron, seems to have been alert at every point and his assistants never to have flagged in their efforts. The report is well worthy the attention of sanitarians.

The First Commissioner of His Majesty's Works and Public Buildings has appointed Dr. Louis Parkes consulting sanitary adviser to the department in succession to the late Professor Corfield.

A memorial to "Cadge of Norwich" is to be placed in the beautiful cathedral of that city, where he worked so long.

The deaths are reported of Dr. Wm. Bradshaw of Kensington on the 20th inst., in his eighty-fifth year. He took his M.R.C.S. in 1840 and his M.D. in 1854. John Ansell Brown on the 17th inst., aged seventy-six years, also of Kensington. He was formerly on the medical staff of the Indian Army and afterward superintendent of a suburban asylum. James Fergusson, F.R.C.S. Edin., of Richmond, on the 19th inst., aged sixty-seven years. Wm. Irving Page, M.R.C.S. (1862), on the 20th inst., surgeon to Wimbledon Cottage Hospital. J. E. Boyton of Watlington, where he practised upward of sixty years, on September 4, in his eighty-eighth year. He was connected with many local institutions. Walter Sumpter, M.D., of Cley-on-Sea, on the 9th inst., in his seventieth year. Staff-Surgeon W. J. Maillard, M.D. Lond., V.C., R.N., aged only forty years. William Turnbull, M.D., Demonstrator of Anatomy, Durham University, on the 20th inst., only forty-two years old, greatly esteemed by colleagues and students.

## OUR CANADIAN LETTER.

(From Our Special Correspondent.)

OPENING OF NEW MEDICAL BUILDING AT TORONTO—UNIVERSITY FOR THE AMALGAMATED SCHOOLS—DOMINION REGISTRATION RECEIVES A DISCOURAGING SETBACK—MUNICIPAL SANATORIA FOR TUBERCULOSIS—INVITATION TO THE BRITISH MEDICAL ASSOCIATION.

October 7, 1903.

A new era was signalized in the history of Toronto University, October 1, when the new medical department was formally opened. The leading universities of America were represented by members of their faculties and the large assemblage of graduates of the University made up a large gathering of medical men. The new medical building is constructed and equipped on the most modern and approved lines and marks the inauguration in Toronto of the best and most efficient accommodation for the teaching of scientific medicine. In all the addresses there were two dominant notes: first, congratulation that Trinity and Toronto Medical Schools had amalgamated; second, that Toronto University had at last a building splendidly equipped for the work of scientific research. The inaugural lecture by Professor Sherrington of Liverpool University was a comprehensive and scholarly review of the rise and progress of the science of medicine. The evening lecture was by Dr. William Osler of Baltimore, an alumnus of the University. His address was specially to the students assembled and, directing his remarks to them, he said, their master word, the great equalizer, the philosopher's stone, the magic wand that renders possible all things, is "work." To realize it, there were two things to bear in mind, not only knowledge of disease and of its cure, but knowledge of one's self. So far as professional education is concerned things are in a transition stage, and he regretted that the examination bugbear

was not left behind. He urged the students to realize that a degree was only the starting point of a long life. The first step is to have an interest in one's work. The next is the cultivation of systematic effort, and he specially asked those present for the first time to realize the profound importance of system and thoroughness in their work, to map out their day, so that due allowance might be given to each of their studies. Then artistic perfection of work was to be cultivated. It is this which makes anatomy the student's touchstone. While they should learn to love the freedom of student life, sequestration is essential to success. He referred to overwork and the danger of infection, but was strongly of the opinion that worry is the most general cause of nervous breakdown. The attitude of the practitioner should be to do the work of the day and take no heed for the morrow. In concluding, Professor Osler reminded young practitioners that they were entering upon a noble heritage and that they should endeavor to do what good they could for a suffering humanity. Much had been done; much remained to be done. The possibilities of medicine were limitless. Their duty was not to draw attention to their good works but to coöperate with the countless physicians and nurses whose voices were not heard but who brought consolation to the slums and the mining camps, to the homes of the rich and to the shacks of the poor; and to exercise sagacity, humanity and probity; in all circumstances true to themselves, true to their high calling and true to their fellowmen. Among others present, and taking part in the opening of the new building, were Dr. W. H. Welch, Professor of Pathology, Johns Hopkins; Dr. R. H. Chittenden, Yale; Dean Roddick, McGill; Dr. A. C. Abbott, Philadelphia; Dr. L. F. Barker, Professor of Anatomy, University of Chicago; Dr. Roswell Park, Buffalo; Dr. J. G. Adami, McGill; Dr. W. H. Keen, Philadelphia; Prof. Townsend Porter, Harvard, and Dr. J. P. McMurrick of the University of Michigan. The federation of the two great medical colleges of Ontario with Toronto University was thus given an auspicious inauguration.

The question of Dominion Registration, by which practitioners in one Province of Canada might be licensed to practise in the other provinces, is still a vexing problem. It seemed more likely to be achieved two years ago than it does to-day. Dr. Roddick, dean of McGill College, is also a member of Parliament for the city of Montreal, and his efforts have been untiring to secure what would certainly be most desirable legislation. His bill passed through the Dominion Parliament, and was to become law as soon as it received the sanction of the Provincial legislatures of the several provinces. These have all practically agreed upon the question with one exception—Quebec, for some reason, has defeated the measure. By the opposition of this one province Dominion Registration is for the present frustrated. The question forms a subject for lively discussion, and it remains to be seen whether the action taken by the one legislature shall keep the medical men of all the other provinces of Canada from enjoying what they have long and diligently sought for. The determined opposition comes altogether from the French colleges of Quebec, and present indications show that they have no intention of accepting the act as it stands at present unless amendments are made of a most damaging character. Thus the matter rests in a very unsatisfactory condition, and the prospects are clouded by the opposition coming from this one part of Canada. The only solution at present seems a new act by which all the other provinces would agree to Dominion Registration and leave Quebec out of the scheme altogether. Dr. E. P. Lachapelle, head of the Quebec Provincial Board of Health, and one of the chief supporters of the Roddick bill, expresses the conviction that his province will gradually be educated up to adoption of the act.

The establishment of municipal sanatoria for the treatment of tuberculosis is receiving some attention in Ontario. The open-air treatment has been attended with such pleasing results at Gravenhurst that there is now a growing sentiment in favor of having, convenient to each large municipality, an isolated pavilion supplied with all the requisites necessary to carry out that treatment. One especially notable fact is that the percentage death rate from phthisis in the Province of Ontario is certainly growing less each year, and this decrease is certainly due to the fact that the open-air treatment has been persevered in more faithfully in Ontario than elsewhere in Canada. Quebec has also a live league for the prevention of tuberculosis.

The British Medical Association is likely to come to Canada for its annual meeting in 1905. The profession in Toronto took the initiative, and the Canadian Medical Association has given the invitation such a hearty endorsement that there is every reason to anticipate a great medical assembly in the Queen City two years hence. The British Association was such a pleasing success when the meeting was held at Montreal in 1898 that many of the home members have expressed a desire to cross the Atlantic for another meeting.

## THE EARLY DIAGNOSIS AND TREATMENT OF TUBERCULOSIS.

To the Editor of the Medical Record:

Sir: I have been interested in your editorial notice, published in the Medical Record of September 12, of the article of Dr. Martell on the necessity of early diagnosis of tuberculosis, especially calling attention to some of the late refinements in diagnosis. Whether tuberculosis can ever be exterminated may still be a matter of doubt, but that its prevalence can be diminished to an unknown degree by modern methods is already well established, but physicians on the one hand and the public on the other are not doing all they can to further this cause. Notwithstanding all that has been accomplished by the pretty general recognition on the part of the medical profession that there is something to be done in a case of tuberculosis, and notwithstanding the great benefit resulting from the associations for the relief and control of tuberculosis which are springing up everywhere (the work of which is done largely by laymen) physicians and the people still fail to appreciate the importance of early diagnosis and prompt action. It is well to make known all new aids for making an early diagnosis, but what is especially needed is some means of urging physicians and people to a more general appreciation of the importance of applying at once means of diagnosis already well known.

It is my experience, and I think that of all consultants in such cases, that the infected patients have usually been allowed to go on for months before any attempt at careful diagnosis has been made, hoping against hope that the cough will disappear, or the fever prove malarial. This arises sometimes from a lack of appreciation of early diagnosis and sometimes from the same reluctance on the part of the physician to hunt for proof of such a dreaded condition in perhaps an intimate friend, as he would in his own person. This, however, causes loss of time, which may necessitate years instead of months of appropriate treatment. I have seen such a case within a week in which a gentleman (abundantly able to submit to proper treatment, if the importance of it had been impressed upon him in the beginning), had been allowed to remain at his business and treated for a cough for a whole year, never having been told that he had any pulmonary disease. He only applied to me after his strength was so exhausted that "he knew something must be the matter."

If the physician delays, it is not surprising that the patient should do the same, and in some way the public should be thoroughly aroused to the importance of early diagnosis, and at the same time informed of the possibility and even probability of cure if the disease is detected early.

While the medical press should continue to urge this matter on the profession, it seems to me that the lay press, which has always done such good service in the case of acute epidemics should be called upon to lend its forces to the effort to eradicate or at least diminish the prevalence of this very destructive disease. The press reaches thousands where bulletins issued by boards of health reach hundreds, and its services should be enlisted in urging upon all the importance of seeking medical advice at once in case of a continued cough. Patients may show no signs of being really sick until long after the infection with pulmonary tuberculosis, and yet the best time to eradicate the disease is before the system is much disturbed by it, a quick cure being often accomplished at this time. This cannot be too strongly urged on the profession by the medical journals and on the public by the lay press.

Frederick I. Knight, M.D.

Boston, Mass.

## CIRCUMCISION IN INFANCY.

To the Editor of the Medical Record:

Sir: The remarks on circumcision in infancy in the issue for September 26, by Dr. Wm. B. Harlow, surprised me not a little. The writer says "there is no possibility of any irritating collections occurring beneath the prepuce until maturity," etc. My experience is just the opposite. As I frequently find irritating smegma all around the corona before the infant is a month old. My candid opinion, however, is that very few children need be circumcized—that is, if they are cared for by the physician. His duty is to stretch its prepuce, and if the mucous membrane adheres to the glans all the way down to the meatus to take the flat end of a probe and strip the glans clean to the corona. He should then remove all smegma,

anoint the parts with vaselin and return the prepuce to the original position. Now the mother or nurse will have no difficulty in keeping the parts clean.

J. R. SHELLENBERGER, M.D.
5505 GERMANTOWN AVENUE, PHILADELPHIA.

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TO THE EDITOR OF THE MEDICAL RECORD:

SIR: An article published in the MEDICAL RECORD of September 26, entitled "Circumcision in infancy," by William B. Harlow, M.D., leads us to believe that the doctor's experience has not been in line with the majority of practitioners. One is almost tempted to believe that he is not thoroughly conversant with the current literature upon the affections of the infantile prepuce and glans penis. If the doctor means to refer only to normal cases there can scarcely be any contention as to his advice upon circumcision of the infant in order merely to get rid of the redundant tissue. All experienced practitioners have undoubtedly met with general or local conditions which proved to have had their origin in an adherent prepuce. Balanitis with adhesion of the foreskin is not a very uncommon occurrence in early infancy. Owing to defective drainage, the "pin-head opening" of the prepuce permits accumulation of the urine and irritation of the lining membrane. The straining thus occasioned has been known to produce balooning of the prepuce, hydrocele, varicocele, hernia, and prolapsus of the rectum. General or special reflex disturbances, such as convulsions, epilepsy, spasmodic contractions, choreic movements, paralysis, malnutrition, etc., are not uncommonly found. Such local conditions as dysuria, priapism, vesical irritation, general restlessness, especially at night, and preputial calculi are met with. The remark of the doctor concerning foreign substances in saying "there is no possibility of any irritating collections occurring beneath the prepuce until maturity, and not then until the semen has been called out and allowed to set back under the skin," savors of some of the so-called "osteopathic" literature.

In case of the pin-head opening, I do not hesitate to incise and trim the foreskin at an early day. Adhesion to the glans in such cases are almost constantly found, smegma and calculi may be present at a later period.

The following case is an example: Baby V. had manifested marked nervous symptoms from early infancy, among which was noted sudden starting from sleep, choreic movements, almost constant fretting, crying, etc. The family attendant was not a believer in circumcision. Operation was advised and done during the fifth month. The prepuce was so adherent to the glans that in order to effect its removal the mucous membrane had to be literally torn into shreds. Behind the corona was deposited smegma and calculi of the consistency of the tartar found on neglected teeth. The child immediately recovered from its previous symptoms. I might cite other cases of apparent epilepsy, convulsions, etc., which have promptly recovered after circumcision of an adherent prepuce. It is certainly an act of wisdom carefully to investigate the copulative organ in all cases of male infants who present symptoms of reflex or general disturbances and all local affections not assignable to other causes. If the organ is found to be the source of irritation a few strokes of the scissors and a half-dozen catgut ligatures will doubtless spare the attending physician the humiliation of learning at a later period that circumcision has been done to the entire delight of the family and especially the little one.

A. P. STONER, M.D.
DES MOINES, IOWA.

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**Skin-grafting in Laryngeal Stenosis.**—Following a review of reported cases of this nature, A. H. Burgess mentions the case of a man of thirty-eight years who cut his throat. The usual measures were instituted, a tracheotomy tube being inserted through a separate opening below the self-inflicted wound in the trachea. Unfortunately, the wound became septic and broke down, finally healing by granulations. Later, evidences of laryngeal stenosis appeared, and examination revealed a fleshy mass below the cords, appearing to occupy the entire lumen of the tube. Laryngofissure showed that the lower part of the larynx and the upper part of the trachea was completely occluded by a dense cicatrix, one inch in vertical extent. This was removed and a gauze plug inserted. The latter was changed several times, and eleven days later was permanently replaced with a large Thiersch's graft from the thigh, rolled around a drainage tube of the caliber of the trachea. Good union ensued. The final result was perfect, and the patient was able to speak without difficulty.—*Medical Chronicle.*

# Progress of Medical Science.

*The Boston Medical and Surgical Journal, October* 8, 1903.

**The Operative Treatment of Umbilical Hernia.**—J. Collins Warren believes that the reason for the decrease in the percentage of recurrences after operation for umbilical hernia is due to the attention paid to an accurate suture of the different layers in a manner that will bring them into close contact without too much tension. The hernial sac should be exposed by two slightly curved incisions on the median line, which should meet and blend above and below into an incision long enough to expose the outer walls of the sac as far as the neck of the sac and the surrounding aponeurosis. The sac should then be opened and the contents freed from adhesions and returned into the abdominal cavity. If the omentum is much matted it should be excised below that part which usually occupies the sac. The sac is then carefully excised. The abdominal opening is an oval with the long diameter lying at right angles to the linea alba. The peritoneum should, if possible, be separated from the fascia and sutured with fine sutures. The accurate coaptation of the edges of the hernial ring is of the greatest importance. Great tension is caused by bringing the right and left edges together. So if the lower and upper margins of the ring are brought together by forceps they can easily be held in that position without exercise of any appreciable degree of force. If the opening is closed transversely, the parts seem to fall naturally together. Lateral strain closes this opening in the linea alba, while vertical strain tends to open it. A new feature in the treatment is the removal of the thick layer of adipose tissue. In eleven cases operated on by the writer by this method, there has been only one recurrence during periods varying from one to thirteen years.

*Journal of the American Medical Association, Oct.* 10, 1903

**Scarlet Fever.**—W. L. Baum analyzes 628 cases seen in one of the Chicago hospitals during a period of seven years. He reviews the work of recent investigators as to a bacterial cause of the disease and does not find any direct support of the theory of streptococcus etiology. He calls attention to the difficulties of differential diagnosis, stating that certain cases sent to the hospital as scarlet fever turned out variously to be erysipelas, cerebrospinal meningitis, measles, tonsillitis with erythema, influenza and (one case) septic typhoid. Mixed infection was present in 142 cases, with 17 deaths. Diphtheria was the most common, 96 cases. The author's experience has convinced him that the disease is infectious during the incubation period. He also notes that in differential diagnosis we must take account of drug eruptions (quinine, chloral, opium, coal-tar derivatives must be taken into consideration, for not only are the conditions for which they are prescribed accompanied by fever, but the drug eruptions frequently start on the face and locations characteristic also of the scarlet fever eruption. Also, toxic erythemata occur in the course of septic infections, which are frequently mistaken for scarlet fever eruptions

**A Deviation from the Usual Methods of Closing Abdominal Wounds, Including Hernia.**—O. O. Witherbee has adopted silkworm gut for all suturing. He thus describes his method of abdominal closure. The peritoneum is first approximated and the ends of the suture are brought through the integument near the extremities of the incision. This permits of ready removal any time from the third to the sixth day. The abdominal fascia is then brought into apposition by the ordinary figure-of-eight sutures, except that the ends, instead of being brought out near the margins of the wound, are carried by long curved Hagedorn needles through the adipose tissue to emerge on a line parallel with the abdominal incision and from one and one-half to two inches on either side of it. These ends are passed through notches in the lateral bars of a U-shaped or rectangular framework, made from aluminum or hard rubber, the outer dimensions of which measure from three to four inches in width, and from four to six inches in length. The sutures are then tied in pairs on each side, respectively, with just sufficient tension to approximate the fascia. On one side the ends should be tied in a bow-knot, allowing of alterations in tension if necessary. The skin incision is next closed by a subcuticular suture, and when completed strips of sterile gauze are drawn beneath the plate and a moist bichloride dressing placed over all. The same tactics are made use of in the treatment of hernia, except that the peritoneal suture is quilted back and forth through the neck of the sac, and its ends carried well above the internal ring, where they are brought through the tissues and secured to the upper part of the framework, said suture to be removed at the end of one week. In approximating the conjoined tendon with Poupart's ligament, the tension should be exerted on a plane to correspond with the re-

sistance to be overcome. The author illustrates his idea with several excellent diagrams, and claims that his method approximates all the layers snugly, yet is free from the tension on the skin which is so annoying and even painful to patients.

*New York Medical Journal, October* 10, 1903.

**Still Birth Due to Strangulation of the Funis.**—J. Milton Mabbott reports the case of a full-term child. As the body was born the cause of still birth was seen to be a condition of strangulation of the cord, which took a spiral turn around the right upper arm, emerging from the front of the axilla, thence passing around the back of the neck on its way to the umbilicus. The cord was about seventeen inches in length, and the point of strangulation was at the axilla, where it was gripped very tightly by the arm.

**The Dangerous [Operation of [Uterine Curettage.**—E. Van de Warker calls attention to the many risks attending this operation and narrates several case histories which show its sad results when unskilfully done. Preliminary cleansing of the vagina should be done with the patient in the semi-prone position. In this position with the hips slightly elevated the cervix may be submerged in the antiseptic solution and the dilatation and other steps carried on through it. Biniodide solution is better than bichloride. The vulsellum forceps should be carefully inserted so that it will not tear out during dilatation and thus leave a track for infection. This instrument should not be removed until the operation is over. Dilators with ridges on the outer sides of the blades to prevent slipping are dangerous instruments. The blades should be opened slowly. Graduated sounds are safer than any spreading-blade instrument. Only that degree of dilatation should be made which is sufficient to allow the free use of the curette with gauze strips for drainage. Certain uterine conditions forbid forcible dilatation, *e. g.* postpartum fatty degeneration for eight to ten weeks, abortion for six weeks, malignant disease, senile endometritis, etc. Curettage ought not to be followed by solid packing of the cavity. Only a strip should be used, and this should be removed if, after a few hours, drainage stops. The strip, which the fingers of the operator should not touch, should be introduced, while the perineum, the labia, and the thighs of the patient are covered by clean sterilized napkins, applied at the last moment before the gauze is introduced.

**Transient Post-convulsive Astereognosis in Jacksonian Epilepsy.**—This symptom, signifying inability to recognize objects by contact, was in a patient of C. W. Burr, associated with and due to the inability to distinguish the number of points of contact though tactile sensibility itself was preserved. His patient was a woman of fifty-eight, with a history of eight years' duration. Sensibility to touch, temperature and pain was normal at all times, but when astereognosis was present she was unable to distinguish between one and several points of contact on the right hand unless they were very far apart. This was the only sensory disturbance she ever showed. She knew the position of the hand with the eyes shut. While in the hospital she had several convulsions like the following: she suddenly began to cry, complaining of pain in the right arm and leg and begging to have them rubbed. In a few moments the right arm and leg became rigid in tonic spasm, followed almost immediately by violent clonic spasm of the entire side, including the face. Soon the face became blue and the breathing stertorous. Finally, slight tonic spasm appeared on the left side and she lost consciousness. The attack lasted about five minutes. After it she was dull and stupid for about an hour, and there was a complete flaccid palsy of the right side which passed off in the course of several hours. Several times, but not always, when consciousness had fully returned and the temporary increase of the palsy had passed away, she was for several hours unable to recognize by contact objects placed in her right hand, though sensibility was preserved to all forms of stimuli, except that, as stated above, she could not tell whether she was touched by one or both points of the æsthesiometer. Objects put in the left hand were readily recognized and named. The diagnosis in the case was cerebral thrombosis with softening in the area of distribution of some branches of the middle cerebral artery.

*American Medicine, October* 10, 1903.

**Insanity as a Sequel to Physical Conditions.**—A. B. Richardson states that all persons mentally defective from imperfect development or congenital physical deficiency are more susceptible to acute attacks of active insanity in later years. A second class of more than usually susceptible individuals, so far as liability to subsequent insanity is concerned, are those who are structurally out of balance: those in whom there is not a proper relative development of the different parts, even though their organization may not disclose any actual deficiency in any part. Cases in the former class are quite numerous. They develop slowly and insidiously. They may show an unusual lack of self-control in some direction. The resulting insanity is usually an exaggeration of these preëxisting peculiarities. In the second class of cases the insanity is due chiefly to acute exciting causes. This cause may be traumatism, or acute disease, or intoxication. In studying a case of mental disease the following points should be considered: (1) How much influence had original and natural defect or nervous instability in the development of the conditions found? (2) Do the assigned exciting causes bear a reasonable relation to the form of mental disease existing? (3) Can you exclude all other causes that might more probably produce the same condition? The capacity to make a safe deduction from a given group of facts comes only from a long and varied experience and careful study of the insane.

**Pyloric Carcinoma with Symptoms Resembling Those of Gastrocolic Fistula.**—David L. Edsall and Charles A. Fife report the case of a man aged fifty-nine years. His former history was good, although in April and May, 1900, he had a severe gastric attack. It was thought for a time that he would die, but he recovered and seemed entirely well for two years thereafter. He then began to exhibit signs of dyspepsia and soon vomiting appeared. He was believed to have cancer and also gastrocolic fistula, because of the persistently feculent vomiting, the rapid onset of this vomiting with the ejection of shreds of tissue, the result of inflation of the bowel, and the result of the examination of the vomited material after the treatment with enemas had been instituted. It seemed impossible that the vomit could contain so much fat as it did when nothing was being taken by the mouth, unless the enemas were being vomited; and it seemed almost certain that these enemas were being passed from the bowel into the stomach through a fistula. The vomit was a rather thick, brownish fluid, filled with small granular particles and having a most offensive feculent odor. There was a multitude of bacteria, and great numbers of fat-droplets. Prostration increased and the man died. At autopsy there was found an annular cancer of the pylorus. There was not the slightest sign of any communication between the stomach and the bowel. The pylorus was perfectly rigid and incapable of contraction. There was no peritonitis and no sign of obstruction of the bowel. The accurate recognition of the conditions actually present in this case would seem to have been practically an impossibility. The case was undoubtedly an instance of feculent vomiting in gastric cancer, without any communication between the stomach and the intestine, or any obstruction of the intestine. This condition seems to be extremely uncommon.

*The Lancet, October* 3, 1902.

**The Immunization of Animals to the Bacillus Typhosus.**—W. V. Shaw details his experiments, from which he draws the following conclusions: (1) The best method of obtaining a typhoid toxin is by the digestion of the bacilli. (2) This product is toxic. (3) This product can excite a reaction in susceptible animals during which they develop immunity to the injection of living typhoid bacilli and the serum from such an animal can protect another animal against typhoid infection. (4) The injection, intravenously, of living typhoid bacilli may result in the production of a "negative phase" of resistance.

**A Case of Faciohypoglossal Anastomosis (Körte-Ballance Operation).**—The patient, a woman, was operated on by J. H. Nicoll. The facial and hypoglossal nerves were located respectively above and below the posterior belly of the digastric. That muscle having been excised the facial nerve was divided close to the stylomastoid foramen and the hypoglossal near the occipital artery and united end to end. The wound healed by first intention and the patient is now under electric treatment for the facial muscles. At present both the right side of the face and the right side of the tongue are paralyzed. The condition of the tongue appears to cause the patient little inconvenience in feeding or speaking. The operation is still a comparatively new one. The author asks—Will movement return to the facial muscles when it is done for peripheral facial paralysis, and if so, will such movement be "associated" (tongue-face), or will "education of the cortex" secure disassociated movement? In regard to the tongue, he asks what will be the condition (in case of development of disassociated movement) of the paralyzed half of the tongue? He suggests the possibility of grafting the end of the severed distal portion of the hypoglossal on the distal portion of the opposite and intact hypoglossal. There may be a temporary paresis of the healthy side, but the author thinks that careful operating will reduce this to a minimum In the event of its occurrence its effects might be obviated by temporary fixation of the tongue to the floor of the mouth by anchoring sutures, and feeding by tube—nasal or oral.

**The Circulation of Tissue Fluid in Man.**—From the observations of Geo. Oliver, the following facts are brought out: (1) The amount of tissue lymph varies during the day and each variation is of short duration. (2) The injection of food causes a rapid flow into the lymph spaces. (3) The digestive curve of variation follows a uniform rule of rapid rise, short acme and gradual subsidence. (4) As the digestive lymph wave develops, there is a rise in the percentage of cells, hæmoglobin and specific gravity of the blood. (5) As the digestive wave declines, there is a corresponding decline in all three. The general office of the intermediary lymph circulation is a three-fold one: (1) It provides the mechanism, as it were, for the supply of pabulum to the tissues and for the removal of soluble waste products from them. (2) The lymph wave which follows a meal insures the immediate supply of pabulum from the blood which restores all the tissues of the body at once and long before the food itself can be assimilated into the blood. Thus it is that the ingestion of food secures the speedy renewal of the energies, which is a matter of common experience; and therefore the exhausted tissues have not to remain unsupplied with fresh nourishment until the food taken becomes part of the common store of pabulum which the blood keeps ready for distribution. (3) Beverages (tea, coffee, alcohol) probably invigorate the body by inciting a flow of lymph into the tissues. Beverages, however, viewed from this standpoint, differ from foodstuffs in that they fail to restore to the blood the outflow of pabulum they create. They are therefore but temporary expedients of nutrition. The author believes that these views may have a bearing in gout, for he is convinced that it depends on a derangement of the intermediary circulation, and that therefore the tissues themselves form the arena in which gouty disturbances develop and manifest themselves. Residua may accumulate and be deposited in the interstitial spaces of the tissues, because their removal is thwarted, either by an excessive capillary blood-pressure limiting the absorption of fluid from these spaces or by a diminution of that pressure reducing the fluid exchange between the blood and the tissues. Hence the two leading types of gout which are well recognized. According to the author's observation, the continuous presence of a large quantity of tissue lymph provides an important condition for the development of the local manifestations of gout, which were present in by far the majority of the cases observed, and those few cases in which local signs of gout had not so far declared themselves might fairly be said to be gouty—in the sense of potential gout.

*British Medical Journal, October* 3, 1903.

**Poisonous Effects of Ricinus Communis.**—W. J. Burroughs reports a case of poisoning from castor-oil seeds. The patient was a man of fifty years. Soon after eating two of these seeds he was seized with symptoms of poisoning. The contents of his stomach were evacuated and he was greatly relieved. The next day he felt comparatively well. The seeds were proved to be castor-oil beans. They were rather dried-up specimens.

**On the Nature of Fragilitas Ossium in the Insane.**—W. Maule Smith presents a valuable paper on this subject. He gives the results of an analysis of 200 cases from the post-mortem records of the Wakefield Asylum. There were 27 cases of idiocy or imbecility between the ages of 6 and 78. Excepting one case, no fragility occurred until after the 40th year. The exception was a male of 26 years, in whom the condition was slightly present. Of 11 patients dying after 40, fragility was present in 8 and absent in 3. Of the 8 cases 4 were males and 4 were females; of the 3, one was a male and 2 were females. Eighteen patients died of chronic mania. No fragility occurred up to the age of 44. After this age it was absent in only 2 males. Seventeen patients died suffering from chronic melancholia. Brittleness was absent in only 2. It was always slight in the males but marked in the females. In the cases of general paralysis, only 3 males out of 25 cases showed pronounced fragility. In 11 out of 14 females this change was very pronounced. The percentage of cases of dementia is the highest, those of epilepsy the lowest. The disease is more frequent in the female sex and occurs at an earlier age than in the male. It is comparatively rare before the ages of 45 or 50, except in general paralysis. It is essentially a morbid change, which occurs in late middle life and old age.

**Preliminary Note on the Action of the Blood Serum from Subjects of Mental Disease on B. Coli Communis.**—A. V. Johnson and E. Goodall present the following summary: Good agglutination shown in four out of five cases of acute melancholia, one out of three cases of general paralysis of the insane, one out of two cases of delusional insanity, and in one case of climacteric insanity. Partial agglutination shown in six out of eleven cases of acute mania, one out of two cases of delusional insanity, and one case of alcoholic insanity. No agglutination in five cases of mania, one of melancholia, one of puerperal insanity, two of general paralysis, and one case of recurrent mania. The agglutination is present in 60 per cent. of all cases, 28 per cent. good agglutination, 32 per cent. partial agglutination; only one control showed a slight partial agglutination. The greatest number of both good and partial agglutinations were obtained from a virulent culture of B. coli communis with a dilution of 1 in 100. Another interesting point that is being investigated is the leucocyte count in various forms of insanity. The white cells are found to be in much greater numbers when the patients are passing through acute states, running then as high as from 30,000 to 40,000 per one c. mm. of blood, and falling again to 15,000 and 10,000 during stages of remission and in cases of recovery.

*Deutsche medicinische Wochenschrift, September* 17, 1903.

**Spread of Diphtheria.**—K. E. Büsing shows how nurses may disseminate diphtheria. A nurse employed in a child's hospital into which contagious diseases were never received, complained of sore throat on March 11, but remained upon duty until March 24, when a culture was taken from her throat, the bacteriological examination of which showed the presence of diphtheria bacilli. Three of the children whom she was attending sickened of diphtheria on March 16, 22, and 27, respectively. All other sources of contamination were excluded.

**Physiological Action and Pharmacodynamics of Silicic Acid.**—H. Schulz thinks that silicic acid is an important ingredient of certain of the body tissues, and that as a therapeutic agent it possesses a greater degree of activity than has been hitherto supposed. By analysis it may be found in many of the body tissues, and is especially abundant in those which are particularly rich in connective tissue, such as the tendons and fascia. Indeed extended observations show that it is an important and essential constituent of connective tissue, holding thereto a similar relation as phosphorus to nerve tissue. It is interesting to note that in the lower animals and in young human beings silicic acid is very much more abundant than in human adults. The reason for this is not entirely clear. It is known, however, that in certain organic combinations the silicon may be replaced by carbon, giving rise to carbon compounds. It may be supposed that the silicon compounds are especially abundant in the lower animals and young adults, but that in human beings, as age advances, the silicon is replaced by carbon and the quantity of silicic acid in the tissues correspondingly decreases. The feeding of silicic acid in large quantities to healthy men shows that it is by no means a negative substance. It produces no symptoms in the respiratory, circulatory, or lymphatic systems, but it gives rise to irritability of the nervous system, digestive disturbances, cutaneous eruptions, and a peculiar feeling of weight and stiffness in the extremities. Also at times the joints become painful and swollen.

*Berliner klinische Wochenschrift, September* 21, 1903.

**Vegetable Nutrition and Drinks in Gout and Nephritis.**—J. Walker Hall shows that many vegetables and grains, such as potatoes, beans, oats, and asparagus, contain a considerable amount of the purin bases. Also that the same are abundant in various brands of beer and porter. These substances should, therefore, be limited or excluded from the diet in gout and nephritis.

**Hysterical Autosuggestion of Children.**—C. A. Ewald describes three cases of a hysterical nature in which the nervous symptoms were produced by local irritation. In the first case the child had swallowed a bone and complained that it had lodged in the intestine. The boy pointed out the tender spot, which was in the left iliac region, and upon pressure over the region there was elicited marked pain and tenderness. No resistance or tumor, however, could be detected. Upon suitable hysterical treatment all the symptoms vanished. The second case might be designated as "hysterical appendicitis." This likewise succumbed to similar treatment. The third case was characterized by violent hysterical attacks, the cause being cerebral irritation due to overstudy.

**Action of Bile upon the Heart and the Cause of the Retarded Pulse Rate in Jaundice.**—Kurt Brandenburg by a series of experiments upon animals shows that a small amount of bile introduced into the circulation irritates the nerves of sensation of the heart, and in this manner by reflex action through the vagus produces a retardation of the heart's action. If large quantities of bile are introduced it acts directly upon the cardiac muscle showing the heart's beat and if the quantity of bile be large enough, completely paralyzing its action. The biliary acids are the constituents of the bile which produce this effect. In jaundice it is probable that both of the above

named factors are responsible for the retardation of the heart's action. The reflex action is at first operative, but with the continued accumulation of bile in the blood a direct effect upon the cardiac muscle sooner or later becomes operative.

*Münchener medicinische Wochenschrift, September 22, 1903.*

**Treatment of Abortion.**—Max Nassauer strongly advises the initial use of the tampon, and says that a mechanical evacuation of the uterus should only be attempted when a properly applied tampon has either failed to control the hemorrhage or incite the uterus to expel its contents. For use in such cases he has devised an abortion forceps which is a modification of Winter's instrument in that the shank is bent to correspond with the uterine curve and a device is placed at the end of the handles so that the blades are not easily closed. This prevents the apex formation at the extremity of the blades when they are closed, as in Winter's pattern, and removes all danger of penetrating the uterus, which has not infrequently occurred with the use of sharp-pointed forceps. When desired the blades may be fully closed and tissue which is to be removed tightly grasped.

**Movements of the Stomach and Intestines under Various Influences as Depicted by the Röntgen Rays.**—Felix Lommel has used the Röntgen picture in order to ascertain the effect of various influences upon the movements of the stomach and intestines. A good picture may be obtained by the administration of a fair amount of chopped beef, to which about 15 per cent. bismuth subnitrate has been added and immediately submitting the patient to the rays. In this way the movements of the stomach during digestion may be plainly observed. If warm applications are applied to the epigastrium no change from the normal is observed, except that the size of the waves at the beginning of stomach digestion is slightly decreased. The duration of the stomach digestion is in no wise altered. No effect was noticed as the result of cold epigastric applications. Psychical influences usually have a marked action in lessening the force and rapidity of the gastric waves during digestion, although the reverse is sometimes true—the results under these conditions being probably due to the character of the psychical influence present.

**Prophylaxis of Postoperative Cystitis.**—K. Baisch says that the cystitis which so frequently follows gynecological operations is, in the majority of cases, due to an infection of the bladder by the catheterization employed for the relief of the urinary retention so common after these operations. For this reason the use of the catheter should be avoided whenever possible. A very successful method of producing an evacuation of the bladder is by the means of boroglycerin (2 g. boracic acid in 100 c.c. glycerin) injections. If upon the evening of the operation the patient passes no urine a Nélaton catheter is introduced, and as soon as the first drops of urine begin to flow 20 c.c. of the above boroglycerin solution is slowly injected by means of a syringe through the catheter into the full bladder. This is usually followed by a complete evacuation of the bladder. This process should be repeated as often as necessary, but in most cases after a short time the urinary functions is completely restored. When this method is unsuccessful—that is when the desired result is not obtained within one hour after the injection—catheterization becomes imperative. This should be carried out with all possible antiseptic precautions, and immediately after the bladder has been emptied of urine it should be washed out with 500 c.c. of a 3 per cent. aqueous solution of boracic acid.

### *French and Italian Journals.*

**Physostigmine in Atony of the Intestines.**—According to Guglielmo Curlo, this drug acts as an excitant to the muscle walls of the intestines, causing spasm and increased peristalsis. It is indicated in atony, contraindicated in spastic constipation, in acute and chronic intestinal catarrhs, and in mucomembranous enterocolitis. It is of value in meteorism. The normal daily dose is two-thirds of a milligram. Symptoms of intolerance are myosis and diarrhœa. The best way to administer the drug is pills composed of the salicylate of physostigmine.—*La Riforma Medica*, September 16, 1903.

**Infective Splenic Pseudoleukæmia in Children.**—Francesco Scalese holds: (1) that among the most obscure causes of this affection, in addition to rachitis and syphilis, is diabetes in the parents, especially the mother. (2) Out of 15 cases in the author's practice, there was maternal diabetes in 10, maternal and paternal in 1, and hereditary syphilis in 3. (3) From cases observed by the author it is evident that the milk of mothers suffering from diabetes is able to convey the infection. Nursing therefore should be forbidden in any case in which diabetes is suspected.—*Giornale Internazionale delle Scienze Mediche*, September 15, 1903.

**Hysteria Occurring Before the Age of Two Years.**—Le Ridant states that from a number of cases observed, he has reached the conclusion that hysteria may occur in children under two years of age. This may be confirmed by a study of the previous history of children over two years of age who are clearly hysterical, giving such phenomena as paralyses, rages, swooning, croupy cough, certain forms of tetanus, etc., belonging to the same neurosis. We may also follow the subsequent history of young children whose symptoms have puzzled us, and discover their nature in this manner.—*Journal des Praticiens*, September 19, 1903.

**Local Anæsthesia in Dental Operations.**—Julien Tellier recommends Schleich's method of injecting cocaine, which avoids all pain preceding the anæsthesia. The solution used contains of the hydrochlorate of cocaine 0.20 grams, hydrochlorate of morphine 0.02, chloride of sodium 0.20, 5 per cent. solution of carbolic acid, 3 drops distilled water 100 gr. Schleich holds that the solution produces anæsthesia first by the ischæmia caused in the regions in which it is infiltrated; second by compression of the nerve filaments against the connective tissue walls by the fluid, which interferes with their conductibility; third, chilling of the region from the ischæmia, and fourth, action of the medicaments on the nerve-endings. This solution produces quite as complete anæsthesia as cocaine alone.—*Lyon Médical*, September 6, 1903.

**Dysentery, a Septicæmia.**—M. Guibaud holds that this disease has been proved to be due to a specific microorganism, the bacillus of Lesage. Blood poisoning it is which gives rise to the general symptoms, to the alteration of the blood cells, the consecutive anæmia, scanty urine, slow pulse, chilling of the extremities, and in severe cases hyposthenia. Treatment consists of a rigid milk diet and injections of the antitoxic serum of Lesage. When an increase in the amount of urine shows that the toxin in the system is being neutralized and the blood disappears from the stools, a local treatment only may be needed to combat secondary infection in the intestines. This should consist of rectal injections of a 1 to 1,000 solution of silver nitrate persevered in until the stools tend to become normal. The milk diet should be absolute during this period and a light diet of purées, eggs, cream begun only when the stools are formed.—*La Presse Médicale*, September 19, 1903.

**The Action of Ferruginous Mineral Waters in Anæmia and Chlorosis.**—R. Wybauw concludes that bicarbonate iron waters (Spa and Schwalbach) have a decided therapeutic action in doses containing an amount of iron which would certainly be inefficaceous if given in a pharmaceutical preparation. This is probably because the metal is in solution in its most unstable salt. Surroundings, air, climate, all play an important accessory part in the treatment, but could not of themselves produce the clinical results obtained. The benefit of the treatment continues after the latter is ended. Should the stay at the springs have been too short to bring about complete restoration to health, preparations of iron may be administered and will be of value, although previous to the treatment they may have been useless. These acidulated mineral waters do not cause constipation, but on the contrary, frequently cure constipation due to anæmia. External hydrotherapy have a favorable action, but are of little value unless combined with the internal administration of the waters. —*La Revue Médicale du Canada*, September 23, 1903.

**Serum Therapy in the Typhoid Fever of Childhood.**—Albert Josias states that from observations made in the Paris hospitals for children, it has been found that from March 1, 1902, to March 1, 1903, the mortality when cold hydrotherapy was used was 14.2 per cent. In the author's service, at the Bretonnean Hospital, during the same period, when serum therapy was combined with hydrotherapy, the mortality was 4 per cent. The author does not wish to be over-enthusiastic in regard to this treatment, nor to consider its value absolutely proved until more cases shall have been reported, but he says that his experience is borne out by that of Chantemesse, who asserts that the injection of antityphoid serum added to balneotherapy greatly diminishes the mortality in typhoid fever. —*Gazzetta Medica Lombarda*, September 6, 1903.

**Adrenalin in Ophthalmological Therapeusis.**—A. Ivert says that in acute catarrhal conjunctivitis a drop of the solution of adrenalin, 1 to 1,000, instilled two or three times a day, causes a more rapid cure than any other medicament. It is, however, more efficacious in certain forms of conjunctivitis than in others, as in rheumatismal conjunctivitis, ocular congestion of an arthritic nature, hay-fever, and, above all, in sclerotitis and episclerotitis. In the latter affections it is almost marvellous, bringing about a complete cure in from four days to a week. In cases of iritis, adrenalin with atropine and cocaine is of the utmost value; in glaucoma it is helpful in cases in which

operation is impossible, for one reason or another. It gives good results in chronic iridochoroiditis, and in retinal hemorrhages. It has an anæsthetic action in cases of cauterization, and its application greatly assists in many surgical operations on the eye.—*Recueil d'Ophthalmologie*, August, 1903.

**Narcosis by Means of the Chloride of Ethyl.**—Filippo Carta has used this substance for narcosis in cases of minor surgical operations in pleurotomy with resection of the ribs in the enucleation of glands, the reduction of luxation of the elbow, paracentesis of the membrana tympani, etc. He considers it an excellent anæsthetic in all interventions of short duration. It is well supported in cases in which chloroform and ether would be dangerous (circulatory disorders, fatty degeneration of the heart, diseases of the respiratory tract, cachexia, hemorrhages, grave traumatism). Complete unconsciousness occurs in from a minute and a half to two minutes. A return to normal occurs a few seconds after the mask is removed. In major operations it is not prudent to use this remedy, as it has not as yet been determined what possible lesions may be produced on the visceral organs by large amounts of chloride. In mixed anæsthesia the chloride of ethyl eliminates the long and dangerous period preceding anæsthesia.—*Giornale Medico del Regio Esercito*, August 31, 1903

**Death and Accidents Due to the Dependent Position in Abdominal Surgery.**—F. Jayle holds that the Trendelenburg position is responsible for many casualities. When there is any cardiac lesion, the extra strain put upon the heart may bring about a fatal result, or leave a weakness which will later cause death. In such patients, as well as in those suffering from obesity, atheroma or ascitis, the right side of the heart is the one chiefly affected; this occasions congestion of the lungs, sometimes resulting fatally. Moreover, as the dependent position causes depletion of the pelvic veins, hæmostasis may appear to be complete, and oozing follow a return to a normal position. Another occurrence of less grave import, is the possible entrance and retention of air in the abdominal cavity. The intestines fall back against the diaphragm, leaving the pelvic cavity free, and unless the patient is lifted back into an upright posture during the operation, and the iliac fossæ pressed upon to expel the air, some of it will be imprisoned and cause painful subcutaneous emphysema. Partial paralysis of the lower limbs may occur from the Trendelenburg position, but can be avoided by the application of suspension bandages to the shoulders and other parts of the body.—*La Presse Médicale*, September 16, 1903.

**Traumatic Rupture of the Small Intestines.**—Charles Juilliard believes in exploratory laparotomy in doubtful cases. He also gives points for the diagnosis between contusion and rupture of the intestines. To avoid peritonitis there are two measures: The first, whose value will be clearly demonstrated in the future, consists in strengthening the resistance of the organism against infection by increasing phagocytosis, and this by means of the injection of special serums. The second consists in clearing the peritoneum of septic matter. To accomplish this, physiological serum, at a temperature of about 98.6° F. should be poured into the abdominal cavity in large amounts until from thirty to sixty quarts have been in contact with the peritoneum. Without being actually brusque, a certain force must be given to the fluid, as the mechanical action is the chief advantage of the procedure. The fluid should be made to spread by slightly shaking the loops of intestine. When the fluid returns perfectly clear and the peritoneum appears to be clean, the washing may be stopped. This treatment is well borne by the patient, and the tendency to shock is overcome. The pulse increases in frequency and in fulness. Parts inaccessible to tampons can be reached by these washings. They are contraindicated in cases of localized infection in which the rupture of adhesions and diffusion of septic matters in a non-septic peritoneum is to be feared.—*Revue Médicale de la Suisse Romande*, September 20, 1903.

**Intestinal Lithiasis.**—N. Van De Velde-Coosemans discusses this disease, citing a number of cases. In the matter of treatment, the first symptom to combat is pain. This may be overcome by hot abdominal compresses, or laudanum poultices. Morphine may have to be given hypodermically. At the same time the intestines should be washed out with glycerinated water. Should the latter cause the evacuation of copious stools with much sand, the crisis will be terminated, but an irritable and painful condition of the intestines will remain, which should be treated by oily lavements at first, later by copious washings with water containing some medicament, such as the biborate of sodium, which is antiseptic and non-irritating. The use of intestinal washings should not be abused: the physician himself should administer them according to indications, and he should exercise extreme care as to the temperature, the amount of water and the pressure. Belladonna should be pushed to pupillary dilatation and dryness of the throat. The crisis over, treatment should be directed to the prevention of its recurrence, and this is effected by treating the mucomembranous colitis. Tact and patience will be required, for the affection is extremely stubborn. It is always preceded or accompanied by a special condition of the gastric secretions. Diet and hygiene are of the utmost importance in the treatment.—*Société Médico-Chirurgicale d' Anvers*, July-August, 1903.

**Intestinal Cancer in Youth.**—E. Saint-Jacques and L. Parizeau report the case of a boy of eleven years who was brought to the hospital because of incoercible vomiting and distended abdomen. Pulse was 110, temperature normal. Other treatment proving of no use, laparotomy was resorted to and an epithelial cancer removed from the sigmoid flexure. The child died of shock. From a study of this and other cases the author concludes that intestinal cancer often develops insidiously, giving no other symptom than chronic dyspepsia, and causes a sudden crisis of intestinal occlusion without premonitory warning. It is met with in youth more often than in adult life. Laparotomy should be resorted to if medical treatment be of no avail.—*L'Union Médicale du Canada*, September, 1903.

**Rapid Atrophy of the Large Cirrhotic Liver in Infections.**—M. Marcou treats of the care of persons who eat heartily, drink constantly (without being absolutely alcoholics), and exercise little; who are apparently in perfect health and yet have hypertrophied livers. Cirrhosis follows in the course of time. The author calls these cases of toxialimentary hypertrophic cirrhosis. In overnourished, rich patients, the hypertrophy represents a compensatory activity of the cells, and may be prolonged indefinitely if the patient can be brought to realize the necessity of care. In the poor man who is insufficiently nourished and drinks poor alcohol, cirrhosis occurs at once. Yet, even in the former case, should a grave infection occur, the liver is unequal to the strain, atrophy may occur with rapidity, or the patient may recover and the liver undergo a slow process of sclerosis. In any case a fatal end is inevitable.—*Archives Générales de Médecine*, September 8, 1903.

## Books Received.

*While the* MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

A SURGICAL HANDBOOK. By FRANCIS M. CAIRD, M.B., and CHAS. W. CATHCART, M.B. Twelfth edition. 16mo, 323 pages. Illustrated. Chas. Griffin & Co., Ltd., London.

DISEASES OF THE SKIN. By MALCOLM MORRIS. New edition. 12mo. 642 pages. Illustrated. W. T. Keener & Co., Chicago.

MODERN MICROSCOPY, A HAND BOOK FOR BEGINNERS AND STUDENTS. By M. I. CROSS and MARTIN J. COLE. Third edition. 8vo, 292 pages. Illustrated. W. T. Keener & Co., Chicago.

DISEASES OF THE URINARY ORGANS, INCLUDING DIABETES MELLITUS AND INSIPIDUS. By CLIFFORD MITCHELL, M.D. 8vo, 716 pages. Illustrated. Boericke & Tafel, Philadelphia, Pa. Price, $4.00 net.

TRANSACTIONS OF THE AMERICAN PEDIATRIC SOCIETY, FOURTEENTH SESSION. By WALTER LESTER CARR, M.D 8vo, 310 pages. Illustrated.

TRANSACTIONS OF THE TWENTY-FIFTH ANNUAL MEETING OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION at Washington, D. C., 1903. 8vo, 292 pages. Illustrated.

NOSE AND THROAT WORK FOR THE GENERAL PRACTITIONER. By GEORGE L. RICHARDS, M.D. 8vo. 330 pages. Illustrated. International Journal of Surgery Company, New York. Price, $2.00.

ADENO-MYOME DES UTERUS. By THOMAS S. CULLER. 4to, 91 pages. Illustrated. August Hirschwald, Berlin, Germany.

FUNCTIONAL DIAGNOSIS OF KIDNEY DISEASE WITH SPECIAL REFERENCE TO RENAL SURGERY. By Drs. LEOPOLD CASPER and PAUL F. RICHTER. 8 vo, 233 pages. P. Blakiston's Son & Co., Philadelphia. Price, $1.50 net.

MEDICINISCHER LAGER-KATALOG, No. IV. INNERE MEDICIN. Hirschwaldschen Buchhandlung, Berlin.

THE PRINCIPLES AND PRACTICE OF HYDROTHERAPY, A GUIDE TO THE APPLICATION OF WATER IN DISEASE. By SIMON BARUCH, M.D. Second edition. 8vo, 296 pages. Illustrate. William Wood & Co., New York. Price, muslin, $4.00 net.

# Book Reviews.

A Textbook on the Practice of Medicine. Designed for the Use of Students. By James Magoffin French, M.D., Lecturer on the Theory and Practice of Medicine, Medical College of Ohio; Attending Physician St. Mary's Hospital; Consulting Physician St. Francis' Hospital for Incurables, Cincinnati. Illustrated by Ten Full-page Plates and Fifty Wood Engravings New York: William Wood & Co, 1903.

This is a book out of the ordinary, in that it modestly professes to be only for the use of students and lays no claim to be a guide for practitioners. That it is well adapted to fulfil its professed object one is bound to confess, for its style is simple and suited to the comprehension of one who is only beginning his medical life, and is not yet familiar with the difficult language of his future profession; the definitions are clear and expressed in terms of easy comprehension, and each subject is treated of from the standpoint of one who knows the needs of the beginner, of the student who has everything to learn, and not from the superior level of the scientist who assumes that his readers are versed in all but the very highest branches, and who often, therefore, writes above the intellectual grasp of those who would learn from him. But withal, this is not a child's book. The language is simple and the style is lucid, but the teaching is sound and comprehensive; the book is up to date, and includes not only a statement of the facts of medicine, but also a presentation of the most acceptable theories. It seems to us, therefore, equally adapted to the uses of the practitioner, who has not the time or the inclination to study the larger treatises, but who wants the latest teaching on any particular subject in the fewest words.

The first fifty pages of the book are given to an introduction into the first principles of medical science, or a sort of running dictionary in which all the frequently recurring terms are defined and explained. In this part also the various morbid processes are described—fever, inflammation, degeneration, regeneration, etc., and a general statement is presented of the action of bacteria in the causation of disease.

In Part II, which constitutes the main portion of the work, the author presents a systematic treatise on the practice of medicine, describing under the usual heads of etiology, morbid anatomy, symptoms, treatment, etc., all of the ordinary and many of the rarer diseases which the physician may be called upon to treat, and of which the student must have knowledge in order to fit himself for the practice of his profession.

The book closes with a section describing the usual methods of clinical examination, including formulas for the reagents and test solutions employed in examination of the urine, stomach contents, blood, etc. Finally a very complete index facilitates reference to any subject treated of in the work.

Students generally will find this a most serviceable textbook and one which will admirably supplement the teaching received in their didactic and clinical courses. Practitioners also, especially those who have been too busy to follow closely the rapid advances of modern medicine, will find in these pages all that is needed to familiarize them with the latest accepted teachings of their science.

Die Gonorrhoe des Mannes und Ihre Komplikationen. Von Hans Wossidlo, Berlin: Otto Enslein, 1903.

In this work the author, as in his previous book on stricture, avows himself a firm partisan of the dilatation treatment in chronic gonorrhœa, as first laid down by Oberländer. And also, as does Oberländer, Wossidlo urges the need of urethroscopy to furnish an intelligent guide for the treatment of chronic urethral disease. The book is singularly free from extensive theoretical considerations, which so often encumber German practical works; its language, moreover, in its terse sentences not only reveals the author to be an English scholar, but makes his work the more acceptable to those whose German is acquired. In this book Wossidlo covers the most modern methods of gonorrhœal therapeutics in a decidedly practical form. Forty-four illustrations in the text well depict the essentials, while the most important lessons in urethroscopy are imparted by twenty-four superb chromolithographs. These were made from originals done in oil by the author's former assistant, Dr. Schramm, and will be welcomed by all who hitherto have had to content themselves with mainly schematic representations, or under colored or overcolored tints. The tone in which the book is written will make it valued primarily by the large number of American, English, and colonial physicians who have taken courses at the author's "Poliklinik." It will bring him to mind "wie er leibt und lebt," simple, unaffected, non-polemical, but always practical and convincing. These same qualities, evident in every line of this book will create favor for it among all those who must contend with the intricacies of this disease, from uncomplicated anterior gonorrhœa to its most serious and remote complications and sequelæ.

The American Illustrated Medical Dictionary. A New and Complete Dictionary of the Terms Used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, and the Kindred Branches, with Their Pronunciation, Derivation, and Definition, Including Much Collateral Information of an Encyclopedic Character. By W. A. Newman Dorland, A.M., M.D., Assistant Obstetrician to the University of Pennsylvania Hospital; Editor of the American Pocket Medical Dictionary; Fellow of the American Academy of Medicine. Third edition. Revised and enlarged. Philadelphia, New York, London: W. B. Saunders & Company, 1903.

In this edition of Dorland's excellent dictionary new matter has been added to bring the book up to date and keep it in line with the constant multiplication of medical terms. Some of the tables, the least commendable feature of the work, have also been enlarged. We do not notice any addition to the illustrations To those who know this work, no words of commendation are needed; to those who do not, it will suffice to say that the book is a very serviceable one, owing to its comparatively small size, flexible binding, and clear type. The worst quarrel we have with it is on account of the numerous tables which we consider no addition to a dictionary. If they must be used they should be placed in an appendix where they can be consulted by the curious, but whence they cannot come to thrust their unwelcome presence in the face of the man who is looking for the definition of a word and not for a treatise on anatomy or chemistry or bacteriology. However, it seems to be the fashion with dictionary-makers to use them. In all other respects this dictionary is most commendable.

A Laboratory Guide in Urinalysis and Toxicology. By R. A. Witthaus, M.D., Professor of Chemistry, Physics, and Toxicology in the Medical Department of Cornell University. Fifth edition. New York: William Wood & Co., 1903.

A book which has reached its fifth edition hardly needs a very extended notice. The one under review is well named a "laboratory guide," for every page smacks of the laboratory and of the practical side of analysis. It is, however, much more than a mere guide to uranalysis, for the first forty-five pages present a fairly extensive course in inorganic analysis, and the last twenty-seven pages treat of toxicology. Having learned, practically, the meaning of chemical analysis, the student is successively taught qualitative and quantitative analysis of the urine, and the analysis of urinary deposits and calculi. Accuracy is the watchword throughout, and so rigorously is everything excluded which cannot come up to the high standard set by the trained analytical chemist, that the clinician will look in vain for several of his familiar methods. The instruction is so clear and explicit that "he who runs may read," a fact which is, perhaps, nowhere better shown than in the apparently trite subject of the heat and nitric-acid test for albumin; indeed, the perusal of these few short paragraphs would well repay many a well-informed physician.

Eye Symptoms as Aids in Diagnosis. By Edward Magennis, M.D., D. P. H., late Clinical Assistant at the Royal London Ophthalmic Hospital; Author of "The Eyesight of School Children," "Hygiene in the Schoolroom," "Healthy House Sites," "The Irish Poor Law System," etc. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent & Co., 1903.

In this little book the author has gathered into easily accessible form a presentation of whatever there is for the general practitioner to learn regarding systemic as well as local diseases from a careful observation of the special symptoms connected with the eye itself. Nothing is at times more puzzling than to determine to one's own satisfaction the precise morbid condition present in a special case, and however great may be one's knowledge derived from reading as well as from experience, atypical cases will constantly present themselves, the new features and irregular symptoms of which will baffle the most skilful interpreter of morbid signs. The need, therefore, of taking advantage of every aid in arriving at a correct diagnosis is apparent. The eye does not reflect every morbid process going on in the body, but it does betray many, and the accessibility of this organ and the transparency of most of its structures make a study of it, as the author says, both interesting and satisfactory. This is a very small book, almost a "vest pocket" edition of about one hundred pages, but the author possesses the art of condensation without sacrifice of lucidity, and he has succeeded in compressing much useful information within its compass.

# Society Reports.

## MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

*Fifty-third Annual Meeting, Held at York, September 22, 23, and 24, 1903.*

**Special Report to the Medical Record.**

(Continued from page 600.)

*Thursday, September 24—Third Day.*

**Registration and Disinfection in Pulmonary Consumption.**—Dr. THOMAS J. MAYS in this paper said that consumption, instead of decreasing, had really increased in most of our large cities. He collected statistics which gave the death rate of consumption and pneumonia in twenty large cities and two states, representing a total of nearly thirteen million inhabitants, and in many instances covering a period of thirty years. Twenty-five charts were arranged from the data. In summing up the main points of this paper it appeared clear that in the prevention localities the phthisis rate fell, while the pneumonia rate rose, and that on the contrary, in the non-prevention localities the phthisis rate maintained itself above that of pneumonia; that in eight out of the thirteen prevention localities there had been a total increase of 80 per cent. of phthisis during the last five years, and that hence we might safely conclude that registration and disinfection have not thus far been shown to be of service in combating consumption.

**The Prevention of Tuberculosis.**—Dr. LAWRENCE F. FLICK, in speaking upon this subject, said that in studying the statistics of tuberculosis it must be remembered that in the last five or ten years laboratories had been opened in nearly all large cities and light had been concentrated upon tuberculosis, pneumonia, and bronchitis in such a way that better diagnosis could be made, and that consequently there had been a decrease in some nomenclature and an increase in others. In certain cities there had been increasing pneumonia, but a wiping out of the nomenclature of bronchitis and nearly so of the nomenclature of convulsions. In other words, many deaths accorded to bronchitis, inanition, etc., were now recorded strictly under the tables they should be, because there was a clear diagnosis of tuberculosis and not of pneumonia or of bronchitis. The introduction of preventable measures, the author stated, had always been followed by a decrease in the death rate. This was notably demonstrated in New York City, where the best scientific measures had been employed. Dr. Flick advised the establishment of sanatoria for incipient cases, every one of which he says was curable, and hospitals for advanced cases (or when this was impossible there should be an isolated ward in the general hospital), and dispensaries for walking patients, who by the exigencies of life are compelled to earn their own living. They could there be treated and instructed, and so rendered harmless to others. Dr. Flick emphasized the fact that the family physician should go into details in instructing his patient, and even have the patient repeat such instructions so that there could be no mistake.

**The Specific Treatment of Tuberculosis.**—Dr. MAZYCK R. RAVENEL of Philadelphia reviewed the attempts made within the last twenty years to discover a specific against tuberculosis, none of which had been proven to be entirely successful. At the present time all other methods had given way to the rational one of producing artificial immunity against tuberculosis in animals, and employing the antibodies thus brought into being for the treatment of man. While this was generally conceded to be the only practicable method, there was much difference of opinion among workers as to the details of procedure. The speaker mentioned also the bacteriolytic immunity, which was much more complex. This was usually produced by inoculation with living germs which had been attenuated in virulence by the action of heat or antiseptics, or by long cultivation on artificial culture media. With the absolute demonstration of the possibility of immunization of animals against the most virulent type of tubercle bacillus known, came the conviction that the immunization of man must follow at no distant day.

**Traumatism as an Etiological Factor in Phthisis Pulmonalis.**—Dr. WILLIAM T. ENGLISH of Pittsburg directed attention in this paper to some of the etiological factors of phthisis pulmonalis. He believed that passive predisposition was often rendered active by the intervention of traumatism, and said that traumatism of the chest had the power to produce phthisis pulmonalis, or to make more favorable the soil for tubercular deposit. The author emphatically declared that it was unfair to withhold sick benefits and remuneration for accident from those who developed phthisis pulmonalis after injury. Out of 128 cases of injury followed by traumatic pneumonia the writer found that about 63 per cent. were associated with fracture.

**Malignant Diseases of the Lungs.**—Dr. J. C. LANGE of Pittsburg read this paper. He reported four cases in detail. One marked feature presented was the occurrence of disability, anæmia, and loss of weight, accompanied by a peculiar color of the patients many months before the advent of any sign of lung disease. It would appear, therefore, that a tumor in the chest might have its origin and grow to a considerable size without symptoms indicating chest disease to the patient. The pleurisies were dry without effusions, and the scanty fluid consisted of bloody serum which, unfortunately, was not examined microscopically. The physical signs in the cases differed. When a limited pneumonitis surrounded the tumor the usual signs of hepatization were obtained, provided they were not obscured by other adventitious sounds. Carnification and atelectasis, present to a greater or lesser degree, as shown by autopsy, could not be made out by physical examination. Bronchial breathing, voice, and whisper, increased fremitus, and crepitant and subcrepitant râles were not obtained. The one characteristic pulmonary physical sign was that obtained by percussion. There was demonstrated by the percussion stroke an extreme solidity of the underlying tissue. So appreciable was this that the dulness of hepatization and the flatness of effusion were immediately excluded. Bronchial breathing, voice, and whisper were absent in the area of flatness and fremitus.

**A Fatal Case of Chorea Complicated by Endocarditis, Pericarditis, and Nephritis.**—Dr. AUGUSTUS A. ESHNER read a paper by this title. The patient was a girl ten years old, with a family history of rheumatism and chorea, who presented choreic movements in the upper and in one lower extremity, and later in the face, together with pain at one wrist-joint, as well as blowing systolic murmur at the apex of the heart. The temperature was elevated, the pulse accelerated, and pallor was marked. The urine became turbid and high colored, and albumin and tube casts were present. Later, a to-and-fro friction murmur became audible over the body of the heart and at its base. Improvement in the movements occurred under treatment, but a violent exacerbation succeeded upon a fright, and symptoms suggestive of uræmia appeared. Improvement again ensued, but in the eighth week death took place, apparently as a result of heart failure due to myocarditis.

**Family Periodic Paralysis.**—Dr. GEORGE E. HOLTZAPPLE of York gave a brief history of this affection as he had seen it in a family extending along some branches through a period of four generations. His observations had been made during the last twenty years. The characteristic symptoms and clinical phenomena of the cases heretofore reported by European and American observers are similar to those characterizing Dr. Holtzapple's cases. Of the family of which the author wrote, a number had died in an attack. The attacks as observed in his cases were minutely described. Their duration might be from

a few hours to, in rare instances, three full days. Improvement might be abrupt or require even a half day. The author believed that a post-mortem examination would reveal much that would explain the pathology of the disease. Thus far, this had not been obtainable in his cases. Dr. Holtzapple regarded the condition as a vasomotor neurosis affecting the blood supply to the anterior horns, which are almost wholly supplied by the anterior spinal artery. The paralysis appealed to him as closely allied to the paralysis occurring in migraine or hemicrania, such as oculomotor paralysis, aphonia, and paralysis of one extremity or of one-half of the body. Believing that the attacks of hemicrania and paralysis in this family had a common cause and assuming that both conditions were a vasomotor neurosis, large doses of bromide of potassium with caffeine were used. This seemed to give relief.

**A Case of Cerebral Thrombosis with a Skiagraph Showing the Area of Softening.**—This paper was presented by Drs. CHARLES W. BURR and C. E. PFAHLER of Philadelphia, and read by Dr. Burr. The patient was a woman sixty-seven years of age, who had had a stroke thirty years before, resulting in a right-sided hemiplegia and aphasia. The case was interesting, because, though she had complete motor aphasia, word blindness and agraphia, word deafness was not complete. The auditory speech center, however, was completely destroyed. There was some word deafness. Dr. Pfahler had made a skiagraph post-mortem, having replaced the brain for the purpose. The picture showed well the normal contents of the skull and the area of softening. Stress was laid upon the fact that in interpreting skiagraphs little dependence could be placed upon the results, unless the normal structures came out well. If they failed to be shown, appearances seemingly abnormal might be so or not. The value of skiagraphy in the differential diagnosis of hemorrhage and thrombosis from hemiplegia occurring in uræmia without any gross cerebral lesion was considered.

**An Investigation of Certain of the Reflexes and Sensory Phenomena and the Condition of the Eye-grounds.**—Dr. THEODORE DILLER of Pittsburg presented a paper with this title. The inquiries were among those forming part of the investigation in cases of nervous diseases. The author had examined 103 healthy young men whose ages averaged twenty-two years. In no case was the knee-jerk absent; but it was difficult to elicit in twenty-one instances. The Achilles jerk (35 tests) was found to be prompt in 28 cases and slow in 7; absent in none. The conjunctival reflex and pharyngeal reflex were found to be very uncertain, faint, or absent in more than half the cases. The average size of the pupil was found to be 2.76 mm. and the average range of excursion of the pupil in the light reflex was found to be 1.39 mm. In 43 of 98 cases tested, the range of excursion was 1 mm. or less. The average excursion of the pupil in accommodation is 0.967 mm. It was absent in three cases, sluggish or slight in range in 24. No marked differences in the size of the pupils were noted. In 13 cases marked cupping of the optic nerve was discovered; and in two or three instances this was suggestive of beginning gray atrophy. Stereognostic, muscular, and spacing senses were found pretty uniformly to be normal. Dr. Diller suggested that the actual size of the pupils in millimeters, both in light and in shade, should constitute a part of a neurologic record.

**Differential Diagnosis between Friedreich's Disease and Insular Sclerosis.**—Dr. F. SAVARY PEARCE read a paper by this title. The paper was prefaced by the general statement of the importance of diagnosis in its relation to all scientific therapeutics. The importance of incipient signs of disease was emphasized, especially those that may be confusing in differentiation between functional and organic diseases. There was no hope expressed that early diagnosis of the two diseases under consideration would lead to more successful treatment of these maladies. Dr. Pearce said that the form of Friedreich's disease that might be confused with insular sclerosis was the cerebellar or Marie type, wherein the cardinal symptoms of the more usual form were in some measure wanting. This form occurred after puberty; choreiform movements were very pronounced. Increased reflexes and clonus were frequent. Clubfoot and scoliosis were exceptional, and optic atrophy was common. Insular sclerosis might occur in several of the family, and it began, as a rule, between the ages of twenty and thirty. The gait might be spastic, cerebellospastic, or cerebellar. In the latter type would occur the confusing case; but the occurrence of rigidity with nystagmus, staccato speech, and intention tremor would aid in diagnosis, even though the reflexes were normal or diminished.

**Inflammation of the Middle Ear in Diseases of Children.**—Dr. THEODORE J. ELTERICH of Allegheny in a paper by this title spoke of the important relationship of inflammation of the middle ear to various diseases of infancy, and said there were but few children who had not suffered from otitis. That inflammation of the middle ear does not always manifest itself by a discharge from the ear is a circumstance which tends to obscure its existence and frequently prevents diagnosis. The author considered it an imperative duty of the physician to examine the ears of young babies suffering from diseases even apparently trivial in character. An instance was quoted of an infant seen by the writer, who had an attack of acute nasopharyngeal catarrh followed by catarrhal enteritis. There were no symptoms calling attention to the ears, but examination revealed a double otitis media. In cases of acute lobar pneumonia involving the apices of the lungs, middle-ear inflammation was very apt to be present. Otitis media was considered also an important and frequent complication of influenza. In measles it was observed generally in the form of an acute catarrh.

**The Result of One Year's Medical Treatment of Gastroptosis.**—This paper was contributed by Drs. J. DUTTON STEELE and ALBERT P. FRANCINE, and read by Dr. Steele. The paper embraces the work of three years in the medical dispensary of the University of Pennsylvania. Thirty cases have been observed for an average period of somewhat over fourteen months, with particular reference to the following points: (1) In what proportion of cases presenting signs of gastric indigestion, and in which gastroptosis has been demonstrated, are the symptoms due to downward displacement of the stomach? (2) Does long-continued mechanical support permanently restore the stomach to its normal position? (3) What is the prognosis of the condition? The answer to the first question was that in about one-fifth of the cases no cause could be found for the symptoms of gastric indigestion except gastroptosis. All of these patients improved greatly and were now practically free from symptoms. The treatment consisted in regulation of the diet, mechanical support with occasional doses of hydrochloride acid, and lavage at intervals. In the other four-fifths of the cases symptoms of gastric disorder could be distinctly traced to neurasthenia, gastric-motor insufficiency and dilatation, chronic constipation, or passive congestion of the stomach. It was considered that gastroptosis in these cases was probably a link in the vicious circle. The second question was answered in the negative. In all of the cases examined after a year of constant mechanical support the stomach was in exactly the same position as when first examined. In those cases in which the gastric symptoms were caused by uncomplicated downward displacement of the stomach the results had been very gratifying. The fight was a long one, but all the patients of this character were practically free from symptoms after one year.

**Edebohl's Operation of Decapsulation of the Kidney for the Cure of Chronic Bright's Disease, and the Indications for Its Performance.**—Dr. JAMES TYSON in this paper said that although the treatment of the various forms of

nephritis by operation had come to be known as Edebohl's operation, there could be no doubt that the idea of this method of cure suggested itself also to Reginald Harrison as far back as 1895. A résumé was given of Edebohl's cases. Reference was also made to the work of Dr. David Newman of Glasgow. Dr. Tyson's experience with the operation was limited to one case. It had been of a kind to satisfy him that the operation was at least life-prolonging in many cases and curative in some, and that it might even be extended to other cases than those of nephritis in its various forms. The case referred to was reported in detail. The patient was a girl of nine years who had had scarlet fever at the age of four. Immediately after the fever she had had no dropsy, but one year later and four years before admission to the hospital, she presented symptoms of acute nephritis, including albuminuria and general anasarca, which responded promptly to treatment at a hospital in New York City. Subsequent to this she had had five relapses. The last relapse set in about two weeks before consultation with Dr. Tyson, when she had general anasarca, with ascites, albuminuria, and casts. Paracentesis abdominis was done repeatedly, with the removal of a clear watery liquid, and so persistently did the ascites return that some concurrent cirrhosis of the liver was suspected. Medical treatment seemed unavailing, and operation was performed by Dr. Charles H. Frazier, January 11, 1903, the right kidney only being decapsulated. The immediate effect of the operation was astonishing. Two months later the left kidney was decapsulated. Four days after the operation the albumin measured one-sixth volume, with hyaline, and pale granular casts. In less than three weeks the patient was allowed to get up, but almost immediately the albumin increased to one-half volume, and she was promptly returned to bed. Since that time the patient had again been allowed to get up and had remained free from dropsy, and was the picture of health. Dr. Tyson said that it could not be asserted that there had been a cure, and that it was impossible to say that there would be. On the other hand, there could be no doubt that the patient's life had been prolonged. Apart from the urinary evidences she was seemingly in perfect health. The patient was last seen September 23, 1903. There remained one-third volume of albumin and a few hyaline casts in the urine. Dr. Tyson assumed that the operation should not be done until the usual medical measures of treatment had been thoroughly applied. Yet the operation should not be deferred until the patient was moribund. He believed cases of parenchymatous nephritis more favorable for operation than those of interstitial nephritis, since there was not so much actual destruction of vessels as compression. It was not reasonable to expect such satisfactory results where there were extensive cardiovascular changes. A further application of the operation was in obstinate so-called idiopathic hæmaturia. The speaker was encouraged to advise the operation in this condition, since it was not a dangerous one in the hands of a competent surgeon.

**Treatment of Suppurating Ulcers of the Cornea** was the title of a paper read by Dr. LEWIS H. TAYLOR of Wilkes Barre. He said that many of these cases were caused by an injury being maltreated or entirely neglected to be treated for some time after its occurrence, and frequently infected by unclean bandages which the patient has applied to the eye. The treatment should consist of strict cleanliness, flushing the eye with boric acid or mild bichloride solution and atropine, provided the eye is seen before suppuration sets in. If the ulcer is small, curretting and the application of silver nitrate, with perfect cleanliness and the use by the patient at home of atropine may be sufficient, but if the suppuration is extensive the galvanic cautery is the most efficient remedy. An ointment of the yellow oxide of mercury in vaselin is valuable as an aid to the healing. Tincture of iodine he felt was much more painful than the galvanic cautery, and its use was not recommended.

**Affections of the Eye Associated with Diseases of the Contiguous Sinuses.**—Dr. SAMUEL D. RISLEY of Philadelphia read this paper, in which he directed attention to the important relations which often exist between certain forms of serious eye disease and the inflammations of the lining membranes of the bony sinuses of the anterior portion of the skull, which is obvious when the close anatomical relation which they bear to the orbit, especially the maxillary antrum and the frontal and ethmoidal sinuses. He felt that the importance and frequency of such migratory inflammations or of congestions of the uveal tract of the eye causing severe asthenopia, associated with sinusitis, had been too frequently overlooked. Even in the presence of sufficient refractive error to cause the trouble, the failure to secure relief may be due to the co-existence of a chronic and unrecognized sinusitis or to a blocking or partial closure of the exit for the normal secretions of a continuous sinus by abnormal states of the nasal passages.

**The Operative Treatment of Strabismus** was the title of a paper read by Dr. WENDELL REBER of Philadelphia, who stated that he believed the following conditions should be carefully considered before deciding upon operation: (*a*) hereditary influence; (*b*) condition of refraction; (*c*) degree of deviation; (*d*) age; (*e*) visual acuity; (*f*) status of fusion faculty; (*g*) outward swing of visual axis. He referred to the investigations of Holthouse and Worth as showing that heredity influenced about 50 per cent. of the cases. Operation was deemed inadvisable before the tenth year, as in a family in which the tendency of the visual axis after puberty is toward divergence, the strabismus would frequently be very nearly corrected, and if an operation had been done prior to this time there would have been an over-divergence. The relative merits of tenotomy and advancement were considered, and the view expressed that tenotomy was performed as frequently as it is mainly on account of its simplicity, but the author believed that while this might be sufficient for low-grade deviations re-section of the conjunctiva and capsule offered the best prospects in high-grade deviations. He stated that he preferred the operation of Worth, which he described in detail.

**The Differential Diagnosis of Exophthalmos** was the title of a paper read by Dr. JOSEPH E. WILLETS of Pittsburg, in which he said that while the diagnosis of the condition *per se* was an easy matter, the diagnosis of the cause which was essential before deciding upon treatment was a difficult matter. Graves's disease was usually easy of diagnosis, although in some cases the exophthalmos was absent, in which event Von Graefe's symptoms might be either absent or present. The course of the disease was usually chronic, but instances were reported in which the disease had developed in a single night. Innervation lay at the root of the disease, and the sympathetic was the part of which the function was disturbed, and there was dilatation of the vessels in the region supplied by the carotids, which dilatation was responsible for the production of the exophthalmos. Certain conditions, such as hernia cerebri, might exist in the orbit, and produce the exophthalmos. This condition was liable to be confused with dermoid cysts, the important differentiating points being as follows: (1) A meningocele is immovably attached to the bone; (2) a tumor of this kind shows the pulsatory and respiratory oscillations which are communicated to it from the brain; (3) a meningocele may be diminished in size by pressure with the fingers; and (4) in order to be perfectly certain an exploratory puncture of the cyst must be made. Orbital aneurysm may closely resemble orbital cellulitis, and a valuable feature in the differential diagnosis is that pressure of the carotid on the same side as the aneurysm will diminish the pulsation and sounds present or cause them to disappear altogether.

**The Upper Respiratory Tract.**—Dr. J. B. McALLISTER of Ridgeway urged upon the general practitioner the importance of carefully treating any impairment of any of the functions of the nose, which, if neglected, may cause serious results. He stated that every case of hay-fever which had come under his observation had been primarily a surgical one, presenting such nasal defects as hypertrophied turbinates, deviated septi, spurs or ridges, or an exceedingly narrow space between the antero-superior part of the triangular cartilage and the outer wall of the nose. He referred at some length to the treatment of adenoids, enlarged tonsils, and other nasal conditions, and particularly to the condition caused by mouth-breathing in children, in consequence of which the nasal canal fails to develop.

**The Syphilitic Nose and Throat.**—This paper was read by Dr. CHARLES P. GRAYSON of Philadelphia. In it he called attention to the extreme suffering that is occasioned in some instances when the syphilitic lesion, either primary or secondary, attacks the nose, mouth, or throat. The diagnosis when the disease attacks the tonsils is particularly apt to be overlooked. He reported two cases of this character. He urged the necessity of radical treatment of this condition, not only to prevent the impairment of the features, but also the destruction of internal tissues. In regard to the treatment of these cases, he believed that but few of them had been sufficiently mercurialized during the early stages of the disease, and therefore recommended the combined treatment, either in the form of inunction or hypodermically, administration by the mouth being too slow. Locally, all the dead and as much of the hopelessly diseased tissue as possible should be removed by means of the forceps and curette and the application of peroxide of hydrogen.

**Some of the More Unusual Results of Movable Kidney.**—Dr. CHARLES P. NOBLE emphasized the fact that the usual result of undue movability and displacement of the kidneys was the production of reflex and nervous symptoms, but that exceptionally the kidney itself was seriously compromised. He reported cases of Dietel's crisis with acute hydronephrosis, due to torsion of the movable kidney; cases of hæmaturia, due to torsion of the kidney with interferenee with the return circulation through the renal veins; cases in which such local symptoms as the presence of a movable tumor appreciable to the patient, and weight or dragging in the region of the kidney, were the result of traction of the movable kidney upon its vessels or nerves, or upon adjacent structures He emphasized the fact that while the majority of cases of movable kidney required no treatment, in the minority the presence of reflex symptoms so disturbed the patient's health, that nephrorrhaphy was indicated upon relative grounds; that the indication was absolute when such changes took place in the kidney itself as were detailed in the present communication.

**The Treatment of Puerperal Sepsis.**—This paper was read by Dr. E. E. MONTGOMERY of Philadelphia. He directed attention to the importance of differentiating between germicidal infection and the results of putrid intoxication, as in the latter condition removal of the offending matter is usually followed by rapid recovery. The treatment must depend upon an accurate knowledge of the course and progress of the disease. If the disease had not extended beyond the uterus, hysterectomy would in all probability remove the cause of the disease, but there was great difficulty in distinguishing in which such a condition exists. Intravenous injections of formalin, 1 to 5,000, or of sublimate or of 1 per cent. saline solution, had proven beneficial. Antistreptococcic serum had not proven especially effective in the author's hands. The patient should be carefully watched during the progress of the disease, should be kept clean, the action of the kidneys and bowels should be stimulated, vaginal douches of saline solution, formalin, or sublimate might be employed, and high temperatnre should be arrested by cold applications.

**One Year's Work in Appendicitis.**—Dr. JOHN B. DEAVER of Philadelphia reported that during the year from September 1, 1902, to September 1, 1903, he had operated on 566 cases of appendicitis, with a mortality of 5 per cent. He divided the cases into three classes: (1) Those cases in which there was general or diffused peritonitis, in which the mortality was 31 per cent.; 16 cases being operated upon, and five proving fatal. (2) Cases in which an abscess was present, localized and usually filling the right iliac fossa, pelvis or both, and in many instances extending up to the liver; the latter organ has been found ulcerated. The appendix was also perforated and necrotic and often gangrenous. He operated on 183 cases of this class, with 22 deaths, or 12 per cent. mortality. (3) Cases in which the disease was confined to the appendix with stricture ulceration and sometimes necrosis of the mucous membrane. In many cases pus was found in the appendix after its removal. In some instances a small area of adhesive peritonitis was present outside the appendix, but no pus. In many cases the appendix was densely imbedded in organized exudate. He operated on 367 cases in this class, with 3 deaths, or 0.8 per cent. mortality. In conclusion, he stated that he believed early operation was the only treatment that would reduce the mortality in acute appendicitis to an insignificant figure

**Differences in the Management of Appendicitis and of Salpingitis.**—Dr. GEORGE ERETY SHOEMAKER of Philadelphia said that the differential diagnosis between appendicitis and salpingitis was of importance because there were important differences in prognosis. It might be impossible when the two organs lay in contact, but the distinction could usually be made from examination combined with the history. The prognosis was much better without operation in the case of tubal disease. When leakage of pus occurred from the tube a limiting wall of inflammatory material had almost always anticipated the event and diffuse peritonitis was most rare. The contrary was too often the case in appendicitis. Mild cases of appendicitis would rarely require operation if it were only possible to be sure that they would continue to be of the innocent type, and that after the fourth or fifth day the conditions would not suddenly become grave. The treachery of the appendix was a strong inducement to operate promptly on all except the simplest catarrhal cases in their first attack; upon these unless sure subsidence of symptoms occurred within twenty-four hours of the onset; and upon all when there had been a previous attack. When the tube alone was involved a much greater latitude was allowed for conservatism. The onset of pus formation could with safety be awaited; while in a considerable number, not of the severer type, the interests of the patient were best served by awaiting the subsidence of acute symptoms before radical operation. Complete resolution might occur in puerperal infections in a most surprising way, and early cases might be managed without sacrifice of tissue through the posterior vaginal incision. In appendicitis treatment by drainage without removal was undesirable; while some forms of salpingitis, especially streptococcus infections of puerperal origin, were most safely treated by vaginal drainage. Bad pus tubes, especially if gonorrhœal, bore radical operation better than extensive suppurations due to appendicitis. The principles of operation were the same, and consisted in walling off with gauze, gentle removal of the pus with gauze, removal of diseased parts, drainage in tube cases whenever the integrity of bowel wall had been invaded, in appendicitis whenever pus outside the appendix, rupture or gangrene had appeared.

**The Value of the Differential and Absolute Leucocyte Count in Cases Simulating Appendicitis,** was the title of a paper read by Dr. A. BARR SNIVELY of Waynesboro. He said that in inflammatory intraabdominal conditions

which warranted exploration, a differential estimation of the leucocytes would show the polymorphonuclear neutrophile forms increased in number and the eosinophiles greatly diminished in number. Diagnosis could not, of course, be made upon this examination alone, but the data were valuable in conjunction with the clinical findings. Here, however, two important factors must be taken into consideration in estimating the value of the leucocyte count: (1) severity of the infection, and (2) resistance of the individual. Among the diseases in which this leucocyte count was of value in differentiation were typhoid fever, intestinal obstructions, painful menstruation, pneumonia, amœbic dysentery, and movable kidney.

**The Treatment of Suppurative Appendicitis.**—Dr. Ernest Laplace of Philadelphia said that every case of fatal appendicitis comprised three distinct pathological conditions, viz., appendicitis proper, peritonitis, toxæmia. When operated upon in the stage of appendicitis proper, the mortality should be practically *nil*. Abscesses of the appendix are tuberculous, saprogenic or staphylococcic. The tuberculous abscess should be treated by incision, packing and drainage, without necessarily looking for the appendix. An abscess from a gangrenous appendix should be opened only after the peritoneal cavity had been carefully protected by isolating with gauze pads. The appendix is removed, the cavity of the abscess sterilized and scraped, then packed with gauze, which should be removed no earlier than seventy-two hours afterward. An infection of the peritoneum outside the abscess must be distinguished from a mere irritation by the transuding toxins from the abscess. The latter had little importance; the infection was likely to continue after the operation and result in a general peritonitis later. This therefore should be treated with the same caution and on the same principles as general peritonitis. Eventration and prolonged irrigation with normal saline solution offered the most rational direct treatment for checking the peritoneal infection. This might be continued after the operation for seventy-two hours by inserting a rubber tube in the right and left hypochondriac region, also a tube at the top and bottom of the abdominal incision. By connecting these various tubes in turn with the irrigator containing warm saline solution, a continuous irrigation might be obtained which would tend to check the local condition. Of course, this would not improve such cases as were already in a condition of toxæmia. These were practically hopeless. The laity, as well as the general profession, should be taught these facts, so that early operations, when the disease was strictly limited to the appendix, should be performed in every case.

**Perforating Gastric and Duodenal Ulcers.**—Dr. John H. Gibbon of Philadelphia read this paper, in which he called attention to the fact that it is now the generally accepted theory that when the condition is of long-standing, is accompanied by repeated hemorrhages uninfluenced by medical treatment, surgical intervention alone will give relief. Sudden onset of pain in the epigastrium, with boardlike rigidity of the abdomen and marked tenderness over the upper portion, accompanied by vomiting and prostration, should cause the surgeon to suspect a perforating ulcer and advise immediate operation, which is of the utmost importance. If previous history is positive, it will be of value as a diagnostic aid, but a negative history will not exclude the possibility of perforation, and if the condition is allowed to continue without operation general peritonitis will result. In the subacute perforations, the patient may present severe symptoms at first, but they abate instead of progressing as in the acute form, and the history and character of the initial symptoms are of the utmost importance in diagnosis and treatment. The pain incident to the beginning of menstruation and acute appendicitis may be conflicting factors with these conditions. Immediate operation, with repair of the perforation, thorough irrigation and drainage was outlined as the treatment, and a conservative procedure is a gastroenterostomy prior to the perforation in cases of chronic ulcer. Three cases were reported, two of the subacute variety and one of the acute class.

**Election of Officers.**—The following officers were elected for the ensuing year: *President*, Dr. William B. Ulrich, Chester; *Vice-Presidents*, Drs. Isaac C. Gable, York; P. Y. Eisenberg, Norristown; Fred. W. Coover, Harrisburg, William A. Marsh, Mount Pleasant; *Secretary*, Dr. Cyrus Lee Stevens, Athens; *Assistant Secretary*, Dr. Theodore B. Appel, Lancaster; *Treasurer*, Dr. George W. Wagoner, Johnstown. Pittsburg was selected as the place for the next annual meeting, and Dr. W. S. Foster of that city appointed Chairman of the Committee on Arrangements.

## MEDICAL SOCIETY OF THE STATE OF NEW YORK.

*Second Semi-annual Meeting, Held in New York City, October 13 and 14, 1903.*

TUESDAY, OCTOBER 13—FIRST DAY.

The meeting was called to order, in the hall of the New York Academy of Medicine, by the President, Dr. A. T. Bristow of Brooklyn. He suggested the propriety, in the future, of holding the semi-annual meetings successively in other large cities of the State.

**Hepatic Drainage.**—Dr. J. B. Deaver of Philadelphia, Pa., read this paper. He said that the greatest difficulty would be encountered in interpreting the symptoms, both subjective and objective. An acute cholecystitis *per se* would, in the majority of cases, subside under appropriate medical treatment. When, however, the infection had extended upward into the hepatic duct there would be transient jaundice. While suppuration was infrequent as a sequela, calculi were rarely found in the hepatic ducts themselves. It was important to remember that the infection, not the gallstones, played the chief havoc with the patient. Suppuration of the bile passages might extend to the liver, leading, perhaps, eventually to the formation of multiple abscesses of the liver. Several cases were reported to illustrate the absolute necessity for removal of the obstruction and the establishment of hepatic drainage in addition to medical treatment. In this field, as in appendical surgery, he felt that many lives would be saved by early operation. He had never had occasion to regret resort to cholecystostomy, although sometimes he had regretted the performance of cholecystectomy. The adhesions caused by suture of the gallbladder to the abdominal wall were rarely a source of much inconvenience. If there were even a suspicion of infection of the liver, bile drainage was essential and must be free. He had never been convinced of the utility of hepatotomy except in a few cases of circumscribed abscess. The author drew the following conclusions: (1) Suppurative cholangeitis should be operated upon before the infection injured the liver cells, and before retained bile had had a chance to react injuriously upon the general organism. The presence or absence of gallstones was of no moment in deciding for early operation, although they were usually present. (2) Cholecystotomy was the operation of choice when the lesion was acute and the gallbladder had been functionating up to that time. (3) When there was calculous cholecystitis with obstruction of the cystic duct hepatic drainage was required, and especially when infection was present or suspected. (4) Whenever there is any doubt, he made it a rule to drain. (5) Abscess of the liver was prevented and pancreatitis relieved by such prompt drainage.

Dr. A. Van Der Veer of Albany thought cholecystectomy was an operation which should be approached with great caution. He fully agreed with the author as to drainage. He had been well satisfied with the results from posterior drainage down through the peritoneal pouch. The anxious cases were those in which gallstones were present in the hepatic duct.

Dr. George R. Fowler of Brooklyn remarked that a

live patient, even with an infected hepatic duct and with the possibility of its draining into the gall-bladder, was much better than a dead patient with a drained hepatic duct. To push the operation to the extent sometimes done in order to obtain direct drainage from the hepatic duct meant a tragedy; simply to drain from the gall-bladder itself meant, in the large majority of cases, a successful issue. While posterior drainage, from the mechanical standpoint, was the best, it was sometimes fraught with difficulty, especially in cases in which there were many adhesions posteriorly.

Dr. MAASS mentioned a case which had not been operated upon and which quickly terminated in death. A careful bacteriological examination post-mortem revealed pure cultures of the streptococcus in the cerebrospinal fluid and in the blood from the heart.

Dr. A. JACOBI of New York protested against contrasting "medical men" and "surgeons" in the way that had been done in the paper. He thought it was about time for over-specialization in this respect to stop.

Dr. Deaver, in closing the discussion, said that formerly posterior drainage had appealed to him, but in the cases in which he had tried it the results had not been encouraging. He would have to be very thoroughly convinced that the gall-bladder was thoroughly disorganized and highly infectious before he would attempt its removal.

**The Treatment of Certain Classes of the Underfed.**—Dr. W. S. ELY of Rochester was the author of this paper, and the class of cases he considered was those in which the patients were starving in the midst of plenty and who could be persuaded with difficulty to take sufficient nourishment. The best results were obtained from absolute rest and a diet of milk and raw eggs. One should begin with four to eight ounces of chocolate with two raw eggs alternately every two hours. At night, between the hours of nine and six, the interval should be lengthened to three hours. Patients soon became accustomed to being awakened at night and did not object to it. In many cases this course appeared to be necessary. The effort should be made to give in the twenty-four hours one quart each of chocolate and milk and six raw eggs. While admitting that many patients insisted that they could not manage milk, and were, indeed, managed by their stomachs, it was equally true that he had never seen, in this special class of underfed persons, one who could not be made to take milk with benefit. The person should be placed in a hospital under rigid discipline, and the mind should not be allowed to rule the stomach. Some individuals were in such abject slavery to their minds that they would be seasick and "throw up their staterooms" before they set sail. To offset the constipation induced by the diet mentioned, he gave from six to twenty tablets of rhubarb and soda daily and a morning enema. No gain should be expected in the first week, but if after the second week there was still no change the quantity of food should be gradually increased. It was to be expected that the tongue would be more or less coated during the treatment. An increase of from one to three pounds a week for ten or twelve weeks would usually be noted, and would be accompanied by improvement in the blood, the digestion and the general appearance. Increase in fat might not be especially desirable, nevertheless it must be looked upon as the best index of the good effect of the treatment. As soon as there was decided improvement, the patient might be allowed a little rare beef or some cereal, but it would be found usually that the pleasure anticipated from a return to solid food would not be realized. However, such treatment accomplished a vast deal of good, chiefly because it afforded the patient a convincing object lesson, driving home the truth that it was possible to take, and digest with benefit, a much larger quantity of food than the person had hitherto deemed possible or advisable. If the physician did not believe in the treatment, was afraid to persist in it because the tongue was a little coated or some distention was complained of, or if he were of the opinion that the stomach should be given long periods of rest each day, then he should not undertake this method of treatment, for it would surely fail.

Dr. EDWARD B. ANGELL of Rochester said that he had been studying, for the past two or three years, the blood-pressure in these underfed persons. Contrary to the statements usually found in the books, he had noted a marked reduction in the blood-pressure. In one case the pressure was only 50 mm., whereas the normal blood-pressure varied between 110 and 140 mm. He had formerly made use of the treatment outlined in the paper, but he now arranged the regimen so as to secure sufficient exercise, with consequent improvement in the oxygenation of the blood.

Dr. A. JACOBI said that he had noticed in a number of these patients that the heart was undersized.

Dr. EDWARD D. FISHER of New York thought the Weir-Mitchell method of treatment failed in many cases, and that it was well-nigh impossible to say beforehand which cases would, and which would not be benefited.

**Faculties of the Mind, Not Understood and Not Used, with Special Reference to the Curability of Epilepsy.**—Dr. M. A. VEEDER of Lyons read a paper with this title, in which he presented, at some length, certain theoretical considerations, particularly with regard to a systematic training of the mental faculties.

Dr. EDWARD D. FISHER said that while he believed every epileptic should be trained to some systematic idea of labor or occupation, the results, even under the most favorable circumstances, had been disappointing.

Dr. E. B. ANGELL thought an analysis of the paper would show that the author's efforts simply amounted to a change in our terminology. The good results in locomotor ataxia from Fraenkel's movements suggested what might be accomplished in epilepsy by properly directed muscular effort.

**Vaccination and the Law.**—Dr. NELSON G. RICHMOND of Fredonia was the author of this paper. He said that it had been held by the courts that children could not be lawfully vaccinated without the consent of the parents, and also that unvaccinated children could not be admitted to the public schools. Much difficulty was experienced in interpreting the law in cases in which repeated vaccination proved unsuccessful, but the number of these cases of so-called "immunes" was steadily diminishing, and it was well known that successful vaccination not infrequently followed the fourth or fifth attempt, even though the previous efforts had failed. The speaker read a letter, which he had received from Dr. John Thompson of Edinburgh. In this the opinion was expressed that "the conscience clause" in English law had accomplished the object of its framers, *i. e.* had diminished the opposition to vaccination. Dr. Richmond thought if vaccination had not been made compulsory the opposition to it would have rapidly disappeared, just as had occurred with regard to the use of diphtheria antitoxin. He believed the time had come to consider seriously whether it was better to have the vaccination law enforced or introduce a "conscience clause."

Dr. A. JACOBI declared that he had the right as a citizen to demand that the State should protect him and his from smallpox by compelling his neighbors to be vaccinated.

**Otitic Serous Meningitis; Lumbar Puncture; Recovery.**—Dr. FRANCIS HUBER of New York reported this case. He said that 16 gm. of cerebrospinal fluid had been withdrawn by the first lumbar puncture, and the next day about half this quantity had been abstracted. Soon afterward decided improvement had been noted, and on the twenty-second day after the mastoid operation and the twentieth after the last lumbar puncture, the child was practically well. Since this case had occurred he had found in the literature several similar cases reported by Schwarz of Halle, who was very much impressed with the value of the procedure. When the fluid withdrawn was

slightly opalescent it was very probable that a tuberculous meningitis complicated the otitis. In his own case no tubercle bacilli were found in the fluid.

Dr. JACOBI said that the case reported behaved like one of ordinary serous meningitis, and he was disposed to think there was no connection between the meningitis and the process in the mastoid. The improvement often noted in cases of meningitis after lumbar puncture led him to think that it might occasionally result in a cure, even in tuberculous meningitis.

**Symposium on the Röntgen Ray.**—This comprised the following papers:

**Therapeutic Use of the Röntgen Ray.**—Dr. A. D. BEVAN of Chicago presented this paper. He said that although at the outset he had been a pronounced skeptic regarding *x*-ray therapy, he had been deeply impressed at the apparently complete disappearance of nodules of carcinoma under the action of the *x*-ray. A recent interesting observation was that the combined use of the *x*-ray and of iodide internally proved very useful in blastomycetic dermatitis. Evidence regarding the effect of the *x*-ray in lupus was conflicting, but the preponderance of testimony seemed to be rather in favor of the Finsen treatment. The *x*-ray had been found to be an important, if not the most important, factor in the treatment of Hodgkin's disease. Although one observer had claimed to be able to cure 90 per cent. of cases of tuberculosis of the lymph nodes by means of the *x*-ray, his own results in this field had not been very encouraging. Some interesting results had been observed in cases of peritoneal tuberculosis. With regard to tuberculosis outside of lupus, he would say that *x*-ray therapy could only be said to be promising. The *x*-ray treatment of sarcomata had been most unsatisfactory. It should be remembered that sarcomata were essentially deep-seated growths; and it was now known that the *x*-ray had but little effect on carcinoma when deeply situated. The *x*-ray would destroy the epithelial cells of carcinoma superficially situated, as in epithelioma. The *x*-ray seemed to possess a selective action on the epithelial cells of epithelioma, probably owing to an abnormally low resistance in these cells. If situated within one centimeter of the surface the carcinomatous mass would melt down and be absorbed without causing necrosis. This result would usually be obtained with about twenty exposures made at intervals of one or two days. Cancer cells varied greatly in their resisting powers to the *x*-ray. The value of this therapeutic agent varied inversely with the size of the growth. At the present time it was difficult to answer the question as to whether or not the *x*-ray ever stimulated cancer cells to increased growth, but he had not himself observed any instance of such action. The Röntgen ray, then, was applicable to cases of slowly growing, very superficial cancer of the rodent ulcer type, especially those of wide extent—not depth—in which there was no regional involvement. The method was particularly applicable to growths about the lip and eyelid when removal by the knife would inevitably lead to deformity. In all other forms of carcinoma, in which the lesion was of rapid growth, or more deeply situated than the skin, or when limited to the skin and of considerable extent, the growth should be removed by the knife, and then the case should be subjected to a course of *x*-ray comprising about twenty exposures. He would say that at the present time the *x*-ray treatment of carcinoma had a very limited field. It was possible that the power of the Röntgen ray might be so increased as to enable one to reach the more deeply seated growths, or that some modification of the treatment might reduce the vitality of the cancer cells sufficiently to render them amenable to the action of the *x*-ray. It had occurred to him that possibly the use of iodine or arsenic might produce this effect upon the cells. The chief dangers of the *x*-ray treatment were: (1) Severe burning, and (2) the use of this agent in unsuitable cases, thus losing valuable time and greatly diminishing the chances of an ultimately good result from any method of treatment. Burns would occur occasionally even in the hands of the most careful and expert.

**Diagnostic Value of the Röntgen Ray.**—Dr. C. L. LEONARD of Philadelphia, Pa., presented this paper. He pointed out that clinical experience was of value in the employment of this, as of other methods of diagnosis. The use of the fluoroscope could never equal skiagraphy in the accuracy of its results, because it was largely influenced by the personal equation of the observer. Skiagraphy was especially valuable in connection with renal and ureteral calculus, leading to early and accurate diagnosis and the avoidance of exploratory operations. Of the 300 observations in this class of cases calculi had been found in 86, or over 28 per cent. In over 50 per cent. of the cases the calculi were in the ureter, and in 19 of these ureteral cases the calculi were passed after expectant treatment had been suggested as a result of the Röntgen ray examination. The negative diagnoses had been found fully as accurate as the positive ones. The total combined error, in both positive and negative diagnoses, was less than 3 per cent.—an accuracy which surpassed that of all other diagnostic procedures. The speaker said he employed in his work a self-regulating tube that would maintain the vacuum at the same point throughout the exposure. In most tubes of this kind the vacuum would rise an inch or more if the exposure were more than momentary, and this would lead to penetration of the calculus. If a low tube should be used, it should be capable of making both positive and negative diagnoses.

**Further Observations upon the Treatment of Sarcoma with the Röntgen Ray.**—Dr. W. B. COLEY of New York said that his experience coincided almost exactly with that of Dr. Bevan. Since February, 1902, he had had under observation at the General Memorial Hospital 103 cases of malignant tumors in which the *x*-ray had been used. Of this number, 30 were recurrent cancers of the breast, 42 were inoperable sarcomata, and 25 were superficial cancers of the head, face, and neck. In several cases, nodules, which had appeared after operations for cancer, and disappeared under the *x*-ray, had speedily returned in every instance. Of the 30 cases of recurrent cancer of the breast, in only a single instance had a large and deeply seated growth disappeared under the *x*-ray. The prophylactic value of the *x*-ray was a question of the greatest importance, but at present it could not be satisfactorily answered because of the many factors entering into the problem. Dr. Coley believed that there were good theoretical reasons for employing the *x*-ray for this purpose, yet he was compelled to admit that his own experience in this field had not given much support to this view. He believed a trial of the *x*-ray before operation was positively dangerous for two reasons, viz., (1) It blinded the patient to the real danger of the situation, and (2) it was apt to mislead the surgeon as to the true limits of the growth when operation was demanded. Only one year ago the statement had been made in this very room that 50 per cent of cases of cancer could be cured by the *x*-ray, and this method had been advocated as a substitution for operation. Again, Pusey, in his recent book, stated that 21 cases, or 77 per cent. were apparently cured, yet his final results showed that only 7 patients had gone beyond eight months, and only one case had gone beyond the fifteenth month. Dr. Coley said he believed that even in many epitheliomata of the face better results would follow excision.

Dr. GEORGE HOPKINS of Brooklyn said he had treated a sufficient number of cases of carcinoma of the breast by means of the *x*-ray to make him feel sure that, in the early stages, we possessed a cure for the majority of them in the *x*-ray alone.

Dr. W. E. FORD of Utica expressed the opinion that the *x*-ray did nothing more in cancer than delay its

growth. In their work at St. Luke's Hospital, Utica, they had absolutely failed with the *x*-ray in cancer of the cervix and body of the uterus, and only a temporary improvement and arrest of the growth had been noted in cancer of the breast.

Dr. A. VAN DER VEER thought most of those present would agree with Dr. Coley that permanently beneficial results were observed in only a small proportion of cases. He had been especially impressed with the great relief of pain afforded by the treatment.

Dr. LEE of Brooklyn cautioned against causing too rapid breaking down of the tumor.

Dr. L. DUNCAN BULKLEY of New York said that he was not quite so enthusiastic over this treatment as he had been a year ago, and he would not care to employ it in malignant diseases to the exclusion of other measures.

Dr. BEVAN said he believed Dr. McArthur and himself had been the first in this country to employ the *x*-ray for the detection of kidney stone, their observations in this field being published in 1898. He was satisfied that the *x*-ray could be depended upon to make a diagnosis of renal calculus in fully 90 per cent. of the cases if a proper method were employed. He made use of an enormous coil, a low vacuum tube, and a heavy lead shield on the abdomen. An aperture in this shield over the region of the kidney allowed the passage of the *x*-ray, and by excluding outside rays enabled the operator to secure better definition in the skiagraph. When such a skiagraph was placed before an aperture in a darkened room, so that only the plate was illuminated, and the observer viewed it, at a distance of 15 or 20 feet, through a good opera-glass, excellent definition was secured. One should not accept the result of such an examination unless at least one additional skiagraph confirms the findings in the first skiagraph. It was a serious mistake to accept the interpretation of such a plate as given by a non-medical *x*-ray expert—a fact which was confirmed by the amusing instance in which such an "expert" informed the surgeon that the case under examination revealed the presence of a very large stone with a soft center, and it was subsequently discovered that the supposed calculus was a vaginal pessary.

Dr. LEONARD said that he used a plate 20 inches long, so as to cover the whole tract to be examined, and arranged the apparatus so as to avoid the superposition of the shadows of calculi upon the bones of the pelvis. As we had found in the *x*-ray an agent which produced retrograde changes in malignant growths, it was our duty to use this agent in addition to surgical operation.

Dr. COLEY thought it was most important to correct the prevailing impression that we could cure deeply seated cancer by means of the *x*-ray, for there was not a single authentic cure on record by the *x*-ray alone.

**Radium in Medicine.**—Dr. SAMUEL G. TRACY of New York read a portion of a paper on this subject. He said that radium was discovered in 1899. Pitchblende contained about 5 to 10 per cent. of it, while from 2,000 pounds of uranium only one pound of radium could be extracted. The cost of this quantity of radium was $2,700,000. The source of the heat and energy emanating from radium were a mystery to all scientists. If a tube containing radium were kept in the vest pocket for a few hours it would cause a severe burn of the skin underneath, but this powerful physiological effect would not become manifest for a number of days.

**The Legal Status of the Röntgen Ray.**—Hon. WILLIAM W. GOODRICH, Presiding Justice, Appellate Division, Supreme Court and Judicial District, presented an address on this topic. He stated that *x*-ray photographs had been admitted as evidence in several States. The first case of such admission had not been reported in the law books, but occurred in Colorado in 1896. Probably the leading case in this country was one occurring in Texas in September, 1897. The competency of such evidence depended upon the science, skill, experience, and intelligence of the party taking the picture and testifying with regard to it. Even when properly admitted it was not conclusive upon the jury, but must be weighed like other competent evidence. In 1901 the Massachusetts Supreme Court held that while the picture produced by the *x*-ray could not be verified as a true representation of the subject, in the same way as a picture made by a camera could be, yet it should be admitted as evidence if properly taken. There had been no discussion in our own State of the use of these photographs, but as early as November, 1897, a complete apparatus for the production of the *x*-ray was erected and operated before a jury in the Kings County Court House. As no objection was made to this by opposing counsel the question was not passed upon by the appellate courts. This, however, was further than any other State had gone.

### SPECIAL MEETING.

*Tuesday Evening, October 13, 1903.*

**The Unification of the Profession.**—A special meeting of the Medical Society of the State of New York was called for the evening of October 13, for the specific purpose of taking steps toward bringing about a union of the two State medical organizations. A good opportunity to secure a large and representative attendance was afforded by the fact that the semi-annual scientific meeting of the society was held on the same day.

The large hall of the New York Academy of Medicine was filled with an eager and expectant throng when, at exactly half-past eight o'clock, the gavel fell. If there were any present who feared the audience on this occasion might not be as truly representative as the important business to be transacted demanded, they must have had their fears quickly dispelled on seeing, not only the familiar faces of many eminent members of the local profession, but a goodly proportion of active workers and recognized leaders from distant parts of the State.

On calling the meeting to order, the President, Dr. A. T. BRISTOW of Brooklyn, said:

"*Gentlemen of the Medical Society of the State of New York:* Almost two years ago the Medical Society of the State of New York, acting upon the recommendation of the President, Dr. Henry L. Elsner, authorized the appointment of a committee for the purpose of promoting a union between the State society and the State association. On request of our society, the association appointed a similar committee. Meetings of the two committees were held from time to time until, in October, 1902, at tis annual meeting, the association adopted resolutions placing restrictions upon its committee from which it could not deviate. At this time, also, the uncertain condition of the Code of the American Medical Association rendered the position of our committee difficult, for no one seemed to know its exact status. The clause, which was so objectionable to the State society, remained unchanged. An additional obstacle was the request of the association that the two societies apply for a new charter. In the course of time, under the resolutions referred to, the committee of the association went out of existence.

"At the May meeting of the American Medical Association the clause of the old code, which had caused the division of many years ago, was stricken out entirely, and it was clearly stated that the new 'principles of ethics' were merely advisory, and not obligatory on State bodies.

"Your conference committee, recognizing the fact that a most serious obstacle to the wish for union had been swept aside, requested the association to name a new committee to the end that fresh efforts might be made to close the gap. Informal conferences developed the fact that a reasonable compromise could be obtained by which the wish of the association could be complied with, that some legal recognition be taken of the new order of things. without in any respect sacrificing the continuity of our charter.

"At a special meeting of the Council and Fellows of the

association, the resolutions were unanimously passed which were printed in the notice of this special meeting (MEDICAL RECORD, October 10, page 581), and a new committee was appointed.

"I ask you to notice that these resolutions contain but a single restriction, *i. e.* that the reorganized society shall be called The Medical Society of the State of New York. [Applause]. In all other respects the new committee of the association is absolutely untrammeled, and has been appointed with power.

"The request is made that your present committee be given similar power. This is the question which you are called upon to decide to-night. The association has reposed full trust and confidence in its committee for the purpose of furthering that union which, two years ago, The Medical Society of the State of New York expressed its anxiety to bring about.

"It now remains for the society, which made the original proposition looking toward peace, to say whether it will have peace and bring to a happy termination a conflict which has lasted almost a quarter of a century.

"I will ask Dr. Curtis to read the communication of the Association."

The Secretary then read the resolutions which have already been printed (MEDICAL RECORD, *Ibid.*). They were received with hearty applause.

Dr. D. B. ST. JOHN ROOSA then said:

"*Mr. President, and Fellow-Members:* As one of those who has lived long enough to see the beginning, and I hope will live long enough to see the ending of this controversy that has been carried on so long, I have the pleasure of offering the following resolution, which, I think, will have the vote of every member of The Medical Society of the State of New York:

"*Whereas*, The New York State Medical Association, at a recent special meeting, duly assembled, has, by unanimous vote, appointed a committee with full power to meet with the similar committee of the Medical Society of the State of New York to arrange for the unification of the two organizations under the corporate name of The Medical Society of the State of New York; Therefore, be it

"*Resolved*, That the committee of conference of the Medical Society of the State of New York, already appointed, be given power equal to, and commensurate with the powers recently granted the committee created by the New York State Medical Association for the purpose of unifying the two State Medical Societies into the Medical Society of the State of New York."

Dr. WILLIS G. MACDONALD of Albany said:

"*Mr. President and Gentlemen of the Medical Society of the State of New York*" I rise in my place to heartily second the preamble and resolution presented by that distinguished fellow of this society, Dr. Roosa. [Applause.] The Medical Society of the State of New York has seen many glorious occasions. There are numerous notable instances in its long history of value to the American medical profession—its notable relation to the very organization of the American Medical Association; its later relations in the discussion of the very subject matter which has separated us in the State of New York for so many years; its more intimate relations with the medical education and the adoption of a method in this State which has been the pattern of many others. Again, and perhaps the most notable occasion—the best work of this society—presents itself now on this occasion. It shows you, Mr. President, that the medical profession, besides being learned, is also great; it shows you, Mr. President, that physicians can forget their differences, and that we are no longer the by-word of the world; it shows you, Mr. President, that now we are able to agree and sit down together in unity; it shows you that with the carrying of this motion men are able to forget and to forgive; it shows you that it is possible for us at this time to so meet together that we can settle all of our differences upon a very easy and very beautiful plan. [Applause.]

"Gentlemen, this is the most delightful occasion which I have ever known in the history of the Medical Society of the State of New York, and, as I have already said to you, I leave it to you if it is not the most important in its entire history.

"Gentlemen, we stand at the beginning of the twentieth century—on the very threshhold of it—with all the progress that has gone before, with all the attainment in a science of the immediate past, only to look forward as the unified profession to our greater opportunities, and to the greater necessities and to the greater honors of the future.

"Mr. President, it is my pleasure to again second this resolution."

The President then read the resolution. It was adopted, without a dissenting vote, amid cheers and prolonged applause, and the adjournment of the meeting was followed by hand-shakings and general congratulations. Whatever may be the final outcome, no one who witnessed the unmistakable evidences of rejoicing and goodfellowship exhibited after the adjournment of this memorable meeting could fail to be impressed with the fact that many of the old contentions had become dead issues, and that the rank and file of the profession, at least, were weary of bickerings and petty politics, and anxiously awaited the time when they would be relieved from this thraldom and could follow untrammelled those lines which were more in keeping with the seriousness and dignity of their noble calling.

*Wednesday, October 14—Second Day.*

**The New York State Hospital for Incipient Tuberculosis.**—Dr. WILLIS G. MACDONALD of Albany gave a description of the present status of this hospital. He said that fortunately ever since the selection of the site there had been no differences of opinion among the members of the board of managers. The plan of construction marked a distinct departure from some of the well-recognized ideas of construction. This was considered to be a necessary step in view of the peculiar rigors of the Adirondack climate. All the advantages of the cottage plan had been retained through the use of a system of isolated apartments. The exposure was such that, on the shortest day in the year, the sun would strike the porch at 8.45 A.M. and would not leave the porch until 4.45 P.M. There was a room 40 x 44 feet with two additions, 18 x 20 feet, provided with a most important system of indirect heating and radiation in order to properly protect the patients during the severe winter. When the temperature often fell to 30° F. below zero. The base line of the hospital was 1,639 feet above the level of the sea. There was abundant sleeping space for 108 patients. The dining room was capable of seating comfortably 200 persons, and the kitchen was of proportionate size. The patients would be placed in single rooms until observation of temperature and general condition showed that it was proper to put them in small dormitories. When they had been sufficiently improved to take physical exercise, and were approaching the period when they could go home, they would be placed, for about nine months of the year, in tents or open barracks. There was a camp of one hundred one-story wooden buildings, but without any heating system. It was estimated that 160 to 180 patients could thus be accommodated, the necessary space during the severely cold months being secured, if need be, by stopping the reception of new patients. The hospital would cost $1,900 per patient, or a total of $212,000. Although this hospital was larger than the Adirondack Sanatorium, and its construction high class, the cost was less than half that of the sanatorium. The ventilation was carried on by a system of flues, containing high-pressure steam coils, and by the use of electric fans. The water supply was obtained from

the mountainside at a distance of two and one-quarter miles.

**Technique of Operations on the Tongue.**—Dr. R. H. M. DAWBARN of New York read this paper. He said that the operation of removal below the jaw seemed to be the only logical one, and it possessed the additional advantage that it was easy by this method to tie the superficial carotid. A large gland, which should always be removed, was situated at the bifurcation of the carotids. It was very frequently involved. The shock was in direct proportion to the blood loss. This ligation of the external carotid should be done before attacking the submaxillary triangle. The objection to this, that it was liable to be followed by secondary hemorrhage, had been shown by experience to be purely theoretical. The patient should be so placed as to prevent any fluids from the mouth from pouring into the larynx, trachea, or bronchi, thus guarding against one of the chief causes of death in these cases. After the operation no pillow should be placed under the patient's head. Feeding should be carried on chiefly by the rectum and by rubbing into the skin large quantities of oil. Later on, the stomach tube might be used. The author advised against the custom of packing the mouth with gauze, preferring to rub all raw surfaces with aristol.

Dr. A. T. BRISTOW of Brooklyn could not agree with the author regarding the ligation of the external carotid as the first step of the operation. He made it a routine practice to devote a week to preparatory treatment, which consisted in the removal of all decayed teeth and the frequent cleansing of the teeth. This treatment was an excellent prophylactic against *schluckpneumonie*.

Dr. A. A. VAN DER VEER of Albany did not approve of the author's suggestion as to postural treatment. It was his belief that the patient should be gotten out of bed as early as possible.

Dr. WILLIS G. MACDONALD of Albany did not think the postural method had a sound anatomical basis—indeed, his own experience was directly opposed to that of Dr. Dawbarn. He would ordinarily expect to have the patient out of bed the day after the operation.

Dr. A. ERNEST GALLANT of New York pointed out that unskilful anæsthetization was an important factor in the causation of post-operative pneumonia.

**Potable Waters.**—Dr. E. S. WILLARD of Watertown read this paper. He said that purity of water was tested principally by two methods: (1) Chemical and (2) biological. The first method determined the nature and amount of mineral and nitrogenous matter, and the second, the number and kind of organisms present. The latter was the more useful analysis of water for domestic purposes. Mountain springs probably afforded the purest and most wholesome potable water, but were usually too inaccessible for large cities. Deeply driven wells were always subject to contamination. The quality of the water obtained from the domestic cistern depended very largely upon the materials of which the cistern was constructed. If metal were used the cistern and pipe should be well coated with asphalt and paint. Cement was most commonly used and was subject only to the criticism that it hardened the water. The speaker was strongly of the opinion that the domestic still might often become a potent factor of sanitation in a community. There were two principal systems of filtration of water, the English and the American. The former was perhaps better known as the slow sand filtration. The American system made use of a rapid mechanical method, its special peculiarity being the use of a coagulum by which suspended matter was entangled and deposited upon the surface of the sand. This coagulum seemed to be a necessity, and while much had been said about the detrimental effect of alum upon the system, it should be remembered that no more alum need be used than can be decomposed and deposited upon the filter bed.

Dr. F. C. CURTIS of Albany said that if one took as a measure of the purity of the water supply the death rate fom typhoid fever, it would be found that very few cities in this country have a pure supply of water. Thus, even in New York city the mortality rate was 20 to 25 per 100,000 of the population. This was not a good showing, when London and some of the large cities of Europe had a rate of only 10 or 15. In his opinion, chemical infiltration was not desirable, because the mechanical filter was nothing more than a strainer, whereas by slow sand filtration not only was the water strained, but the pathogenic organisms were destroyed by exposure to the action of the nitrifying bacteria. Up to 1899 the death rate in Albany was never below 50, and had at times reached 120, yet immediately upon bringing the filtration plant into operation the rate was decidedly lowered, and since that time had not risen above 15 per 100,000, and had averaged much less.

**Conservation in Pelvic Infection.**—Dr. JOHN O. POLAK of Brooklyn presented this paper, which was based on an experience with 79 cases of acute pelvic infection. Of this number, 38 were gonorrheal, 30 were streptococcus infections, and 11 cases belonged to the class of mixed infections. The author made use of a modification of Pryor's iodine treatment. His experience fully confirmed the claims made for it by Dr. Pryor.

**Dosage. A Plea for Proper Medication.**—Dr. A. JACOBI presented a paper with this title, but for lack of time read only a portion of it, *i. e.* that part treating of digitalis.

**Digitalis.**—He said that after digitalis leaves had been kept for one year in a tight tin box he had examined them. They were quite green, and after having been moistened, closely resembled the fresh leaves even on microscopical examination; nevertheless, a physiological test proved that more than 50 per cent. of the effective substances had disappeared. A year ago, five milligrams of these leaves immobilized the heart of a medium-sized frog; at present, ten milligrams of the leaves when injected under the periosteum hardly produced that result in a small frog. When speedy and decisive action from digitalis was required, neither the powdered drug nor the infusion should be relied upon. The most active ingredient of digitalis was digitoxin. Digitalis should be collected in the month of July. Digitalin was not an alkaloid but a glucoside, and was of very uncertain strength. Ten times the dose recommended on theoretical grounds was too often absolutely inert. In chronic valvular disease of the heart, in chronic debility of the heart muscle, in chronic anæmia, and in other similar conditions, digitalis in doses equivalent to four to six grains daily might be given to adults for weeks and months with no cumulative action, and with only a steadying and strengthening effect.

**The Dispensary Treatment of Tuberculosis.**—Dr. J. W. BRANNAN of New York read this paper. He described the method about to be introduced into the city dispensaries. The dispensary was utilized for giving instruction to the tuberculous patients, a nurse was sent to the homes of the patients to see that these instructions were carried out, and proper food was provided. A hospital had been provided in which could be placed such dipensary patients as were suffering from fever and other active manifestations of the disease. It was absolutely necessary in this system to have physicians who were possessed of enthusiasm for this particular work.

Dr. JAMES A. MILLER of New York said that in this dispensary work the patients were provided with pocket sputum pouches made of paper costing only a cent a piece. These were destroyed after having been used twelve hours or less. The patients came to the dispensary every week, when their weight and general condition were noted, and once a month a thorough physical examination was made and recorded. There had been treated by this dispensary system 160 cases in the past

six months, and of this number forty-nine were at present engaged in active occupations. The cost of such a dispensary was not great. It had cost them $15 for the printed blanks and $10 per thousand for the sputum pouches. A competent nurse for such work could ordinarily be secured for $50 to $60 per month.

**The Causes and Prevention of Infant Mortality in Nurseries and Asylums.**—Dr. E. H. BARTLEY of Brooklyn read this paper. He estimated the death rate of children under two years of age in the institutions of Greater New York to be 64 per cent. Among the more important causes were inherited weakness, congenital or acquired diathesis, starvation, exposure and neglect, infectious and contagious diseases, overcrowding and improper diet. He considered isolation of children with diarrhœa and disinfection of their napkins very important points in the management of these cases. The exclusion of flies was important from a sanitary standpoint, or when this could be done the flies should be destroyed at intervals by sulphur fumigation. The speaker advocated having small wards not exceeding 2,000 cubic feet of space, preferably connecting so that two attendants could take care of the two wards. No caretaker should be expected to take care of more than two infants. Stress was laid upon the depression of the nervous system as an exciting cause of disease.

**A Modified Allis Ether Inhaler.**—Dr. A. F. ERDMANN of Brooklyn presented a simple modification of the Allis ether inhaler which he had found to overcome the difficulty experienced in renewing the charge of ether in the ordinary inhaler while the patient was in the Sim's position. The modification consisted in making a transverse slot in the rubber sheath over the side of the inhaler, about four inches long by one-fourth of an inch wide. He also makes use of a removable cap for the inhaler made of some impermeable material. The modified, in more elegant form, would soon be placed on the market.

**Symposium on Typhoid Fever.**—This comprised the following papers:

**A Logical Definition of Typhoid Fever.**—Dr. H. A. FAIRBAIRN of Brooklyn presented a paper with this title. He said that the type of clinical manifestation of typhoid fever depended upon the organ or organs in which the typhoid bacillus was focussed. In view of the nature of the disease, the more frequent employment of chemical and bacteriological tests must be insisted upon. Many errors arose from dwelling upon the clinical aspect alone. He would classify or define typhoid fever something after this fashion: Genus, disease; species, infection; property, toxæmia, with the differentia.

**Anomalies and Difficulties of Diagnosis in Typhoid Fever.**—Dr. HENRY L. ELSNER of Syracuse was the author of this paper. A case was mentioned in which, although the person was in good health, the Widal reaction was present eighteen years after an attack of typhoid fever. The invasion of the disease might be characterized by a prodromal period extending over several weeks, and this period might be afebrile. In other cases the prodromal period covered only three or four days, and was associated with diarrhœa, fever, and grave meningeal symptoms. After a few days there would be a sudden development of hyperpyrexia and delirium. Such severe cases usually terminated fatally in fourteen to seventeen days. The temperature was likely to be normal, or almost so, after the third week. In the Ithaca epidemic the prodromal period was usually short, and the symptoms of the first week were quite severe. Typhoid fever was a disease characterized by low arterial pressure, and a pulse of only about 100. In the first week the maximum arterial pressure in adults was only 130 to 140 mm.; in children the blood-pressure was correspondingly lower, being in children under six years rarely over 100 mm. In typhoid fever the blood-pressure was hardly ever high except in the presence of complications. A diagnosis of typhoid fever should never be based upon a dicrotic pulse and a typhoid condition, although a dicrotic pulse was frequently noted in typhoid fever. A tremulous condition of the tongue, with fibrillary twitching, he had learned to look upon as quite characteristic of the early stages of typhoid fever. The presence of repeated chilly sensations pointed rather strongly to some other infection than typhoid fever. Some physicians still believed that diarrhœa and intestinal symptoms were necessary for the diagnosis of typhoid fever, but in his own series of 110 cases diarrhœa had been present in only 84, and some had been constipated throughout. In 48 of the cases there was nose-bleed. According to his experience, young patients had larger spleens than adults suffering from typhoid fever. In only 8 of the cases had he failed to discover the eruption, and it usually appeared on the seventh or eighth day of the disease. At times only a very few spots had been present, and usually in unusual locations. There were few cases that did not show some changes in the sensorium, although quite a number presented a normal appearance during the daytime. All clinicians had been surprised at the recovery of patients who had presented symptoms which they had supposed pointed to intestinal perforation. Among the most difficult differential diagnoses to make in connection with typhoid fever was in cases of malignant endocarditis of the paratyphoid type. Profuse hemorrhage was unusual in malignant endocarditis, and it should be remembered that this form of endocarditis was a decidedly unusual complication of typhoid fever. Chills were frequently present in the early days of malignant endocarditis. A diagnosis of infantile typhoid was rarely made positive in the early days of the disease, and it was true that many cases went entirely unrecognized because physicians failed to appreciate the fact that infants sometimes suffered from this disease. Continued fever in a child without localized disease and with an enlarged spleen must lead to a suspicion of typhoid fever. Hurried respiration, with associated leucocytosis, in children or adults argued against typhoid fever. A continued fever in a child or adult following an injury, with or without chills, and the typhoid condition, must lead to a thorough blood examination. If leucocytosis were present, whether or not the spleen was enlarged, typhoid fever might be excluded. Sepsis, pyæmia, or endocardial infection must be considered. Ehrlich's reaction was of uncertain value, for, while it aroused suspicion, it could never take the place of such an exact test as the Widal reaction.

**The Management and Treatment of Typhoid Fever.**—Dr. EGBERT LEFEVRE of New York presented this paper. He said that milk was considered the orthodox food for typhoid patients; nevertheless it was necessary to consider whether it met all the requirements of a food for such sufferers. It should be noted that milk was coagulated in the stomach into masses of varying size and hardness, and that in typhoid fever perfect disintegration of these masses occurred with difficulty. As the feedings occurred at short intervals, there was not sufficient time for digestion to be completed, and hence the curds frequently reached the ileum. This fact could readily be demonstrated by an examination of the stools. Under an exclusive milk diet of 60 to 70 ounces a day the tools were larger and contained more undigested food than a mixed or semi-liquid diet containing the same amount of proteids, carbohydrates, and fats. The addition of lime water lessened the tendency to difficult digestion only to a slight degree. Experience had taught the necessity of withdrawing milk from the dietary for a longer or shorter period in the acute infections of the intestinal tract. Again, in other diseases when it was desired to feed the patient on milk it was customary to begin with a small quantity of milk and gradually increase this quantity as the patient's digestive apparatus became accustomed to it, but in typhoid fever the patient was given large quantities of milk so soon as the diagnosis

had been made. He was of the opinion that the profession generally had adopted the exclusive milk diet because of its very common use in hospitals, but there were certain reasons for its use there, which did not apply to private practice. The speaker went on to say that he had one invariable rule regarding the diet, *i.e.* that in the early weeks of typhoid fever nothing should be given to the patient that could not be passed through a fine wire sieve. Water, plan or acidulated with hydrochloric acid or a little lemoni or orange juice, was beneficial and grateful to the patient. It was well to vary the diet by giving coffee, cocoa, tea, kumyss, and junket. Sometimes it was desirable to give stale bread, which had to be grated and passed through a fine sieve. With the free use of such diet he had not observed so much distention of the abdomen as on an exclusive milk diet. Egg when combined with milk increased the difficulty of digestion. The yolk of egg stirred into bouillon or soup should be given only after the fever had subsided. The value of gelatin in typhoid fever had been underestimated but it lessened nitrogenous waste and protected the proteids of the body, thus conserving both nutrition and energy. It was of value by making the other food palatable. A cold jelly bouillon was particularly grateful to the patient. When there was free intestinal hemorrhage he had found gelatin more beneficial than ergot and other drugs. Half an ounce to an ounce of gelatin should be dissolved in a pint of water, and then given at short intervals in doses of from two to four ounces of the mixture. Dr. LeFevre insisted strongly upon the importance of thoroughly emptying the bowels at intervals, a procedure which would often speedily reduce the tympanites and toxæmia. A daily anema should be given as a routine measure. Among appropriate purgatives were such saline as phosphates of sodium and the sulphate of magnesium, or. preferably, small doses of castor oil just sufficient to give one or two soft movements. When an intestinal disinfectant was indicated, five grains of salol might be added to each capsule of castor oil. The degree of fever should not lead us to administer intestinal antiseptics, but rather the presence of stupor, delirium, respiratory and gastrointestinal disturbances and especially the condition of the urine. The routine use of the bath whenever the body temperature rose to 102 or 103° F. was rapidly falling into disuse, and it was rarely necessary to give more than three or four baths a day. In many cases in which a bath at a temperature of 75° F. caused a good deal of shock, better results would follow the use of warmer baths. When acetanilide and phenacetin were given in small doses they did not depress the heart, but, on the contrary, quieted the nervous system and greatly improved the patient's general condition. The consequent lowering of the temperature was of benefit in reducing body waste. The older clinicians still held quinine in high estimation, and looked upon it as "the fever food." After an initial dose of 15 grains had been given the antipyretic action could be maintained by giving five-grain doses every six hours. Strychnine was a remedy most commonly employed to combat the progressive weakening of the heart observed in typhoid fever, yet he wished to dissent most emphatically from the present routine use of heroic doses of this drug in the early stages of this disease. The drug should be held in reserve until the condition of the reflexes, both cardiac and spinal, showed that the disease had begun to affect the nerve centers, and it should then be given in doses which would just meet the indications. He was of the opinion that in typhoid fever alcohol certainly acted both as a stimulant and a food.

**The Ithaca Epidemic.**—Dr. L. COVILLE of Ithaca read this paper, illustrating it with lantern slides. He stated that in the first six months about 1,300 cases of typhoid fever developed, and that in the summer there were eighty additional cases arising from the infection of a broken well. The epidemic rose abruptly from the middle of January to about February 2, and then gradually subsided until the middle of March. During this period those who drank exclusively of artesian water escaped the disease. For nearly two years the people of Ithaca had been warned that the city water was unfit to drink without purification. For many years the residents had depended upon artesian water, filtered water, and other sources for their supply. There had been some cases of typhoid fever each fall for several years past, but most of them were imported typhoid cases. While in previous years the type of the disease had been exceedingly mild and had not generally responded to the Widal test, last winter the type of the disease suddenly became more virulent, and the new cases gave the Widal reaction. The statement had been made on good authority that there was no sickness in the colony of Italian laborers that camped upon the bed of Six-Mile Creek early in December. All of the cases presented a distinctive throat picture—the dull red throat so commonly seen in gouty subjects. Constipation was uniformly present throughout the disease. There were altogether seventy-nine deaths. Of nearly 300 patients seen by Dr. Coville, 150 agglutination tests were made, and in most of the cases the reaction was obtained between the third and tenth days. Often a positive Widal reaction was followed on succeeding days by a negative reaction. No plumbers working in connection with infected houses, and no employees in the sewers or at the pumping station apparently developed typhoid. The epidemic was remarkable because of the great variations obtained in the course of the disease, the relatively small number of relapses in the typical cases, the cyclic features, the absence of milk infection and the avoidance of the transmission of the disease by flies. The death rate had been much higher among the adolescent students than among the townspeople. Many who had had typhoid fever during the past two years contracted the disease again during this epidemic.

**The Lessons of the Ithaca Epidemic.**—Dr. GEORGE A. SOPER of the State Department of Health made some remarks on this topic. He said that it might as well be admitted that there were one hundred sources of infection of Six-Mile Creek. One of the most remarkable features of the epidemic was the fact that there had been ample notice of the danger. It was well known that even health authorities too commonly neglected danger signals. He believed the disease to have been transmitted in a considerable number of cases directly, because, for the most part, the nurses were ignorant of the principles of disinfection and of other preventive measures, particularly as regards food. There were upward of 1,300 privies in that little city, and many of them had been infected. The water from nearly every well in town was analyzed, and about 30 per cent. of these samples were pronounced poor or dangerously bad. It was remarkable that nothing whatever was done for a long time after the breaking out of the disease in epidemic form. The local board of health seemed powerless to bring the people to any united and effective action. Disinfectants were employed in such a way as to do nothing but harm. The people were drinking boiled water for the most part, but a large number, probably several thousand, people believed that the water supply of the city was not the cause of the epidemic, and continued to drink the water. One of the great difficulties encountered was in ascertaining where and when cases developed, for there was no system of reporting typhoid fever to the board of health. The question of responsibility for the epidemic, if it could be placed, would teach a lesson of the utmost value. At the beginning of the epidemic most of the citizens said that the water company was to blame; others blamed the local board of health, while the University thought it was released from responsibility in the matter because it was, so to speak, merely a guest in the city. Eventually the city was aroused from its lethargy and did all that was asked of it. The sum of $25,000 had been spent so far in suppressing

this epidemic, about $10,000 being expended by the State Board of Health, for the most part for laboratory work and the compilation of statistics A most important lesson from this epidemic was the need for the dissemination of information upon public and private hygiene

**The Epidemiology of Typhoid Fever.**—Dr. CYRUS W. FIELD 2d of New York read this paper. He said that the disease was chiefly disseminated in three ways: (1) By personal contamination; (2) by contamination of the water supply, and indirectly of milk, and (3) by means of household insects. Flies were probably a frequent mode of transmission. Ice cream might convey the disease if the milk used in its manufacture had not been cooked. It had been proved that the bacillus typhosus could live in ice for about five months, and that soiled clothing might remain a source of infection for two or three months, One should not forget that it was just as necessary to disinfect the urine as the stools, and that the infectious character of the urine should be borne in mind by physicians when examining the urine of typhoid-fever patients.

Dr. J. F. HEFFRON of Syracuse said that although it was an American physician who first differentiated typhoid from typhus fever, and although most of the additions to our knowledge of typhoid fever had been made by American physicians, we had certainly allowed the Europeans to outstrip us in the matter of securing and maintaining a pure water supply. Every one of our public sources of water supply was to-day practically infected, yet it was the duty of the State to protect the health of the people by preventing such contamination. The only protection was the installment of a competent purification plant in connection with every city water supply. It was also of the utmost importance that all sewage should be completely sterilized before allowing it to reach other sources of water supply. In these matters the medical profession had an important duty to perform with regard to the public.

He desired to commend most heartily the position taken by Dr. LeFevre with regard to a milk diet in typhoid fever. For the past two years in all of his own cases in which an intestinal antiseptic had been indicated he had employed acetozone. It was not very agreeable to take, but he could say unhesitatingly that he had never before used a so-called intestinal antiseptic of like efficacy.

Dr. A. JACOBI said that the urine should be examined for typhoid bacilli longer than the fæces, for not uncommonly the bacilli persisted in the urine many weeks after the person had apparently recovered from typhoid fever. He would take exception to LeFevre's advocacy of acetanilide, even in small doses, for the action of this drug was to convert the hæmoglobin into methæmoglobin and give rise to more or less marked cyanosis. Its action on the blood was as the toxic action of chlorate of potassium. Acetanilide was an anilin poison, and the most dangerous remedy of the group. It was true that phenacetin sometimes caused cyanosis, but this was very exceptional.

Dr. LEFEVRE replied that when two or three grains of acetanilide had been given in febrile conditions he had never seen any untoward result except in persons presenting an idiosyncrasy. Some years ago he had examined critically the blood of persons who were taking acetanilide, and except in a few cases no such destructive action on the hæmoglobin could be discovered. A satisfactory examination was not yet forthcoming for these exceptional cases. A little point of some practical importance was that when a well was found to be infected the further use of that water for drinking purposes could be effectually prevented by pouring in a gallon or two of petroleum.

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**Fighting Typhoid Fever in Germany.**—A press despatch from Berlin states that the imperial budget for 1904, now in preparation, allots $37,500 for combating typhoid fever, which is specially virulent in Bavaria, Prussia, and Alsace-Lorraine. The contamination of the rivers is a frequent cause of the fever.—*Science.*

# Medical Items.

**Contagious Diseases — Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending October 10, 1903:

| | Cases. | Deaths. |
|---|---|---|
| Measles | 71 | 4 |
| Diphtheria and croup | 293 | 37 |
| Scarlet fever | 91 | 6 |
| Smallpox | 4 | ... |
| Varicella | 24 | ... |
| Tuberculosis | 282 | 136 |
| Typhoid fever | 122 | 19 |
| Cerebrospinal meningitis | ... | 5 |

**Health Report** — The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended October 10, 1903:

SMALLPOX—UNITED STATES.

| | | Cases. | Deaths. |
|---|---|---|---|
| Alabama, Mobile | Sept. 27–Oct. 3 | 3 | .. |
| California, Los Angeles | Sept. 20–26 | 8 | .. |
| Illinois, Belleville | Sept. 27–Oct. 3 | 3 | .. |
| Maine, Grant Isle | Oct. 2 | 3 | .. |
| Macawaska Tp. | Oct. 2 | 5 | .. |
| Van Buren | Oct. 2 | 2 | .. |
| Massachusetts, Cambridge | Sept. 27–Oct. 3 | 1 | .. |
| Taunton | Sept. 27–Oct. 3 | 2 | .. |
| Michigan, Port Huron | Sept. 27–Oct. 3 | 3 | .. |
| Mississippi, Natchez | Sept. 20–26 | 1 | .. |
| Missouri, St. Louis | Sept. 29–Oct. 5 | 1 | .. |
| New York, Niagara Falls | Sept. 27–Oct. 3 | 1 | .. |
| Ohio, Dayton | Sept. 27–Oct. 3 | 2 | .. |
| Lorain | Sept. 27–Oct. 3 | 1 | .. |
| Pennsylvania, Altoona | Sept. 27–Oct. 3 | 4 | 1 |

SMALLPOX—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Manila | Aug. 16–22 | 1 | .. |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Austria Hungary, Prague | Sept. 12–19 | 3 | .. |
| Brazil, Rio de Janeiro | Aug. 31–Sept. 13 | 124 | 64 |
| Belgium, Brussels | Sept. 12–19 | .. | 1 |
| Canada, Quebec | Sept. 27–Oct. 3 | 1 | .. |
| Chile, Antofagasta | July 25–31 | 20 | 9 |
| France, Paris | Sept. 12–19 | .. | 1 |
| Great Britain, Birmingham | Sept. 12–26 | 15 | 1 |
| Glasgow | Aug. 31–Sept. 25 | 1 | .. |
| Leeds | Sept. 12–26 | 24 | .. |
| Liverpool | Sept. 12–26 | 6 | 2 |
| London | Sept. 12–26 | 8 | 2 |
| New Castle-on-Tyne | Sept. 12–19 | 16 | .. |
| Italy, Catania | Sept. 10–17 | .. | 1 |
| Mexico, Mexico | Sept. 13–27 | 6 | 3 |
| Netherlands, Amsterdam | Sept. 20–26 | 4 | .. |
| Russia, Moscow | Sept. 5–12 | .. | 2 |
| Straits Settlements, Singapore | Aug. 16–22 | .. | 1 |
| Turkey, Constantinople | Sept. 7–20 | .. | 3 |
| Smyrna | Sept. 7–20 | .. | 118 |

YELLOW FEVER—UNITED STATES.

| | | | |
|---|---|---|---|
| Texas, Laredo | Sept. 28–Oct. 7 | 105 | 2 |
| Minera | To Oct. 3 | 7 | 2 |

YELLOW FEVER—FOREIGN.

| | | | |
|---|---|---|---|
| Brazil, Rio de Janeiro | Aug. 31–Sept. 13 | 1 | .. |
| Colombia, Panama | Sept. 21–28 | 2 | 1 |
| Costa Rica, Limon | Sept. 18–24 | 6 | 5 |
| Mexico, Nuevo Laredo | Sept. 30 | 12 | 9 |
| Progreso | Sept. 20–27 | 1 | .. |
| Vera Cruz | Sept. 20–26 | 49 | 17 |
| Venezuela, Maracaibo | July 5–11 | 1 | 1 |

CHOLERA—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Manila | Aug. 16–22 | 29 | 22 |
| Provinces | Aug. 16–22 | 5,663 | 3,811 |

CHOLERA—FOREIGN.

| | | | |
|---|---|---|---|
| India, Calcutta | Aug. 29–Sept. 5 | .. | 8 |
| Madras | Aug. 22–Sept. 5 | .. | 5 |
| Straits Settlements, Singapore | Aug. 8–22 | .. | 11 |
| Turkey, Syria, Birejik | Sept. 24 | Prevailing. | |

PLAGUE—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Manila | Aug. 16–22 | .. | 4 |

PLAGUE—FOREIGN.

| | | | |
|---|---|---|---|
| Brazil, Rio de Janeiro | Aug. 31–Sept. 13 | 42 | 20 |
| Chile, Iquique | Aug. 21–28 | 14 | 8 |
| Egypt, Alexandria | Aug. 29–Sept. 4 | 6 | 4 |
| Japan, Yokohama | Aug. 22–29 | 1 | 1 |
| Mauritius | July 17–Sept. 3 | 111 | 35 |
| Turkey, Smyrna | Sept. 29 | .. | 1 |

# Medical Record

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## Original Articles.

### PROSTATECTOMY AND GALVANOCAUSTIC PROSTATOTOMY (BOTTINI'S OPERATION): THEIR PRESENT STATUS IN THE RADICAL TREATMENT OF THE HYPERTROPHIED PROSTATE GLAND.*

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THE question of the proper selection of operation for the relief of patients suffering from an enlarged prostate and its sequelæ has lost nothing in importance or intensity of interest. Castration, including vasectomy, prostatectomy and galvanocaustic prostatotomy (Bottini's operation) are still in the field. The relative value of these various procedures can be properly determined only by the final results—best by the results obtained by a single man in a fair series of cases. Personal extensive experience, unbiased observation and reports of late results based on objective examination are the factors that will advance the proper estimation of each procedure.

Castration, although it has completely and permanently restored many a prostatic's urinary affection, will not be discussed here. It still has staunch advocates among men whose views surely command respect. However, since we have two methods to help such patients by attacking the gland directly, indirect influencing should be relegated to the rear, or, at least, should be our very last resort, especially as it deprives the patient of his virile power. Personally, I believe that a direct attack should first be made in every case. Failing in this, an operation on the testicles or the vas deferens may then be resorted to. In accordance with this view of mine, I shall, therefore, here consider prostatectomy and galvanocaustic prostatotomy (Bottini's operation) alone.

That prostatectomy is the most radical as well as the most surgical procedure from an operative point of view, goes without saying. The operation is typical. It aims to remove the hypertrophied tissue within the prostatic capsule. If this be accomplished, proper urinary drainage ought to become re-established. Recurrence of the former trouble seems more than unlikely.

This is not the place to discuss the technique and the advantages or disadvantages of the suprapubic and perineal route, respectively. If the gland can be removed by operating from below, this procedure deserves the preference, were it for the sole reason that the wound which is made for shelling out the gland can be at the same time utilized for drainage. But aside of this, perineal prostatectomy has the advantage of permitting operation under the guidance of the operator's eyes. At the present time it certainly seems to be the consensus of opinion that perineal prostatectomy is the operation of choice in the surgical treatment of the enlarged prostate. Yet, such opinion, it seems to me, can be justified and of real value only if borne out by the results.

Surgeons everywhere are about to enlarge their experience in this direction. The near future will, no doubt, bring us the data so eagerly looked for. Death rate and late results, as well as possible sequelæ, are the main points to be taken into consideration in judging the va ue of the suprapubic and perineal operations. With regard to the death rate, personal statistics will again be of special value, as surgeons who perform the same operation time and again will soon master and improve necessary technical details and learn to avoid or to overcome troubles arising during the after-treatment.

With regard to the complications that may arise in connection with prostatectomy, the following may be mentioned: (*a*) the occurrence of uni- or bilateral epididymitis, also orchitis with abscess formation; (*b*) persistent perineal fistula (avoidable by improved technique); (*c*) dribbling, a feature which generally seems to be of a transitory character only[1]; (*d*) recurrence of some of the former symptoms, as, for example, residual urine, pain in urinating, frequency of micturition; (*e*) stricture (curable by sounding); (*f*) impotence. (See below.)

Galvanocaustic prostatotomy (Bottini's operation), on the other hand, does not attack the bulk of the gland; it only cuts grooves through the mass, leaving the gland itself in place. However, it must be remembered here that it is not the bulk of the gland that is the disturbing factor in the trouble under consideration. Keyes, senior, says:[2] "It is not the size of the prostate that makes it obstructive or causes it to yield subjective symptoms. Many a man with a very large prostate empties his bladder entirely, has no residual urine, and does not greatly complain, while another with practically no general enlargement but with a third lobe or a prominent bar—thus making his prostate actively obstructing—will suffer the torments of the damned, and embrace any operation and take any risk which promises to relieve him from his torture. It should therefore be the surgeon's object to remove the obstructing portion of the prostate rather than to take the organ away in bulk, since the bulk alone, generally, does little damage."

Bottini's operation, as a whole and in all its details, in contradistinction to prostatectomy, is by no means a typical operation. The number, length, direction, and depth of the cuts must differ, with every case. Numerous other questions, too, as for instance: Shall we hook and compress the prostate while ploughing through the same. Shall we repeat the incision, whole or in part, by going over the ground twice, shall we use blades of various size and length, how had we best proceed in the presence of a median lobe? etc., are still mooted ones. To do Bottini's operation properly, as required in the individual case is, therefore, often a very difficult task. To determine the various points at issue, it is necessary to make a careful examination of the patient with regard to size, configuration, and consistency of the gland if this be palpable per rectum; a thorough cystoscopic examination is essential in every case,

*Read before the American Surgical Association, May, 1903.

and sometimes may have to be repeated. In short, every single case has to be studied as to its requirements. If this be done, and if all the details of the operation be carried out properly, the result in trained hands is often surprisingly good.

The proper carrying out of Bottini's operation, then, has to be looked upon as a difficult procedure, involving considerable experience.

My purpose in writing this paper is *not*, to discuss the generally recognized value of the two excellent cutting operations at our disposal for prostatic enlargement, viz., suprapubic and perineal prostatectomy, but to prove from my own personal experience, that, in certain specially selected cases, in which prostatectomy by either route is contraindicated or refused by the patient or his relatives, Bottini's operation should be proposed, inasmuch as it, too, may not only relieve, but completely cure the prostatic trouble.

In order to test personally the merits and demerits of galvanocaustic prostatotomy, I made it a point, for five years, from October, 1897, to October, 1902, to practise Bottini's operation to the exclusion of others. No selection of cases was made. Regardless of statistics, the operation was done in every case of prostatic hypertrophy that came under my care.[3] Age, debilitated condition, complicating renal affection, were not considered contraindications. In not a single instance was the operation refused as long as the patient asked for it. In every one of the cases the after-treatment was carried out by myself personally; points of interest in the further history were carefully noted.

It stands to reason that by thus making no discrimination whatever, Bottini's operation was, in some instances, performed upon patients who, according to my present views, would have derived greater benefit from prostatectomy.

As regards the death rate, this too was naturally swelled by my not refusing the operation to men whose far-advanced bilateral, complicating renal affection, should have deterred me from making any attempt at still bringing relief. Further, I commenced this work "a pioneer" in the real sense of the word, having no other guide in the beginning than Bottini's original writings and Freudenberg's first brief, but excellent article, published in the *Berliner klinische Wochenschrift* in April, 1897. The instruments and batteries I used, too, were inferior to those now employed. The decrease in the death rate of the consecutive series (of twelve each) of my cases, nicely illustrates the gradual improvement in the necessary paraphernalia as well as technique and personal dexterity.

A step backward with regard to the death rate was made at the time I did Bottini's operation with the help of spinal anæsthesia, from October, 1900, to October, 1901, and was testing solutions of tropacocaine, sterilized in various manners. Two deaths, I think, were due to this method of anæsthetizing the patient, surely not to the operation as such.[4]

Within the five years mentioned, 59 patients were operated upon by me, their age ranging from 47 years to 80 years. Of these patients the operation was done once in 48, twice in 10, and three times in 1 patient (in all 71 operations). Fifty-two recovered and 7 died, death occurring as a direct consequence of operation in 3, viz., (1) acute sepsis, 30 hours after operation, a chronic septic, on account of bilateral far-advanced, pyelonephritis (MEDICAL RECORD, March 5, 1898, page 331); no autopsy. (2) Perforation of the bladder by anterior cut (case of suppuration of cavum Retzii). Post-mortem obtained. The anterior cut has since been abandoned as a routine measure (MEDICAL RECORD, May 12, 1900, page 799). (3) Embolic (?) pneumonia (case of advanced bilateral pyelonephritis.)

Indirectly, death was due to the operation in 2 cases: (1) Suprapubic cystotomy 8 days after operation (MEDICAL RECORD, January 14, 1899, page 42). In order not to appear biased, I shall count this case among the deaths directly due to the operation, thus raising the number of deaths directly due to the operation to 4. (2) Phlebitis of the left saphenous vein with following, probably embolic, pneumonia on the eleventh day after operation. No autopsy. (MEDICAL RECORD, May 12, 1900, page 805).

In the remaining 2 of the 7 fatal cases death resulted from the immediate effects of spinal anæsthesia with the sterilized solution of tropacocaine. The histories of these cases will be published in the near future.

Dividing my cases into series of 12 each and comparing the death rate in an ascending scale, we have:

| | Deaths directly due to operation. | Deaths indirectly due to operation. |
|---|---|---|
| In the first twelve.... | 2 | .. |
| " " second " .... | 1 | 1 |
| " " third " .... | 1 | .. |
| " " fourth " .... | .. | 5 |
| " " fifth (only 11 so far) .. | .. | .. |

Of the 52 patients who recovered from operation: 34 are alive to-day; 3 could not be traced; 3 died, within 6 to 10 weeks after operation, of pyelonephritis that had existed long before operation; 12 died from various causes, as apoplexy, cancer, general debility, nephritis, etc., from 9 months to 3 years after the operation.

Of these 52 cases 13 had complete retention, 33 had incomplete retention, and 6 had a persistent suprapubic fistula.

Of the 33 patients with incomplete retention 14 used the catheter from 1 to 6 times a day; 1 wore a urinal.

Of these 27 patients who had been using the catheter, viz., 13 with complete and 14 with incomplete retention, 18 got rid of the catheter permanently, 2 used it, mostly for convenience sake, once at night; 3 were still obliged to use it; of 4 the later condition could not be ascertained.

The patient who had worn the urinal put it aside soon after the operation.

Of the 6 patients with persistent suprapubic fistula 2 have remained permanently cured to date, fistula remaining closed two and three-quarter years and three and one-half years, respectively, after operation; in 2 the fistula closed temporarily, but broke open again one year and two and one-half years, respectively, later, coincident with the formation of a new stone; one died, after Bottini's operation performed by me (twice before by another surgeon), with a contracting fistula, ten weeks after operation, of pyelonephritis, which had existed prior to my operating; one, in whom the suprapubic fistula had persisted for ten years, was so much improved by the operation that, one year later (last written communication), he complained about his inability to introduce a No. 8 (French) silver catheter through the fistula, for the sake of irrigation, as he had been in the habit of doing for so many years. He died 2½ years later, after an attempt made by a surgeon, at his home, to close a recto-urethral fistula, brought about by the colleague who had done Bottini's operation twice before he came into my hands.

In 9 of the 52 patients with hypertrophy of the prostate, treated by means of Bottini's operation, I found the trouble associated with stone. In these

the presence of the stone was not determined before operation in one case; the stone was washed out before doing Bottini's operation in one; the stone was cut out by means of suprapubic cystotomy in one, persistent suprapubic fistula followed, permanently closed by means of Bottini's operation. The stone was removed by litholapaxy, in one case, which was followed by irritated bladder, necessitating suprapubic cystotomy; persistent fistula set in, which then was permanently cured by Bottini's operation. The stone was removed by litholapaxy, in one case, followed by Bottini's operation three weeks later to quiet the irritated gland; completely cured. The stone was removed by litholapaxy plus Bottini's operation at the same sitting in four cases. Three of the last four cases were described in detail in my article entitled "The Treatment of Prostatic Hypertrophy Associated with Stone in the Bladder, by Means of Litholapaxy and Bottini's Operation at One Sitting" (*Annals of Surgery*, July, 1902).

In 5 of the 52 cases the membranous urethra was accidentally injured, causing perineal abscess in 4, chronic inflammatory œdema of scrotum and penis in 1. These 4 patients, in every single instance, had a very soft gland, and every time the prostate had been well hugged by the beak of the incisor, as originally advised by Freudenberg and described in my last article. Furthermore, I did not at that time use an incisor with centimeter division on the shank. This scale on the shank (recent proposition of Freudenberg)[6] I consider a very important point, indeed. Just as the needle of the ampèremeter of the battery indicates the degree of heat of the invisible galvanocaustic knife as it ploughs its way through the obstructing mass, so these marks on the shank will show us whether or not the beak is still within the bladder. By this means we are enabled to control its proper apposition to the body of the gland. This scale on the shank is particularly indispensable in those cases—not infrequently met with—in which the palpating finger fails to feel a rectal tumor, although the cystoscope shows the presence of intravesical enlargement. If we do not drag the gland too much by forcibly pulling the instrument forward, the beak will stay in place and not slip into the prostatic urethra. These five perforations, followed by formation of a perineal abscess and inflammatory œdema, happened in my first 33 cases, and occurred entirely without my knowledge. Since that time I have taken care to avoid compressing the gland, and the accident has not occurred again. I now try to walk the golden middle-way. I hug the gland, pull gently, but do not compress it. It may be mentioned here, however, that all my patients in whom the accident happened recovered. One, classed as improved, died two years later, of acute cholecystitis and peritonitis, remaining improved as far as his former trouble was concerned, until death; one, is alive and remains improved to date; two others were cured and remain so up to date; the patient with inflammatory œdema is alive to-day (classed above as not improved; large hard gland, etc.).

My personal experience with these cases does not, therefore, bear out the statement recently made by E. L. Keyes, Jr., who says, in his valuable article on Bottini's operation,[7] that all the cases in which this accident happened have died. On the other hand, one thing is certain, namely, that this mishap—regrettable as it is at the time as well as annoying to both patient and surgeon—gives assurance that the division of the gland has been done thoroughly, provided the beak did not slip into the the prostatic urethra.

In one patient the rectum was injured and a recto-urethral fistula established. The accident happened in a much reduced man, seventy-one years of age, who had a small, soft prostate and far advanced suppurating bilateral pyelonephritis. In his case (the only time in the 71 operations done), for special reasons, the street current, without ampèremeter, was used on the strength of the electrician's assurance that the amount of current required could be gauged by the degree of noise produced by the apparatus. The fistula never gave the patient much trouble, except that the often occurring bubbling caused by gas passing from the rectum into the membranous urethra at the site of communication, annoyed him. He recovered from the effects of Bottini's operation. In course of the after-treatment bilateral nephrotomy with drainage had to be done, at various times, at either side large abscesses being evacuated, both kidneys having been entirely destroyed by the suppurating process. Death occurred eight weeks after operation.

In this case it would have been better to have left the patient to his fate. But his complaint of continued, intolerable burning pain at the neck of the bladder induced me to still make an attempt at relieving him.

Marked unilateral or bilateral epididymitis, as a direct sequel to Bottini's operation, was seen in six patients, and suppurating process of the testicle necessitating incision in two patients, necessitating castration in one patient. A unilateral suppurating process of the vas deferens after vasectomy in one.

A distinct cause for these complications cannot be stated; they were observed in cases in which the permanent catheter was left in place for some time, as well as in those in which this was not done. Patients in whom the permanent catheter was left *in situ* for more than four weeks did not develop this inflammation. It was also seen by other surgeons after prostatectomy, with or without catheterization and bladder irrigation, with or without sounding during the after-treatment. Other sequelæ of Bottini's operation, such as sepsis, pyæmia, and embolic pneumonia, I have not seen any more of late. Why not, I am unable to say. Many patients operated upon surely were in a deplorable general condition.

Another much-dreaded sequel, perforation of the bladder, can be avoided by exercising proper care in operating, omitting the anterior incision and filling the bladder with fluid or air.

In 20 of the 52 cases that ended in recovery the stream is noted as good at time of first examination; in 14 as fair; in 2 as weak; 32 had no pain in urinating; 5 had some pain in urinating; 1 had much pain in urinating.

This became changed in a few instances at later examinations.

As regards weight, this was noted in 38 of the surviving cases, and in every instance there was a gain, sometimes considerable.

I have also observed in some cases that even though the urinary trouble was not much relieved by the operation, the general condition of the patients became improved. Pre-existing constipation was incidentally overcome in the majority of cases.

With reference to curing the vesical catarrh, if present, I have so far not seen a single man with sufficient patience to keep up continued irrigation of the bladder as advised. Hence, quite a number present a more or less turbid urine. On the other hand, I count 5 or 6 patients whose urine cleared up absolutely after normal vesical drainage had once become re-established.

The [illegible] operations in the [illegible] were performed by the writer between the years 1894 and 1900 inclusive, in the practice of Bottini's operation for the cure of prostatic hypertrophy. Medical Record, May 5, 1900. It will be of interest to [illegible] results [illegible]—2½ years after [illegible] operation—was published in March-Apr., 1903.

Operations from March-Apr., 1900, showed the following:

| | |
|---|---|
| 24 cases | 30 operations in all. |
| 4 " each 2 operations | 8 " |
| 1 case 3 " | 3 " |
| 15 cases each 1 operation | 15 " |
| 24 cases. | 56 operations. |

Cured 9; final examination 3—25 months after operation. Much improved 7; final examination, 6 27 months after operation. Improved 2; final examination 12—19 months after operation. Died, 4 as a direct or indirect result of operation; 2 others died in acute of operation 6 and 10 weeks, respectively after the date of pyelonephritis of old standing.

Re-examination and correspondence with the surviving 18 of these 24 patients or their families, brings out the following late results in March-April, 1903:

Of the 9 patients reported as cured in 1900, 1 was reported dead, the end having come as a result of intense anæmia, 5 months after operation, urination perfect up to death; 2 have died since 1900 of apoplexy and of cholecystitis and peritonitis, the former having remained fully cured as to his urinary trouble up to his death in the fall, 1902, 4½ years after operation. One case had to be classed as improved at the time of the patient's death. One was not heard from.

Of the remaining 5, 3 have remained absolutely cured and are in splendid condition to-day.[8] One patient had a persistent fistula after suprapubic lithotomy, permanently closed by Bottini's operation (see above). One is in almost the same condition as before operation—large hard prostate with median lobe; two operations; long-continued post-operative retention. Here prostatectomy should have been done (see MEDICAL RECORD, May 12, 1900, page 803).[9] One has to be classed as much improved; had absolute retention before operation; got rid of catheter; urinated, in 1900, four or five times during the day, and once during the night; to-day, as per written communication, four or five times during the day, six times during the night.

Of the 7 cases reported as much improved in 1900, 3 died; 2 from causes not known, 1 from cancer of the axillary cavity following epithelioma of the finger. The bladder condition of 2 of the cases up to the time of death could not be ascertained; in one case it was worse than before, in part due to cachexia. One has not been heard from. Three are living to-day. Of these 3 patients 1 remained "much improved"; 1 is to be classed as "improved," the patient uses the catheter, for convenience sake, twice a day. In 1 the trouble recurred to some extent. This latter patient has no subjective trouble to-day; his urine is absolutely clear; he urinates from 5 to 6 times per day, nights twice, but the relation between voluntary micturition and residual urine is 200 : 450. Repeated cystoscopy points to a median lobe, which was divided by operation, the two halves seeming to act as a valve during urination. My advice to the patient has been, suprapubic cystotomy and prostatectomy through the same route, or, in case of his refusing prostatectomy, suprapubic cystotomy for the removal of the divided median lobe, and placing the [illegible] of the [illegible] in position under the guid[illegible] of my eye. There is no prostatic enlarge[illegible] present.

Of the 2 patients reported as "improved" [illegible] 1901 [illegible] died of pneumonia after much suff[illegible] from a chronic bone disease, incidental [illegible] wasting debility and cachexia in 1902; a p[illegible] the urinary trouble for which he had been ope[illegible] upon by me in October, 1898, had recurred [illegible] time before death. The other patient, a pronou[illegible] diabetic, 72 years of age, with a hard gla[illegible] enormous size, has, since 1902, relapsed int[illegible] same condition as prior to operation. He i[illegible] only one of my 55 patients operated up[illegible] times. At present his voluntary urination is [illegible] secured by a few drops; he again depends upo[illegible] catheter, which he uses 3 or 4 times i[illegible] hours. The only tangible benefit derived fro[illegible] operations done between January and April, [illegible] is the temporary relief he has had for a per[illegible] 3 years, in addition to greater ease of catheri[illegible] with reduced pain, up to the present time.

With my present experience, my choice i[illegible] case, if operation had been insisted upon, [illegible] have been perineal prostatectomy under [illegible] anæsthesia.

To summarize: 5 of the 9 patients repor[illegible] cured in April, 1900, are still living, and hav[illegible] either heard from or re-examined in 1903; of [illegible] 3 have remained cured; 1 has to be classed as [illegible] improved (recurrence of frequency of micti[illegible] during night); 1 not benefited (classed as cu[illegible] 1900, on basis of written communication);

Three of the 7 patients reported as "Muc[illegible] proved"[10] in April, 1900, are still living— [illegible] heard from or re-examined in 1903; and of th[illegible] remains much improved, 1 can be classed a[illegible] proved only to-day, 1 has recurrence of re[illegible] urine, commencing before 1900.

One of the 2 patients reported as improv[illegible] April, 1900, and still living, proves, on final exa[illegible] tion to be benefited to some extent only.

An analysis of the 34 patients who are ali[illegible] day and were either re-examined or heard fr[illegible] March-April, 1903, shows the following:

| | |
|---|---|
| To be classed as cured[11] | [illegible] |
| To be classed as improved | [illegible] |
| Recurrence to some extent (residual urine) | [illegible] |
| Former symptoms recurring after temporary cure o[illegible] relief, therefore to be classed as: Not improved | [illegible] |

Of the 18 patients classed as "improved" 5 w[illegible] benefited by the operation to such an extent t[illegible] according to former classification they would h[illegible] been called much improved. Another patient i[illegible] excellent condition at present and considers hims[illegible] cured, but is too recent to be classed as cured.

Of the 5 patients classed as "not improved" two had a hard, very large prostate. One [illegible] them should, according to present views, ha[illegible] been subjected to prostatectomy. In one the[illegible] was persistent suprapubic fistula after supr[illegible] pubic cystotomy in 1898 (55 stones remove[illegible] litholapaxy plus Bottini in 1900 on account of [illegible] curring stones; fistula closed and urination sat[illegible] factory for 2 years; 5 months ago suprapub[illegible] fistula reopened, most probably owing to recurren[illegible] of calculosis. Patient not seen again so far. [illegible] 1 there was persistent suprapubic fistula, closed [illegible] means of Bottini's operation in 1901; developme[illegible] of vesical calculus (phosphate)—fistula reopene[illegible] prostatectomy by another surgeon. One who w[illegible] tabic, had temporary relief, soon increase of residu[illegible] urine; suprapubic prostatectomy by anoth[illegible] surgeon.

Of the 10 patients cured to-day, 3 had complete retention (1 case, 3 days; 1, 2 weeks; 1, 3 months). 7 had incomplete retention; 3 of these had to use the catheter).

Of the 18 patients classed as improved 6 had complete retention from 10 days to 2½ years; 12 had incomplete retention, 3 using the catheter.

Of the 15 patients who had to use the catheter 10 laid the same permanently aside. Of the remaining 5, 2 use the same once or twice per day for the sake of having a longer interval of comfort, especially a better night's rest, 3, as per written communication, still need it.

To repeat: Of 15 patients that had been obliged to use the catheter 10 got rid of it permanently; 2 could, if necessary, get along without its aid; 3 are still in need of it.

In 7 of the 34 patients the prostatic trouble was complicated with vesical calculus. Two of these are cured of their stone as well as of their prostatic trouble; 5 got rid of the stone, and were improved as far as their prostatic disease is concerned; 2 patients will probably be classed as cured after a somewhat longer period of observation.

Little or no attention has so far been paid to the question as to whether Bottini's operation or prostatectomy interfere with the power of intercourse. It is true, this question is purely a social one, but may be of quite some importance if the patient have a wife living and he be still below 60 to 65 years, sometimes even if he be older. Thus, not long ago, this question was the point of preliminary discussion raised by the much younger wife of a gentleman 64 years of age, with complete retention. Bottini's operation was performed, voluntary micturition re-established and the power of intercourse fortunately preserved.

Inquiry of the 34 patients still living regarding this point brought out the following facts:

The cases of 2 of my patients cannot be utilized in this connection inasmuch as prostatectomy was performed by other surgeons some time after Bottini's operation had been done by me; in 3 cases present condition with regard to this point is not known; 1 patient, 73 years old, had no inclination for the last 15 years; 1 patient, 80 years old, was sick for years with paralysis agitans; 1 a diabetic, had absolute lack of erection for the last 9 years; 3 patients—2, 65 years, and 1, 71 years of age—have been impotent for the last 3 years or longer.

Deducting these 11 cases, we have 23 patients whose cases can be used with reference to the question at issue. Of these: The power of intercourse was preserved in 20, viz., in 7 of the 10 cases classed as cured, in 12 of the 18 cases classed as improved, in 1 in which the urinary trouble in part returned. In 1 of these patients, a man 52 years old, there is, however, no orgasm, in 1 there is no seminal discharge in spite of orgasm, in 1 power of intercourse is not interfered with, though both vasa deferentia were resected 5 years ago. Of course, ejaculation is missing.

The power of intercourse was more or less interfered with in 3, namely: A man, 49 years, is impotent since operation; he has emissions, erection, however, is absent; another, 62 years old, had weak erection before operation, is worse since operation; a third 71 years of age, claims to have lost the power of intercourse since operation.

Thus, Bottini's operation has produced impotence in 2 out of 23 cases, increased a weakness that had existed prior to operation, in one. In 2 other patients irregularities in the normal seminal discharge have appeared.

This question as to the power of intercourse should also be carefully noted when tabulating the late results of prostatectomy, perineal and suprapubic, a point which, as I have stated before, has thus far received but little attention. Loss of sexual power (erection) has certainly quite frequently been met with after enucleation of the gland.

It is not easy to explain this loss of sexual power (lack of erection) as a result of galvanocaustic prostatotomy or of prostatectomy.

Erection is a complex motor mechanism, and, as such, subject to nerve influence. The impulse starts from the psychic action of the cortex of the large cerebral hemispheres, or from the sensitive penile nerves. Both transmit it to the center of erection, which is situated in the lumbar portion of the cord.

From here the impulse is conveyed to the respective anatomical structures over two routes, viz., over the so-called nervi erigentes, representing the vasodilators of the arteria penis profunda, which feeds the corpora cavernosa; and, secondly, over the motor fibers for the ischio cavernosus and transversus perini profundus muscles. Both groups originate in the sacral plexus. These nerves run within the trunk of the common pudic nerve; the latter is situated so far laterally, that it cannot be reached during any of the operations mentioned. A direct injury to the same as a causative factor of following impotence can, therefore, be excluded. However, a number of its branches might suffer during the operation. Injury to the ejaculatory ducts, or the operation as such, may produce a relaxation of the normal anatomical condition of the veru montanum and the prostatic urethra, both necessary to induce proper reflex action for erection.

The lack of seminal discharge as a sequel to any one of these operations is attributable to direct injury to the ejaculatory ducts, or to a deviation of their course, or to a stricture of their lumen, both latter conditions resulting from the post-operative cicatrization around them. Its consequence is interference with normal ejaculation, or total sterility.

In perineal prostatectomy direct injury to the ducts can be avoided by bringing the field of operation into better view with the help of Syms' rubber retractor, or Young's metal retractor, or other mechanical devices brought out for this purpose.

Rydygier's intracapsular resection of the prostate, recently proposed (*Centralblatt für Chirurgie*, 1902, No. 41), would enable us still more surely to avoid the ducts. However, as that part of the prostate immediately surrounding the prostatic urethra is left untouched by the same, it is questionable whether it will prove sufficiently effective. Further experience will show the range of its usefulness.

Data regarding the point in question in connection with suprapubic prostatectomy are also absolutely necessary. *A priori* the high operation would seem to be more apt than the perineal one, to produce impotence, inasmuch as it is done in the dark. Still, at one of the recent discussions on prostatic surgery, a gentleman asserted that none of his prostatics operated upon suprapubically had shown loss of erection.

In Bottini's operation it may be possible to avoid injury to the ducts by making the direction of the lateral incisions at an angle nearer 90° than 45°, and by making the posterior incision directly within the median line.

A careful compilation of all cases operated upon, with notes as to the late results also in regard to this point, is required in order to determine which of the methods under consideration is most apt to be followed by impotence. Surely, such knowledge

would often materially influence the selection of the method of operating.

With regard to adding data of value to the question of the possible gonorrhœal origin of prostatic enlargement, so widely discussed of late. I regret that no careful record was kept by me as to this point. Still, in looking over the histories of my cases, I find the remark "no previous gonorrhœa" in seven cases.

Having in the foregoing statistically stated my personal results in a series of 59 cases, I would yet like to add the following general remarks:

*Nursing.*—In Bottini's operation the after-treatment sometimes requires a great deal of patience on the part of the patient as well as that of the attending surgeon. In many instances careful nursing of old, debilitated patients, and prompt intervention in the event of suddenly arising emergencies, are the main requisites in bringing a case to a successful issue. This accounts for the fact that ward patients so often prove to be more troublesome and less benefited by the operation than private patients who are under the immediate supervision of the surgeon or his permanent assistants.

*Filling of the Bladder.*—Every one of my 71 operations, with the exception of those done on the first 5, has been carried out with the bladder filled with water. The massiveness of the eschars so often observed to be pushed off the gland, prove the effectiveness of the operation, as far as the cauterization is concerned.

In the next 12 or 24 cases that may come under my care, it is my intention to do the operation with air distention of the viscus, and note results.

*Anæsthesia.*—To-day all my operations are again carried out under local anæsthesia, with 3 per cent. eucaine and a suggestive general anæsthesia with equal parts of alcohol and water; the latter during the time of cutting the grooves. Since I have ceased compressing the gland with the beak of the incisor, the local pain has been materially reduced. General anæsthesia is applied only upon the patient's specific desire.

*Chetwood's Modification of Bottini's Operation.*—The modification of Bottini's operation, proposed by Charles H. Chetwood of New York—median urethral section; digital exploration of prostate and introduction of a modified incisor through this wound, controlling the progress of the knife by rectal palpation—I have never tried. So far I did not feel the want of the preliminary median incision. I follow the principle of carrying out such a purely intravesical operation, as Bottini's operation, without adding this incision—the same as we do in litholapaxy—except it become necessary during after-treatment (abscess formation). Furthermore, it will sometimes require an unusually long finger to successfully palpate the intravesical surface of the gland; not infrequently such palpation must prove a technical impossibility—a fact, which has been mentioned by Chetwood. Drainage of the bladder with the permanent catheter introduced the entire length of the urethra has given me satisfactory results. Besides, the suggested modification requires general anæsthesia, and will often keep patients in bed longer than Bottini's operation does.

*Young's Modification of the Bottini-Freudenberg Incisor.*—The various sized blades of the galvanocaustic knife proposed by Hugh H. Young of Baltimore,[13] I have not tried as yet, but can well see their indication, based on the result of cystoscopic examination. I shall make use of it whenever indication arises.

*Litholapaxy and Bottini's Operation Done at the Same Sitting.*—In the course of this work I found that litholapaxy, hitherto almost always advised against in this class of patients, can well be done if combined with Bottini's operation at the same sitting. I recommended this combined operation in an article on the subject recently published in the *Annals of Surgery.*[14]

*Indication.*—Since October, 1902, I have tried to individualize with regard to advising the proper operation in every case that has come under my observation. I have done during that period perineal prostatectomy in 6 and Bottini's operation in 4 patients. I have tried to find indications for such individualization, but would not venture to formulate any definite points with regard to it so far. At present I would say that I now invariably recommend the cutting operation in patients with a large, hard gland, also in patients with a gland of medium consistency, if they seem to be able to stand the operation and general anæsthesia. If necessary, spinal anæsthesia is employed. I do so still more if a median lobe is present. I further advise prostatectomy in patients who are desirous of being relieved of their trouble in one sitting at all hazards.

If the gland be soft and compressible, particularly if not palpable per rectum, but the cystoscope has determined the correct diagnosis; if the patient be old and much run down by prolonged sickness, I advise Bottini's operation, making the patient or his relatives fully aware of what they may expect. At present it seems to me, that in cases in which the condition of the patient is such as to raise doubt as to whether he will be able to stand prostatectomy, Bottini's operation, as the least risky (though not void of dangers), should be recommended. The chances are that it will do the work. However, should the result not be satisfactory, experience has shown that it does not preclude the possibility of doing prostatectomy later, at a time when such patient may have recovered from his former precarious general condition.

In other words, I carefully consider all points in every case—anatomic, pathologic, and social—before I decide in favor of one of the two procedures under discussion.

A few cases for illustration:

A patient from out of town, a hard-working man, suffering from enlarged prostate associated with stone, came under my care. It was important to cure him, if possible, in one sitting. He had a very pronounced emphysema and chronic bronchitis. Perineal prostatectomy, with removal of the stone through the same incision if possible, was clearly indicated. The operation was done under spinal anæsthesia, with perfect success.

Another patient, in the sixties, with complete retention for the last 3 months, was brought to me on account of prostatic trouble with the statement that he, as well as his wife, were absolutely opposed to any cutting operation, and the patient was willing to continue the catheter throughout the remainder of his life, if nothing else could be done. Bottini's operation was proposed under these circumstances and performed soon after. About ten weeks later, upon inquiry regarding the patient's condition, he (being a German) writes: "I am famous" (famos), meaning that he is in excellent condition. The catheter had been laid aside.

A gentleman who had mining interests in the West, necessitating considerable traveling, wanted to have done the most radical work possible, so that no further work should be necessary. Perineal prostatectomy was proposed, accepted and performed. At the present time, five months later, he has not a drop of residual urine; now and then some little dribbling during the night. A slight contraction

at the neck of the bladder was overcome by sounding.

Another patient, above 60, had a large amount of residual urine due to an enlarged prostate. Prostatectomy was proposed and accepted. General examination of the patient before operation revealed pronounced valvular disease of the heart, so much so that, after consultation, general as well as spinal anæsthesia seemed contraindicated. Inasmuch as Bottini's operation can be and, in fact, ought to be carried out under local anæsthesia, that operation was proposed and done with much benefit to the patient.

Another patient still, 80 years of age, was brought to me suffering from a far-advanced paralysis agitans with contracted hip-joints and absolute retention. His widowed daughter had been taught to catheterize her father, as the people were too poor to afford the services of a trained male attendant. After months of faithful work the daughter had broken down under the strain, and then the question came up as to what could be done for the patient. As a matter of course, I was opposed to performing even Bottini's operation upon this patient, but the relatives insisted upon more than palliative work, being willing to take any risk. Thus, in the summer of 1902, Bottini's operation was done at the hospital—a very troublesome after-treatment followed. The result was that the patient got rid of the catheter absolutely, and now has very little trouble with his urinary organs. In this case, truly, a great boon has been conferred upon the patient as well as his entire family by the performance of Bottini's operation. The poor old man can now at least die in peace.

*Is Bottini's Operation a Radical Procedure?*—In conclusion, a word still with regard to our right of calling Bottini's operation a radical operative procedure. We know that it is not the bulk of the gland that causes the obstruction but the high level of the internal urethral orifice, as compar d to the base of the vesical fundus. Now, if we are ab'e to overcome this obstruction by simpler means than removal of the entire gland, viz., by establ shing *permanent* gateways for the outflow of urine through the very body of the obstructing mass, such operation, I hold, must be called "radical." That this end is often accomplished has again been shown in this article Bottini's operation, to my mind, holds the same relation to prostatectomy as litholapaxy does to lithotomy in the treatment of vesical stone, or as the clamp and cautery does to Whitehead's operation in the surgical treatment of hemorrhoids. No one doubts the efficiency of these procedures in the radical cure of the troubles mentioned. Why, then, deny Bottini's operation its just and proper place in conjunction with prostatectomy in the cure of prostatic hypertrophy?

I say, the surgeon who undertakes the radical treatment of this disease *must* recognize the fact that we have *two* useful methods promising relief, methods that are not opposed to each other, but, on the contrary, complement each other.

The surgeon who practises one of the two operations only, will, of course, draw the line of indication for the particular operation further than the one who practises both and individualizes, selecting that method which he thinks promises the best result. Surely the surgeon, in order to do justice to the prostatics who entrust themselves to his care, should be able to carry out both procedures. Otherwise he will either have to condemn to catheter life such patients as are too far advanced in age or too greatly debilitated to stand the cutting operation, or, "let them down easy," as an able surgeon recently put it, in speaking of the painless death of old prostatics operated upon by means of prostatectomy.

I, for my part, do not see how we can afford to take a biased stand as regards this burning quest on.

In my opinion it is, therefore, the duty of those unwilling to do Bottini's operation, to nevertheless, advise the method in cases in which prostatectomy. seems contraindicated. It is my conviction that prostatectomy *and* galvanocaustic prostatotomy (Bottini's operation) will remain the two standard methods for the radical cure of the enlarged prostate g and.

### CONCLUSIONS.

1. The operations making a direct attack upon the enlarged prostate gland are preferable to those aiming to exert an indirect influence.

2. We have *two* useful procedures for the direct treatment of the enlarged prostate gland, *i.e.* prostatectomy and galvanocaustic prostatotomy (Bottini's operation).

3. In selecting the method indicated in the given case we must individualize and be guided by anatomic, pathologic, and socia conditions.

4. Prostatectomy is the most radical and most surgical procedure; it should be the operation of choice whenever promising success.

5. Perineal prostatectomy offers advantages over the suprapubic method, since it enables the operator to do the operation under the guidance of his eyes.

6. Debilitated patients who seem unfit subjects for the more radical operation, should not be at once relegated to catheter life, nor should prostatectomy be performed in order 'to let them down easy"; they should be advised to have Bottini's operation done if possible.

7. Surgeons should familiarize themselves with both methods, in order to be in a position to do justice to their patients.

8. It is the duty of those refusing to do Bottini's operation under any circumstances, to nevertheless, advise the latter in cases in whic the patient asks for more radical relief and the operation with the knife seems contraindicated.

9. Further carefully compiled staitstics as to the late results of both operative procedures—preferably in the hands of one man—are desirable in that they will increase our knowledge with reference to the selection of the proper method in the individual case.

### NOTES AND REFERENCES.

1. If permanent, partial retention, resulting from a semi-successful Bottini operation, would seem preferable.

2. "Remarks on the Treatment of Stone in the Bladder when Associated with Hypertrophy of the Prostate," *Annals of Surgery*, Vol. XXVII, pages 578 and 579.

3. The only exception I made was in a man with a suppurating enlarged gland; here extirpation, of course by the perineal route, was performed.

4. I found incidentally that mixing unsterilized tropacocaine crystals with sterilized water (or the outflowing cerebrospinal fluid—Guinard) is the safest way of preparing this drug for use.

5. Two deaths due to spinal anæsthesia.

6. *Centralblatt für die Krankheiten der Harn- und Sexual-Organe*, 1901, page 303.

7. *American Medicine*, 1902.

8. One of them was presented before the New York Surgical Society, April 9, 1902. Conf. *Annals of Surgery*, 1902, Vol. XXXVI, page 274.

9. This patient, reported as cured in my last article on this subject in 1900, was so classed on the strength of his own statement to that effect in a letter had I had an opportunity at the time to examine him I should have probably classed him among the improved cases rather than the cured.

10. I shall in future not subdivide results into "cured," "much improved," "improved," "not cured," but only distinguish "cured," "improved," "not cured."

11. If a patient, who considers himself cured, got rid of his catheter, urinates without pain, in a fair or good stream, 2 to 5 times during the day and not oftener than

once or twice during the night, has no vesical catarrh, or, just a trace of it, and if the residual urine does not exceed 60 c.c. = 2 ounces, I call this, with others, a cure.

12. Two cases need re-examination, having been operated upon in November and December, respectively, 1902.

13. *Bulletin of the Johns Hopkins Hospital*, 1902, Vol. XIII., page 36.

14. *Annals of Surgery*, July, 1902.

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# THE RÖNTGEN AND FINSEN RAYS; ELECTROLYSIS; GALVANISM; FARADISM; HIGH-TENSION DISCHARGES, AND DIAGNOSTIC ILLUMINATION.

## DESCRIPTION OF A PRACTICAL OFFICE OUTFIT FOR THE GENERAL SURGEON.

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THE author's outfit is suitable for use wherever the ordinary electric house-lighting is installed, and, in fact, can be carried from one house to another and connected with the current by simply removing one of the incandescent lamps and screwing in a plug instead. The weight of the apparatus, however, is such that it would take an express wagon to carry it, so that, except in very unusual cases, it is only for office use. In many small towns where there is no regular electric lighting system the current may be introduced into the doctor's office from the trolley system of street cars.

The first step in the installation of this outfit is the introduction of the current into the house. The electric company tears up the street, and brings three main wires into the cellar. These (one negative and two positive) are broken by a main switch having three arms, and when this is turned off the wires and apparatus in the house are entirely devoid of electricity. In the same fire-proof box with this switch the main wires are each interrupted by a fuse. This is a short piece of lead wire through which the current has to pass, and which will not transmit a current of more than twenty-five amperes or more than two hundred and twenty volts. The fuses are permanently in position, not turned off or on by the switch, and insure the apparatus in the house against excessive currents which might burn out a hundred dollars worth of wire in an instant; but in this way just burn out this fuse, costing a few cents, and stop right there. Of course you are cut off from the current until a new fuse is put in.

The current I use is the one hundred and ten volts, direct current, but the electrical manufacturers can construct the apparatus for use in connection with the one hundred and ten volts alternating current.

From the main-switch the wires pass through a meter, which in my case is the property of the New York Edison Company, and serves as the basis for their monthly bill for current used. Then the wires are interrupted again by three enclosed fuses which burn out with a current of ten amperes and two hundred and fifty volts. Beyond this the three wires are of very heavy copper, thoroughly insulated. Where they pass through floors they are enclosed in porcelain tubes, and where they pass through long spaces in walls they are enclosed in the spiral metal tubing called "flexible conduit." Wherever passing along the surface, they are enclosed in molding, and, of course, asbestos paint is used on this.

The "wiring" terminates in the doctor's office in two different lines, each of which is controlled by a switch of the capacity of ten amperes and two hundred and twenty volts.

Beyond this switch on each line is a regular electric-light socket, into which screws a plug at the end of the flexible insulated wires leading to the different pieces of apparatus.

The first to be described is the *x*-ray outfit. This consists of a liquid interrupter, a Ruhmkorff coil, a rheostat with pole-changer and an *x*-ray tube and stand.

The positive wire passes from one of the wall sockets to the interrupter. This consists of a large porcelain jar, partly filled with dilute sulphuric acid, in which is set a smaller jar with a pinhole orifice near the bottom, also containing dilute sulphuric acid. One conducting wire terminates in a leaden ring resting in the acid in the outer jar. The current passes through the liquid and the punctured jar to a leaden plate resting in the acid in the inner jar, from which it passes by a conducting wire to the rheostat and then through the primary coil and thence back through the negative wire to the wall-socket. The principle of this particular interrupter is that when the current begins to flow, bubbles of oxygen gas are liberated from the dilute acid by electrolysis and collect at the negative electrode and bubbles of oxygen gas form at the positive electrode. These are in sufficient amount to check almost completely the passage of the current, and the instant the current ceases the bubbles of gas rise to the surface and the current flows again with full force; and again bubbles of gas interrupt it.

These interruptions take place at the rate of about eight thousand per minute, and are for the same purpose as the little vibrator in the "home medical batteries"—that is, to cause a rapid succession of currents in the same direction through the primary coil, each of which produces by induction a current of vastly greater intensity or voltage in the secondary coil. When a mechanical interrupter or "buzzer," is used for an apparatus of this power, however, a separate electric motor is required of such a size as to shake the whole floor, and the sparks which fly about are of quite a terrifying nature. The absence of noise and jarring and danger from fire are the great advantages of a liquid interrupter, and then again it is more rapid. The author's gives all the way up to twelve thousand interruptions a minute. The care required to keep such a liquid interrupter in working order is simply to pour a glass or two of water into the outer and inner jars every few weeks, while with a mechanical interrupter one may frequently have to spend an hour in adjusting the vibrator.

The next part of the apparatus is the Ruhmkorff coil, and this consists of a primary coil of copper wire wound around a soft iron armature, and surrounded by a secondary coil made up of about a hundred thousand feet, about twenty-miles of insulated copper wire. This wire is one thirty-sixth of an inch in diameter and comes already wound with silk and is coated with melted paraffin as it is wound; disks of hard rubber separate it into several sections and lessen the probability of the coil burning out when the current is turned on full. The coil is the important part of the whole apparatus, and everything depends on the perfection and permanence of the insulation. The author had three different coils made by various makers before obtaining one that was satisfactory.

The secondary coil terminates in two poles about eleven inches apart. Each of these consists of a brass base about two inches high. A hard rubber section about two and a half inches high, and a brass top with a binding post. From the two bases project steel points with insulated handles, and these can be placed at any angle. When they are horizontal they come within an inch and a half of

meeting in the middle, and when nearly vertical they transmit the current to the wires going to the *x*-ray tube, with or without a spark-gap, depending upon whether the points are in contact with the wires or not. In my own experience spark-gaps have proved essential to good *x*-ray work, and this, of course, is the object of having the posts broken by the hard rubber section instead of being continuously of metal. The sparks passing from the points to the wire are so powerful that the wire used to melt every once in a while, so I have permanently attached a short piece of heavy iron wire to each binding-post, and the conducting wires are simply hooked on to these. The sparks pass harmlessly from the points to the heavy iron wire. The connecting wires are spiral steel springs without insulation. These are infinitely more convenient than insulated copper wire, which, even if coiled into a spiral, requires the *x*-ray tube to be at just such a distance from the Ruhmkorff coil. With the springs the tube can be carried backward or forward and raised and lowered and turned about in every way without paying any attention to the wires. They take care of themselves.

The *x*-ray tube is a hollow sphere, about eighteen inches in circumference, with a cylindrical prolongation extending downward for about six inches. Through the sealed end of this passes the cathode, terminating in a concave mirror of aluminum just where the cylindrical part joins the spherical part of the tube. Above, there are two cylindrical projections, through one of which passes one anode, called the anticathode, terminating in a disk of aluminum just where the cylinder joins the sphere. The anticathode and the cathode are, so to speak, at opposite ends of the tube. The other anode enters the tube obliquely through a cylinder and terminates at the center of the spherical part of the tube in a disk or mirror of platinum. This mirror is at the exact focus of the concave mirror forming the cathode. The whole tube is hermetically sealed and contains a partial vacuum.

When in use, a direct current of very high voltage and very rapidly interrupted is driven from the cathode to the anodes through this partial vacuum, and the molecules of gas are projected from the concave cathodal mirror to the plane platinum anodal mirror, from which they are diffused in such a way that the whole hemisphere in front of the mirror is filled with a greenish light. This light is not the *x*-ray, but is present with it, and to the experienced eye is a perfect guide to the quality and intensity of the *x*-ray. The latter, of course, is invisible to the naked eye. If the hand be held up before the *x*-ray tube in operation, no special effect is noted. If you were in a dark room and the *x*-ray tube in operation were encased in cardboard, no light would be visible. But the invisible *x*-ray would penetrate the cardboard and would cause a bright green fluorescence in any surface coated with certain chemical substances, most commonly barium compounds. In such a darkened room you could hold your hand toward the place where the *x*-ray tube is known to be concealed, and hold a piece of cardboard, coated with such a chemical between your hand and your eyes, with the prepared surface toward you, and then you would notice a bright green fluorescence in the cardboard, shaded more or less by the rays having to pass through the bones and soft parts of the hand. It seems exactly as if you were looking at the bones and flesh through a more or less transparent medium, but what you really see is a shadow upon the fluorescent surface. A piece of cardboard prepared in such a way is called a fluoroscope, and if it is turned with the chemical surface away from the observer you see nothing at all. The idea is that the invisible *x*-rays will pass through almost any substance and excite fluorescence in certain chemicals. This fluorescence is ordinary light, and to see it you must have it exposed directly to view. For every-day use the fluoroscope forms the bottom of a dark box which can be applied to the eyes in such a way as to exclude all ordinary light. The chemical surface is toward the eyes, and when the apparatus is held up toward the *x*-ray tube the bottom is so brightly fluorescent as to seem transparent. Especially is this the case when some object like the hand is held between the *x*-ray tube and the fluoroscope.

The bones and all are so clearly seen that several times people have expressed surprise when they discovered later that they were not looking through a piece of glass, but through a heavy sheet of black cardboard. Using this apparatus, the room does not have to be darkened, though I think that slightly better results are obtained if it is dark. The *x*-ray appears to be interfered with to some extent by the presence of ordinary light waves, This fluoroscope is easily held in one hand, and with it we can at once see the condition of the bones and joints in any of the limbs, the condition of the ribs, clavicle, scapula, vertebræ, lungs, heart, liver and spleen. The fluoroscope hardly gives us a useful view of the pelvis or the hip-joint. The spleen and liver can be seen clearly enough, and abnormal size or lessened mobility during respiration are easy to demonstrate. The size, shape, and position of the heart are seen, and the density of the lungs is noted.

The *x*-ray tube is held in any required position by a stand consisting of a heavy iron base, with an iron upright, from which extends a wooden arm. The tube itself is provided with a separate prolongation by means of which the degree of vacuum is regulated. A tube which is "hard," *i. e.* in which the vacuum is very high and the gaseous contents are almost completely exhausted, as by overheating, shows greenish spots over the unlighted hemisphere, and the line between this hemisphere and the bright one is not sharply defined. A "hard" tube produces a light of great penetrating power, and is desirable for fluoroscopic examination through great thickness of tissue; but is not so desirable for fluoroscopic examination or photography of the bones of the hand or forearm. These bones look transparent and do not present the beautiful contrast which they do when examined with a "soft" tube.

Like every other scientific means of observation, a great deal more is seen by the practised eye than by one unaccustomed to this work, and especially is this the case here because a long study of the image is prohibited by the danger of an *x*-ray burn. Right here comes in the value of an *x*-ray photograph, which shows everything that can be seen with the fluoroscope and which can be studied and demonstrated as carefully and for as long a time as necessary.

The author is about to publish a description of a new process by which an *x*-ray photograph may be made and handed about the room in five minutes and fifteen seconds after the patient comes into his office.

Quite another portion of the outfit is a set of vacuum-electrodes for the high-tension discharge. Each of these is a vacuum-tube of a size and shape corresponding to the part to which it is to be applied. One has a flattened, bulbous extremity, and is applied to the surface of the body; and others are of special shapes for introduction into the bladder,

rectum, vagina, nose, and ear. Such a tube is held by an insulated handle, and is connected with one pole of the Ruhmkorff coil, the rheostat being turned quite low. There is no connection with the other pole of the coil.

When the current is turned on, this tube becomes filled with waves of faint light, which apparently enter the body where the tube touches it. If the tube is held at a little distance from the body a shower of sparks passes from the tube to the body, and this is more or less disagreeable, according to the sensitiveness of the skin. This portion of the outfit is purely for therapeutic purposes, and the author has obtained extraordinary results in infantile paralysis, rheumatism, sciatica, lumbago, and especially in chronic colitis and impotence. For most purposes it is better to have the tube in contact with the surface, and then scarcely any sensation is perceptible and absolutely no disagreeable effects.

The portion of the outfit used for the production of the Finsen or ultraviolet ray consists of a Görl lamp as modified by Dr. Piffard, and described by him in a recent article, and a medium-sized Leyden jar. The whole being connected with the *x*-ray coil. The outer surface of the Leyden-jar is connected with one pole of the coil, and the inner surface with the other pole, no spark-gaps being used at either connection. The Leyden-jar acts as a condenser, and is absolutely necessary to the production of the ultraviolet ray. To the two poles of the coil are also attached the insulated wires leading to the Görl lamp. This connection with the coil is also without spark-gaps. The Görl lamp itself is easily handled, and consists of a hard rubber cylinder, at one end of which enter the insulated wires from the coil. These terminate in two brass knobs at the other end, between which are two others; the whole producing three spark-gaps. This end of the lamp is covered in by a lens of quartz-crystal which is transparent to the ultraviolet ray. When in use these sparks give out a noise like a package of firecrackers and the light has a faint, violet color.

The presence of the ultraviolet ray in the light from this lamp is demonstrated by the beautiful green fluorescence produced in a piece of willemite, an ordinary looking rock, consisting of silicate of zinc. This fluorescence is prevented by the interposition of a piece of glass or of a piece of the thinnest tissue paper. And this is in very marked contrast to the *x*-ray, which will penetrate the thickest book. The ultraviolet ray is present in very small amount in sunlight, and its presence may be demonstrated beyond the violet end of the spectrum. Of course it is invisible. Originally it was obtained for curative purposes from sunlight by means of lenses concentrating all the rays and a layer of water or rock-salt to absorb the heat rays. Its production from electricity in various ways marks a very great advance.

Therapeutically the ultraviolet ray is limited to action upon the external surface of the body, and if it is to penetrate even the thickness of the skin, as in lupus, we must press the blood, which is opaque to these rays, out of the part, and this is one reason for having the quartz crystal covering the end of the lamp. This can be pressed firmly against the surface. Or, again, the part may be blanched by the application of adrenalin chloride. This will be absorbed all right by a raw surface or a mucous surface, but to blanch the unbroken skin we have to follow Dr. Piffard's suggestion and introduce the adrenalin chloride by electrolysis. The conditions which are benefited by it are especially lupus, and acne, eczema, epithelioma, and chronic ulceration.

One of the standard tables giving a variety of positions gynecological and otherwise, is a necessity for treatment by the *x*-ray and by the vacuum electrodes. Therapeutically the *x*-ray proper is invaluable in inoperable malignant disease and in acne, lupus, psoriasis, nævus, and colitis.

The final portion to be described is a portable switch-board connecting with the electric light service and containing rheostats and converters of various kinds, and a milliamperemeter. This gives all the varieties of galvanic and faradic electricity required for ordinary therapeusis and for electrolysis and for diagnostic illumination. This is contained in a box measuring about eight by eight by thirteen inches, and is connected with the wall socket by means of a flexible cord and plug. The various accessories, such as the urethroscope, sponge-electrodes and electrolytic needles require no description. This part of the apparatus can be taken to any house where there is electric light.

The cost of electric current for such an outfit is very small. Not more than five or ten cents an hour for *x*-ray and vacuum-tube work, and next to nothing for galvanic and faradic work. The apparatus is always in working order day and night, dry or damp weather, and has great advantages over a static machine in therapeutic uses.

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## THE CHOICE OF METHOD FOR THE RELIEF OF RETROVERSION AND RETROFLEXION*

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A multiplicity of methods in use for the relief of any condition of deformity or disease of the human body usually means that none of them is satisfactory, or that the principles governing the employment of the various useful procedures have not been understood clearly, and have given rise to a feeling of dissatisfaction on the part of the operator, and an effort to devise a new operation has been the result.

It is my feeling that the latter has been the case in dealing with retroversion, and retroflexion of the uterus. Each individual operator has employed some method, found it lacking, and becoming imbued with a belief in the great benefit of some other procedure, has gone to the extreme of thinking that because there was a retroversion or retroflexion, this method would relieve it, instead of recognizing that the condition was a complex one, and involved many structures, and any method of procedure must be in accord with the condition he sought to relieve.

My desire is to point out the factors that should govern us in choosing one of the recognized methods of treatment; and my deductions are founded on eleven years of clinical experience, during which I have had the opportunity to observe the results of treatment as applied by many gynecologists and general surgeons, long after they have lost sight of the cases, and on my own operative and non-operative cases and the literature on the subject.

I am free to say that my clinical experience has led me to be much more conservative as to the ultimate results in the relief of symptoms than one would think necessary when reading papers on new operations.

I shall not burden you with the report of many cases, or quotations at large, from a very voluminous literature, but will first ask your attention to the conditions found in a normal female pelvis:

*Read before the New York Obstetrical Society.

*Uterosacral Ligaments.*—The uterus is a solid scular organ suspended in the true pelvis by the rosacral ligaments from the under surface of the nd sacral vertebra. These ligaments are very ng fibrous bands, especially well marked in the ng child, and are the only ligaments of the uterus ffected by pregnancy or delivery. They are the st important ligaments that suspend the uterus n the patient stands, walks or sits; they, how- , sink into insignificance when a dorsal examina- is made, or when the abdomen is opened. At psy I have tried to rupture them, and their gth has always been a matter of surprise. In examination in the dorsal position they may be y demonstrated by lifting the cervix upward by index-finger, placing the middle finger between cervix and the rectum and moving it slightly side to side.

cond in importance, as suspensory ligaments, the *Broad Ligaments*. These hold the uterus rally, and between their folds of peritoneum e many strong fibrous bands that extend from terus to the side of the pelvis, and add greatly e support of the uterine body. These ligaments ffected secondarily by pregnancy, although the s bands may not be injured enough to inter- with their functional usefulness.

e *Round Ligaments*, as their name indicates, two cord-like musculo-elastic guy-ropes that the fundus antero-laterally, but have no in- ce on the lower segment of the uterus, and not suspensory in their action in the least e. These ligaments are most markedly affected regnancy, greatly increased in length, and un- perfectly involuted are lax after one pregnancy. as always impressed me that at autopsy or at ation, the body being in the dorsal position, the round ligaments are always lax, and can be ched to a very considerable degree with the test ease.

ven when the fundus is in normal position, and pathological condition affecting them is present, impossible for me to imagine them tense enough n themselves shorten the distance from the fun- to the symphysis. In considering these liga- nts it must also be remembered that they leave uterus in the anterior folds of the broad liga- t, and pass in a lateral, downward, slightly erior direction to the internal inguinal ring, and traction on them tends to lower, as well as pull ard, the fundus of the uterus. The direction is illustrated by the large claws of a crab.

he normal fundus can be retroflexed or the uterus verted with the greatest ease at bimanual mination, the round ligaments offering no re- ence; but if the uterosacral ligaments are normal exceedingly difficult to stretch them so as to w an equal displacement of the lower uterine ment.

The levatores ani and pelvic fascia form the pelvic phragm, upon which the intraabdominal pressure inges. The rectovaginal septum is the anterior port of the rectum and prevents rectocele. ither of these structures support the uterus di- tly, but injuries to either or both seriously in- ease the strain on the uterine ligaments.

*Condition Found When There Are Retroflexion, troversion, or Both.*—First, the distance from the der surface of the second sacral vertebra, to the rporo-cervical junction of the uterus, is always creased. Upon the amount of increase in weight d bogginess of the uterus will depend the amount flexion, the existing version being governed by the mount of stretching of the utero-sacral ligaments. I am convinced that these ligaments may in great measure regain their tone and suspending power when the malposition has been relieved and the normal pelvic circulation returns.

The broad ligaments are more or less lax

The round ligaments are lax, and stretched.

The *pelvic fascia* may with the *levatores ani* be unaffected, allowing little or no prolapse of the pelvic diaphragm.

The *uterus* is chronically congested; an adenomatous hyperplasia of the endometrium always exists.

*Classification.*—For convenience in description, it is well to consider the following variations of this form of malposition of the uterus: (1) acute, traumatic; (2) subacute, not complicated by adhesions; (3) chronic, with or without adhesions.

All these may, or may not, be complicated by other lesions of the adnexa, injuries of the cervix, and rectovaginal septum.

CAUSES.—In *nulliparæ:* Chronic uterine congestion. Increased intraabdominal tension. Chronic constipation, with straining at stool. Lack of care of bladder. Over-exertion, especially at the menstrual period. Falls.

In *multiparæ:* All the causes operative in nulliparæ, together with injury to the cervix, as a factor in causing chronic uterine congestion. Injuries to the rectovaginal septum. These injuries are of great importance for the following reasons: The rectovaginal septum acts as an inclined plane, on which the fecal content of the bowel impinges; the anus is held in its normal position by the four superficial muscles of the perineum; now, given a destruction of the normal resistence of the rectovaginal septum, and an anal retraction, both occurring from the same cause, namely, injuries to the muscles, rectocele is the inevitable result. There must be from these conditions an overloading of the rectum with fecal matter for a part of the twenty-four hours anyway; and there is loss of the normal act of defecation, and a necessary great increase in straining at stool; these patients have many times told me they were compelled to lift up the rectocele with the hand before defecation was possible.

One other factor must not be forgotten, namely, injury to, or yielding of, the pelvic fascia and levatores ani; when these are present the dragging on the uterosacral ligaments is greatly increased, and it is liable to produce a prolapse.

It seems logical that the rectal tube passing as it does between these ligaments and intimately attached to the lower segment of the uterus, and to them, would, when the normal mechanism of defecation was lost and when greatly overloaded, and when straining is brought to bear to empty it, greatly increase the suspensory load of these ligaments, and tend to stretch and weaken them.

One other point worth considering is the frequency of *adhesion* of the retroflexed or verted uterus to the walls of the pelvis; this prevents to a great extent prolapse of the uterus, and while complicating the operation has probably saved to the patient structures that would otherwise have been rendered useless.

CASE.—These facts were never more graphically impressed upon my mind than in a case I saw at my clinic at St. Luke's Hospital. The patient had been operated upon by a most skilful gynecologist some time prior to her visit, ventral fixation having been performed. The patient came complaining of a large rectocele. I found the cervix outside the vaginal introitus, the cervix large and lacerated, the uterus large, a large rectocele, with marked anal retraction. To my surprise the fundus was firmly adherent to the anterior abdominal wall, the cervix had traveled through an arc of a circle, until the

uterus occupied the anterior third of the pelvis. The fixation of the fundus was absolute, but the uterosacral ligaments were incapable of bearing the enormous increase in the burden and had yielded, the pelvic fascia and levatores ani having been damaged so as to afford no help.

From the foregoing it is logical to draw the following conclusion: Any method applied for the relief of retroversion and retroflexion must consider all the structures involved in the deformity of a given case, the degree of their involvement, and the possibility of regaining normal tone and supportive power after relief of the unnatural strain.

The non-operative and operative methods applied to these conditions are as follows: *Non-operative* measures are applicable to acute traumatic, and to uncomplicated, non-adherent cases. In traumatic cases, rest in bed, ice-bag to the abdomen, and hot douches, with local treatment, as for non-adherent cases.

In cases of non-adherent replaceable malpositions, care of the patient's general health is necessary, with prolonged rest in bed when possible. Local treatment, as tamponade, douches, pelvic massage, electricity, and the pessary is called for. The knee-chest position in treatment, douching, and replacement and in the introduction of a pessary, is a valuable adjunct. Curettage will often aid, and any lacerations should be repaired. If adhesions are diagnosed, or there exists disease of the adnexa, some form of laparotomy must be resorted to, either through the vaginal vault, or suprapubic.

The operative procedures directed to the relief of retroflexion and version are as follows: Alexander's operation; shortening the round ligaments intra-abdominally, either through the vaginal vault, or by suprapubic incision; cutting the round ligaments at their origin and forming a sling for the uterus by passing them through the broad ligaments and suturing them posteriorly; anchoring the round ligaments into the anterior abdominal wall. Vaginofixation; ventral fixation; ventral suspension; sacrosuspension; Bissell's operation.

*Alexander's Operation.*—I well remember a case in which an advocate of this operation performed it with the greatest ease, and had apparently a perfect result; no repair of a badly lacerated cervix and perineum was done; later the patient's symptoms returned and she applied for relief. An anterior vaginal section was performed and adhesions were found so dense that a posterior incision was required to sever these, and then an intraabdominal shortening of the round ligaments was done, on ligaments already shortened by the Alexander operation. A complete repair operation was then performed. I mention this case as an illustration that even in the hands of skilled operators work of this kind may be unsatisfactory.

The round ligaments from their direction are guy-ropes only, not suspensory ligaments, and I am convinced that it is a fallacy to expect traction on them to hold the fundus forward when there is retroversion and prolapse. I believe the field of usefulness of this operation is limited to cases of retroflexion, and does not apply to retroversion, or when they co-exist, unless the uterosacral ligaments are strong and the pelvic diaphragm, intact.

It is interesting to note that Dr. Howard Kelly does not describe this operation in his "Operative Gynecology."

*Intraabdominal Shortening of the Round Ligaments.*—Intraabdominal shortening of the round ligaments by any of the various methods suggested, by either vaginal or suprapubic route, possess slight advantages over the Alexander, as they differ only in mode of procedure.

The round ligament—uterine sling I simply mention.

*Vaginofixation.*—Vaginofixation has been advocated by some operators.

All these methods presuppose that the fault lies entirely with the fundus, and when this is the case will give results; but when retroflexion is only part of the trouble relief will not be obtained.

I am convinced that the reason the vaginal route in these operations has given the best results is because all complicating lesions are dealt with; while operations in the dorsal position seem to lessen their importance, and make the operator satisfied with the round ligament shortening alone.

*Ventral Fixation.*—This operation is applicable only to patients who have passed the child-bearing period of their lives; should pregnancy occur the dangers of uterine dystocia are very great.

It must also be borne in mind that the fundus is not normally fixed, as the respiratory motion, and movement to allow the bladder and rectal distension are interfered with, and the uterus is held higher up than normally.

There is also a peak-like lifting of the floor of the pelvis which in old relaxed conditions does little harm. This malposition will, if careful repair of all lacerations is done, be much more acceptable to the patient than the misery from which she sought relief; still, it is a malposition and should only be done when ventral suspension with sacral suspension, together with repair, do not promise to be enough to prevent prolapse. I venture to prophesy that fewer of the operations will be done in ten years than are done now.

*Ventrosuspension.*—As its name indicates, it is a suspension from the anterior abdominal wall by bands of peritoneal exudate; these should be made by suturing the uterine fundus to the anterior abdominal wall with No. 2 chromic acid catgut. There are two stitches passed as follows: Entering the anterior surface of the fundus three-quarters of an inch below the upper border, and half an inch from the median line, on either side, they are made to pass from the uterine peritoneum half an inch below and slightly to the outside of the point of entrance. The needle is then made to pass through the ventral peritoneum on the outer side of the incision about one inch above the symphysis. The stitches are exactly alike on both sides.

This method gives excellent results and the possibility of uterine dystocia in subsequent pregnancies is very remote. The fundus is allowed ample play, and the possibility of a return to the malposition slight.

The possibility of interstitial strangulation, or intraabdominal hernia, between or under these bands, I believe, is nil, for the relation of uterus, bladder, and symphysis would seem to render it impossible.

In the application of both of these methods the uterosacral ligaments must be carefully examined, and if overstretched they must be shortened by one of these methods, three in number, as follows: (1) Splitting in a longitudinal direction, separating the edges by traction on the center of each lip of the wound, thereby transforming a longitudinal to a transverse cut and suturing the wound. (2) Section of ligament at its middle and over-lapping and suturing. (3) Shortening by puckering stitch and relying on the peritoneal exudate to re-inforce the ligament. Chromic acid catgut should be used.

I cannot lay too much stress upon the necessity

n these operations of repair of vaginal tract injuries, ombined with curettage, and repair of cervix.

*Bissell Operation.*—The operation devised by Dr. Dougal Bissell of this society, combined with shortning of the uterosacral ligaments when needed, lso repair of lacerations, presents the most perfect rocedure now known in theory, and I am sure the heory is correct, and will be borne out in practice. He shortens the round and broad ligaments by esecting one inch or more of the round ligament; y traction on the center of either lip of the resulting ound the cut is transformed from a longitudinal ne to a transverse, thereby shortening and thickning the broad ligaments. Interrupted catgut utures are used in closing the wound. Particular are is used in approximating the cut ends of the ound ligaments. This procedure is repeated on the pposite side. The operation is difficult in stout eople and requires some time to perform.

*Deductions.*—1. Retroversion and retroflexion are ever simply malpositions of the fundus, but omplex changes in the relation of the whole terus to the other structures in the pelvis and to he pelvic wall.

2. The uterosacral ligaments are the only suspenory ligaments of the uterus when the patient stands, nd are the only ligaments not affected by gestation r parturition.

3. The uterosacral ligaments suspend the uterus y their attachment to the lower segment and act as swing in supporting the rectum. Factors causing he yielding of these ligaments are: Injuries to pelvic iaphragm; increased intraabdominal pressure; onstipation; straining at stool; injuries to the ectovaginal septum, causing retraction of anus, ith rectocele.

4. Any method for the relief of these conditions nust consider and relieve all the complicating leions, not the least of these the pathological condiion of the endometrium.

5. All methods for holding the fundus forward must rely upon the integrity of the uterosacral ligaments, together with the fibrous connective tissue of the broad ligaments to suspend the uterus.

6. Non-operative measures are applicable to acute traumatic and replaceable non-complicated cases and depend for their value upon relief of pelvic engorgement, the restoration of normal circulation and the return of normal elasticity and tone to the ligaments and muscular structures.

7. The Alexander operation has a limited field of usefulness, and is of value only when there is retroflexion and the other ligaments are strong enough to support the uterus, with proper relief of other complications. It must never be forgotten that traction on the round ligaments tends to lower the plane of the uterus.

8. Ventral suspension, when performed in combination with other procedures, does relieve the malposition, and prevents a recurrence of the same. Its dangers, when properly performed, are small if any in subsequent pregnancies. The advantages of the operation are the ease and rapidity of its performance.

9. Ventral fixation is applicable only when the patient has passed the child-bearing period.

10. The ideal procedure is as follows: Curettage; repair of injuries to the cervix, retrovaginal septum, and anterior wall of the vagina. Laparotomy. Sacrosuspension. Bissell operation. The disadvantages are the length of time necessary for the operation and its difficulty of performance in fat subjects.

11. In place of the Bissell operation, a ventral suspension may be substituted. This, I believe, is wise when many adhesions have been broken up and the posterior surface of the uterus is denuded of peritoneal covering, or the patient's condition demands haste.

12. In nulliparæ a pessary should be worn for six months to prevent traction on the uterosacral ligaments until they have regained their tone. The action of the pessary is due to the fact that resting on the superior surface of the symphysis the lower segment of the uterus is held upward, and the strain taken off the uterosacral ligaments. The rectocele, when no lacerations exist, is in this manner lessened.

13. The uterus should be curetted as the first step in any of these operations.

14. The adhesions so frequently found in these cases are of the greatest value to the patient in that they fulfil a munificent purpose of nature in preventing the condition of complete prolapse during the existence of the malposition.

60 West Seventy-sixth Street.

## THE NON-MEDICINAL TREATMENT OF CONSTIPATION.*

By SAMUEL G. GANT, M.D., LL.D.,
NEW YORK.
PROFESSOR OF DISEASES OF THE RECTUM AND ANUS, NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

INNUMERABLE remedies have been suggested for the relief of chronic constipation, but the successful treatment of this common and most persistent and annoying affection still remains a difficult problem. Frequently the failure to obtain good results is due to injudiciously prescribing purgatives, carthartics, and enemata when the costiveness is caused by fissure, polypi, hemorrhoids, hypertrophy of the rectal valves, congenital malformations, benign or malignant stricture, or other disease of the rectum, sigmoid or colon, requiring operation or local treatment. Again, a very large percentage of cases of constipation are the result of irregular habits, improper diet, lack of tonicity, and glandular secretion of the bowel, or insufficient exercise, and must be treated by correcting these conditions; it is in this class of cases that the physician, in his desire to obtain "quick action" is inclined to overdrug the patient and disregard entirely more rational methods which may be less satisfactory in the beginning, but which eventually effect a permanent cure.

The writer has not resorted to the use of drugs for the relief of constipation for many years, and in January, 1891, before the Kansas City Academy of Medicine, he reported a number of cases successfully treated by the *non-medicinal method.* Since that time he has treated several hundred cases by this method, and the majority were permanently cured, while the remainder, with but few exceptions, were relieved to a greater or less degree.

The principal features of the non-medicinal method as practised by the writer are the proper education of the patient, together with the administration of enemata when necessary, massage, the application of electricity, divulsion or division of the sphincter muscle, and valvotomy, any one or all of these simple procedures being carried out as the case demands. Success in handling these cases depends entirely upon persistently and carefully applying the above measures for as long a time as may be required, and patients should be informed that the stools may not be regular or copious in the

*Read before the Medical Association of the Greater City of New York.

beginning, but that it may be several weeks before the desired results are obtained.

*The proper education of the patient* is very important, and the attendant must insist that his instructions be carefully followed. Temperance in manner of living and regularity of habits are essential. In order to procure proper digestion and assimilation and normal evacuations, persons suffering from costiveness should take their meals at regular hours, and under pleasant surroundings, eat slowly and moderately, and abstain from foods which disagree with them, or which tend to clog the intestine. Such fruits as apples, oranges, bananas, figs, and prunes, which are known to have a laxative effect, should be included in the dietary and should be eaten preferably in the morning or just before retiring.

In order to soften the fæces and stimulate peristalsis, it is necessary to drink freely of water throughout the day, there being but few more reliable laxatives than two or three glasses of cold or warm water taken on the empty stomach in the morning. Since an inactive life is conducive to constipation, these sufferers, especially if engaged in sedentary occupations, should take plenty of systematic indoor or open-air exercise. Frequently chronic constipation is complicated by a severe type of autointoxication, and in these cases a cold bath each morning, followed by a salt rub, or vigorous friction of the skin with a Turkish towel, acts as a tonic, stimulates circulation, and opens up the pores, thus assisting nature to eliminate the poisons.

It is an accepted fact that by persons regular in habit the desire to go to stool is experienced at about the same time each day, while by others, negligent in attending to the calls of nature, this desire may be felt but once in several days. Therefore, patients suffering from constipation should be instructed to make an effort to empty the bowel at a given hour daily, to devote sufficient time to this effort, and not to make the toilet a reading room. They must not be discouraged if the evacuations are irregular and incomplete at first, as the results sought for will be accomplished if the treatment is perseveringly carried out.

The administration of *enemata* daily to evacuate the bowel is a most pernicious practice, and the custom of some physicians to advise their habitual use is to be condemned. Early in the non-medicinal treatment of some cases, however, in order to secure necessary evacuations and prevent fecal impaction rectal and colonic injections are justifiable, but their use must be discontinued as soon as the other measures suggested have become effective.

*Massage* intelligently practised is an essential feature of this method of treatment, and for a number of years the writer has successfully employed it, alone, or in conjunction with other measures in the treatment of habitual constipation. It is valuable because it improves circulation, loosens adhesions, dislodges and breaks up fecal impaction, restores tone to fatigued and inactive muscular fibers, excites the liver and intestinal glands to renewed activity, and assists in establishing normal peristalsis. In addition to kneading of the large intestine, special massage should be given over the liver and small intestine and locally to the rectum by means of the hands or vibrator.

For *abdominal massage* the patient is placed in the recumbent posture upon a table so arranged that the head may be raised or lowered and the body rotated from side to side, thus changing the intestines from one position to another. The masseur then makes firm but gentle pressure with the palm of the hand and ball of the thumb over the large intestine, beginning in the right and following the course of the colon into the left iliac fossa and accompanying the pressure by thorough kneading of the parts with the fingers. This should be repeated several times during ten or twelve minutes, and every other day at first, while later in the treatment twice a week will suffice. The patient himself should not attempt these movements, as deep manipulations are prevented by the contraction of the abdominal muscles which follow his efforts; if unable to pay for the massage, he may receive much benefit from daily rolling a cloth-covered metal or bowling ball over the course of the colon while lying in a recumbent position.

*Electricity*, in the form of both the faradic and galvanic currents, has been highly spoken of as a treatment for constipation in most of the works devoted to electrotherapeutics. The writer is not prepared to say that its application alone is efficacious, but, in combination with the other measures suggested, he has found it valuable in many cases. It would appear that electricity exerts a beneficent influence in that it restores tone to the abdominal and intestinal musculature, stimulates the nerve centers, increases peristalsis, and excites glandular secretion. The positive electrode may be placed over the spine, or introduced into the rectum or sigmoid colon, while the negative is moved about the abdomen over the region of the liver, the small intestines, and colon. The intestinal contractions can be easily observed and felt through the abdominal wall. The frequency of the application depends upon the case, and its duration should be from five to ten minutes.

*Divulsion of the sphincter muscle* is very often necessary in cases of chronic constipation in either adults or children when the muscle has become hypertrophied or irritable and offers an obstruction to the evacuation of the fæces. Many of the writer's patients in whom the muscle has been divulsed or divided during operation for other rectal affections have remarked sometime afterward that their constipation also has been cured. From his observation of these and other cases where the sphincter was stretched for the relief of chronic costiveness, he is convinced that hypertrophy of the muscle is an important factor in the etiology of constipation, and that its divulsion or division is frequently indicated.

*Gradual divulsion* may be accomplished in the office by means of the Kelly or Pratt Anal Dilator, the Wale's graduated rubber bougies, or the introduction of one, two, and then three fingers until the anus has become sufficiently relaxed.

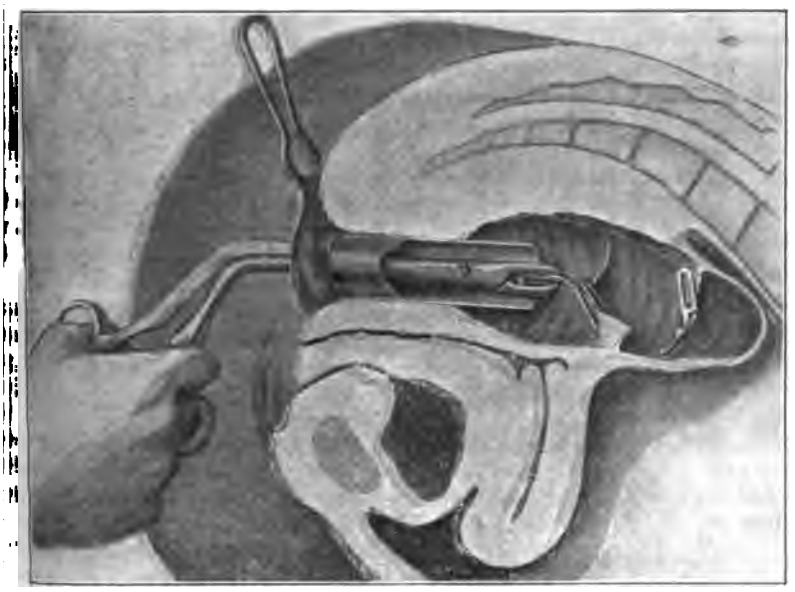
*Forcible or rapid divulsion* requires general anæsthesia, and is performed by stretching the muscle in every direction with the thumbs until its resistance has been overcome. The advantage of using the thumbs for this purpose rather than mechanical dilators or large specula is that tension of the fibers is easily recognized, and the direction of the pressure can be changed, thus avoiding rupture of the muscle and subsequent incontinence.

In some cases the sphincter is so thick and strong that the necessary amount of relaxation cannot be obtained by divulsion, however thoroughly done, and *complete division* is required. This can be performed by injecting 3 per cent. beta-eucaine into the section of the sphincter to be incised, introducing a bistoury guided by the finger placed above the muscle and then withdrawing it, completely dividing all the fibers laterally or in the posterior median line; the after-treatment of

wound is the same as that following cutting operations for fistula.

*Valvotomy* is occasionally indicated when one or more of Houston's valves have become so hypertrophied as to obstruct the descent of the fæces. Martin was the first to suggest division of the thickened valves for the relief of constipation. He exposes, through the proctoscope, a section of the valve in which two tenacula are now fixed, and between these the fold is incised with a specially devised knife. The cut edges of the mucous membrane are then approximated and held by catgut sutures, secured with perforated shot; to make the cut, to introduce the sutures, and to adjust the shot requires a knife, needle, and shot carrier having long handles bent at an angle so as not to obstruct the view. The operation is completed by tamponning the rectum with non-absorbent cotton dusted over with iron sulphate to arrest bleeding and prevent infection. The patient is then placed in bed with feet elevated and ice-bags applied to the lower spine.

The objectionable features of the Martin operation are its difficulty, the number of instruments and time required, the danger of hemorrhage, infection and peritonitis, the great pain and distention due to the tampon, the confinement of the patient in bed for a week or more, and finally the fact that no part of the obstructing valve is removed. To meet these dangers and difficulties, Pennington suggested a clip for the purpose of dividing the valves by pressure-necrosis. With this idea in mind, the writer has devised and perfected his fenestrated valve-clamps and forceps applicator, which render the operation extremely simple and devoid of danger.



Gant's operation of "Valvotomy," showing manner of using his new forceps-applicator and "valve" clamps. One clamp is in position and another placed over a "valve" ready to be freed from the applicator.

The *technique* of the *clamp* or Gant operation, is as follows: The rectum having been cleansed, the patient is placed in a knee-chest posture and a proctoscope of suitable length and caliber is introduced and so adjusted that the border of the valve crosses the center of its aperture. The applicator carrying the open clamp is then introduced, the clamp is slipped well down over the valve and released, after which the forceps and proctoscope are removed (see cut). When properly constructed the clamp divides the valve in from four to six days, depending upon the amount of fibrous tissue present, and is discharged with the fæces carrying the section of tissue within its grasp. Some of the advantages of the clamp operation are that it is simple and can be painlessly performed in the office in from one to five minutes, there is no danger of hemorrhage, infection or complications, no dressings are required, and the patient is not detained from his usual duties, suffers but little, if any, discomfort, need not be restricted as to diet, and takes nothing to regulate the frequency or consistency of the stools.

In the writer's experience this operation has proven more effective than the cutting procedure, because it removes a section of tissue nearly half an inch wide and about an inch long, thus insuring wide separation of the remaining segments of the valve.

Valvotomy is unquestionably indicated at times, but not in as great a proportion of cases as its most enthusiastic advocates would lead us to believe. The writer would suggest that the frequency of the stools following valvotomy cannot be attributed solely to the increase in the lumen of the bowel, because at the time of operation the sphincter muscle must be divulsed by the introduction of the large proctoscope and, moreover, the irritation produced by the incision or the presence of the clamp and the subsequent ulceration and proctitis excite increased peristalsis similar to that so often observed in ulcerative or inflammatory diseases of the lower intestine. In cases of long duration, after the rectal valves have been divided, it is sometimes necessary properly to educate the patient and carry out other measures already suggested in order to overcome the habitual constipation.

In conclusion, the writer would state that in his experience the results obtained from the *non-medicinal method of treating* chronic constipation are by far more satisfactory and permanent than those following the use of drugs.

43 West Fifty-second Street.

**British Losses in the South-African War.**—There were lost in men, killed outright on the field in battle, or in those who succumbed to wounds and sickness, 21,942, and 75,430 more were invalided home as sick or wounded.—*Review of Reviews.*

**A Case of Popliteal Aneurysm in a Young Boy.**—I. F. Black records the case of a boy of nine years with a good family history, and a personal history of measles and diphtheria. When the author was called to see him he had difficulty in breathing, loss of appetite, and insomnia. The organs all appeared healthy, except the heart, in which various murmurs were heard; but the principal lesion of which was incompetency of the aortic valves. A month later he developed stiffness and pain in the left knee, and a few weeks after this an aneurysm was found in the popliteal space. Operation was decided on, and the sac removed with some difficulty, because of the thinness of its walls, and the intimate adhesion to the surrounding structures. In spite of the grave condition of the heart, and the weak condition of the boy, he took chloroform without the slightest difficulty and was under the anæsthetic for an hour. The aneurysm arose from the posterior wall of the popliteal artery, just behind the posterior ligament of the joint, and was the size of a large walnut. The boy made a good recovery from the operation and regained perfect use of the limb. —*Pediatrics.*

## THE FREQUENCY WAVE OF EPILEPTIC SEIZURES.

By WILLIAM P. SPRATLING, M.D.,
MEDICAL SUPERINTENDENT OF THE CRAIG COLONY FOR EPILEPTICS. SONYEA, N. Y.

WHILE there is a great variation in the frequency of epileptic attacks, as shown in part by the few cases cited below, reference to the greater number studied—1,374—indicates that under certain conditions a crude periodicity seems to characterize the time of expression of the majority of them:

Case No. 275: attacks occurred at first 10 to 15 a day: later they increased to 30 to 70 daily.

Case No. 399: attacks occur at present every few days. Patient has had intervals of nearly a year between paroxysms.

Case No. 630: attacks at first from 4 to 6 weeks apart; at present they occur once a week.

Case No. 650: patient has had only 5 or 6 attacks during a period of several years.

Case No. 685: attacks occurred at first at the rate of one a year—all petit mal.

Case No. 714: has had one attack only every spring for the past three years, all of them at night.

Case No. 829: the patient at first had 6 or 8 psychic attacks—"stares" he called them—a day; now he has 3 or 4 grand mal seizures in the same length of time.

Case No. 907: attacks at first occurred every half hour; now once in about four weeks.

Case No. 1003: petit mal attacks daily; grand mal attacks once a year.

Case No. 1045: grand mal attacks occur from one a week to three months apart; petit mal attacks at the rate of 20 to 40 a day.

Case No. 1052: attacks first occurred once in two weeks; mostly petit mal; has a grand mal attack once a year.

Case No. 1113: attacks at first occurred once a month; later, 2 to 7 in 24 hours.

Case No. 1177: attacks at first occurred on an average of 15 months apart; now they occur weekly.

In 1,374 cases at the Craig Colony the approximate frequency of the attacks was as follows: Attacks weekly or oftener in 775; every two weeks (about) in 173; every three weeks (about) in 61: every four weeks (about) in 244; every eight weeks (about) in 42; every twelve weeks (about) in 49; every six months or over in 30.

A majority of those put down as having attacks weekly or oftener have them anywhere from 50 to 75, or even 100, a day down to two or three a week; most of them with about the latter frequency.

It is safe to say that fully 50 per cent. of all confirmed epileptics have an attack weekly or oftener, generally oftener. A very notable decline begins after the one-week period and continues up to the eight-weeks' period, after which they run on a slightly lower average, during the six months and over period.

In speaking of these periods, we must not be understood as giving them as the exact time that elapses between paroxysms, but as the average time only.

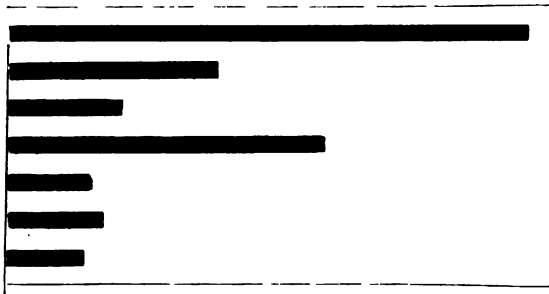
Passing the third-week period, we are at once struck with the great increase in number at the four-weeks' period. This increase is due to the fact that serial attacks in many female epileptics group themselves about the time of the menstrual flow.

Those in the six-months' period (there are a few who go 9 to 12 months and even longer without a seizure) are classed as occasional epileptics. They scarcely ever resemble the idiopathic epileptic in any way, especially in not manifesting his impaired mental characteristics.

The wave of epileptic frequency may later be found to have a causal relationship to more or less rhythmic intoxications of the central nervous system. At present we are ignorant of the nature and mode of action of such intoxicants.

The scientific work to be done in epilepsy that promises most lies at the door of the chemico-clinico-pathologist.

SHOWING FREQUENCY OF EPILEPTIC CONVULSIONS IN 1,374 CASES.



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|---|---|---|
| Weekly or oftener | 775 | 57 per cent. |
| Two weeks | 173 | 13 per cent. |
| Three weeks | 61 | 4 per cent. |
| Four weeks | 244 | 18 per cent. |
| Eight weeks | 42 | 3 per cent. |
| Twelve weeks | 49 | 4 per cent. |
| Over six months | 30 | 2 per cent. |

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**Some Observations on a Crusade Made Against the Mosquito, in Talladega, During the Summer of 1902.**—B. B. Sims says that it is erroneous to suppose that mosquitos fly any distance, or are carried by the wind. They are sometimes carried from one locality to another by railway trains, or sailing vessels. But, as a rule, their breeding places can be found near home, sometimes in the rain water caught by tomato cans, broken bottles, etc., in closed sewers, in rain-filled hollows of trees, in all uncovered water tanks, and by the thousand millions in open cisterns. In one place mosquitos bred in water which had accumulated in sags in the gutters, and were conveyed into the cistern. A pint of kerosene poured into the cistern stopped the nuisance and did not affect the cistern, as it was pumped from the bottom. In the City of Talladega mosquitos were in the habit of breeding by the millions along the banks of two sluggish streams, but last season the infected portion of the city had fewer mosquitos than any other part, due to the fact that it was closely watched and the remedy applied. A man takes a bucket of the oil, and with a dipper dashes it on the stagnant water surface at the rate of one ounce to every fifteen square feet of water surface. A better way is to use a knapsack pump to spray it on. The breezes spread the oil, and the wigglers and adult female mosquitos are done to death. The crusade cost $150 all told; 750 gallons of light fuel oil at 12 cents a gallon were used, and supplied twice a month. The crude oil evaporates less quickly than kerosene. With careful work for three or four years, the author believes that mosquitos can be entirely exterminated in the vicinity.—*The American Practitioner and News.*

# MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

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## THE ACTING ASSISTANT SURGEON, U. S. A.

At last the Tommy Atkins of the medical corps (who does not know how "Its Tommy this an' Tommy that, an' 'Chuck 'im out, the brute, but its savior of 'is country when the guns begin to shoot") has come into his own—as far as credit goes. But from remotest antiquity, republics have not been proverbial for gratitude, and this country is no striking exception to the rule. In the *Journal of the Association of Military Surgeons* for September, Major Azel Ames delivers a vigorous protest against the present status, or rather lack of proper status, of the acting assisting surgeon. Though his duty, authority, prerogatives, pay, and pension are those of an officer, and though the attorney-general and a justice of the Supreme Court have declared his services distinctly "military," and the comptroller of the treasury and the paymaster-general have declared him "a quasi officer," yet Congress, and the War and Treasury Departments withhold from him recognition as an officer. The acting assistant surgeon can share equally with his commissioned brother surgeon the same dangers of wound, disease, capture, imprisonment, hardship and death in camp or hospital, on the march or in the field; the same responsibility for due knowledge of the laws of war and the same amenability to military discipline and punishment; the same responsibility and accountability for the men and property committed to his care, and for the competent administration of hospitals, convalescent camps, transports and hospital ships; but he must not have a commission—that would never do. Yet he may suffer the harshest injustices, among them non-payment of even the poor allowances stipulated in his contract, despite army regulations, and the promises of the surgeon-general when his contract was made. There is hardly one who was in the Spanish war, who is not "out of pocket" to-day by the failure of the government to make good its promises to him. He cannot count on any definite tenure of office, his contract may be annulled at any moment, "for misconduct" or "neglect of duty," his travel allowances being thus cut off, he may thereby be left stranded in farthest Alaska or the Philippines. He, alone of all, who performed military service during the Spanish war, has been refused by Congress the extra compensation granted even to an enlisted man of only a few weeks' service. He reaps no reward for valiant or exceptional service; is not in line with promotion, cannot receive brevet rank or be placed on the retired list if disabled. Those who share with him some especially glorious or beneficent achievement, may receive these rewards, but *he* is debarred therefrom. He cannot, even when ordered to field duty with mounted troops, demand a government mount, or, if furnishing his own horse and equipment, demand forage or farrier service, as of right; though the commissioned assistant surgeon, who rides at his side, may claim both. If stricken down on the field of battle, or by disease, he has no legal claim, and there is no provision for his care when dying, or his treatment or support while lying disabled by wounds or disease. His payment immediately stops, and his country makes no provision for feeding or sheltering him, or giving him medical attendance.

There is no provision for his burial, or for sending home his body. The private whom he was bearing out of the fight upon his back when the same shot killed both is entitled to burial, but the hero who died trying to save him can claim neither. The prime cause of all these hardships is lack of commissioned rank. All of them could be instantly corrected by the according of it, and no valid objection has ever been adduced against its being conferred. Yet all successive efforts during forty years have failed to secure that recognition from Congress. The principal causes of this failure have been lack of effective, organized support from the medical profession and the feeble organization and numbers of those actively engaged in pressing these measures upon Congress; the jealousies of line and staff officers, including some few of the most influential members of the medical staff of the army, who are apprehensive of any action which might tend, in the least, to lesson their importance or exclusiveness, or impair their chances of advancement; the persistent opposition of the secretary of war, *always* most potent in hostility to the proposed legislation; and the undue, almost controlling influence given by Congress to its committees and their reports—and the aid this gives to the official jealousies and antagonisms mentioned, the committees being dominated by the department's recommendation.

When it comes to fixing the responsibility, Major Ames is no respecter of persons. It is hence plain that the responsibility for the grave wrongs, described, and the failure to remedy them, rests primarily with the War Department whose express duty it is to secure to the medical corps of the army, under its charge, the utmost possible efficiency, and to each of its factors exact equity. . . . With Congress lies, then, the second measure of responsibility for the gross injustice of forty years to the acting assistant surgeon.

The remaining measure of responsibility (and it is a large one), rests with the medical profession, the medical colleges, the medical associations, and the medical press of the country . . . for their long neglect of interests so peculiarly their own, and of such vital importance to the whole. The united influence of these bodies, duly organized and exerted, is concededly equal to the accomplishment of almost any desired and laudable object toward which it is directed—with Congress or elsewhere.

"Let it be made a matter of ethics and honor, of professional pride and personal obligation by the members of the medical profession in the United States—vigorously insisted upon by every medical college,

journal, and association—that no medical service with the Army, Navy, or Marine Hospital Corps, shall be accepted by any member except under a commission and equitable conditions, and prompt acquiescence with this most just demand will follow on the part of Congress and the War Department. . . . The acting assistant surgeon has come to stay. For a brief period he went out of existence, only to become at the outbreak of the Spanish war the chief medical reliance of the army. . . . Hitherto the appeals of the surgeon-generals of the army to the patriotism and *esprit de corps* of the medical profession in civil life, in times of need, have met with a fairly prompt response. I venture to believe that—except from considerations of humanity only, in case of brief and dire need after great battles, or in pressing exigencies—a similar response to like appeals, under the same conditions, will never be made. Nor ought it to be, in justice either to the profession, the government, or those called upon."

We think that there is no surer way than for the profession to demand proper recognition, or give no service. The surgeon-general's bureau has before this found itself unable to secure a sufficient number of competent medical men to fill vacancies in the commissioned medical corps, and unless the injustices to the acting assistant surgeon are remedied, the government may find no one coveting the places.

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## A CHEMICAL HYPOTHESIS REGARDING THE ETIOLOGY OF CANCER.

UNDER this title Dr. John Rogers, Jr., makes, in the August issue of the *Annals of Surgery*, a suggestive contribution to a much-discussed question. He notes the scantiness of literature bearing on the possibility of a chemical or chemico-biological origin of malignant disease. There is a large class of disorders, especially those of which arteriosclerosis is a type, which are but little understood. They may be regarded as expressions of the chemical disorders of advancing life, and are often associated with cancer. Any study of the blood chemistry in the latter condition may be expected, therefore, to shed some light on the former.

The author further notes that while the simpler elements and compounds have been investigated in this direction with a generally negative result practically nothing has been done with reference to the carbohydrates and proteids. It is to these that he calls attention.

Our latest census reports show that the greatest increase in mortality lies in cases of nephritis, apoplexy, influenza, cancer, and heart disease. With the exception of influenza and (for the present) of cancer, all the rest may be said to belong to the connective tissue degenerations. They are evident disorders of metabolism due to some "irritant" in the blood. This group of diseases goes hand in hand with general prosperity, wealth, easy living, strenuous activity, etc., with the implied nervous strain and interference with proper assimilation, oxidation, and excretion. The problem involved is at the bottom essentially a chemical one. "The means other than operative which have been found capable of ameliorating or curing cancer in a few undoubted instances can all be considered chemical in their nature and acting through the blood. The successes in the treatment of sarcoma by the injection of the erysipelas or mixed toxins can only be thus interpreted. To be sure, this is generally considered as evidence of the bacterial nature of the affection; but there is no other proof than analogy, and the cure, though evidently chemical, may be susceptible of a simpler explanation than Ehrlich's theories of the mechanism of immunity would indicate. A possible hint toward the solution is supplied by the fact that during infectious diseases the carbohydrates of the body, and particularly glycogen, are markedly decreased in amount."

So far as the inoculability of cancer is concerned, experimentation and the collective experience of operating surgeons would seem to show that there must exist a proper soil. This must be found in the blood. Glycogen, which is an animal equivalent of starch, is found in all tumors in a quantity varying directly with the malignancy of the disease.

Now traumatism, in some form or other, is about the only (generally accepted) apparently constant cause of cancer, and it is always accompanied by more or less of an attempt at repair by granulations or an infiltration of embryonic round cells. "In constructing an hypothesis for the origin of cancer it is not departing too much from the facts to affirm that these, by their enzyme, assimilate from the blood the carbohydrate to form the glycogen necessary for their life and growth, and by the excess of nutriment present and their own exuberant vitality in given instances proceed to outgrow their natural limits in the shape of malignancy. It is conceivable that ordinarily the residue of the original destruction may supply the food required to start the reparative process, as the enzymes of each part have a selective action, and to complete their function seem to need a food represented in the body of the cells from which they are derived. Ordinarily, when this is exhausted, the enzymes of the surrounding tissues neutralize any excessive cellular reproduction and repair is natural. If there is an excess of food or of enzyme, however, malignant degeneration follows."

Following out the suggestions from the above line of reasoning, the author has examined for the past two years the blood of a considerable number of patients operated on for cancer and other affections. Technical details are described in full. Glucose, being the simplest to investigate, was selected for the first research. Results have seemed to favor the theory of the presence in the blood of a marked glycolytic enzyme, but they do not thus far show that this is in excess in cancer patients. The author adds, however, that as "the only disease which seems to be incompatible with the co-existence of cancer, namely, diabetes, has an excess of glucose in the blood, it is reasonable to suppose that some other carbohydrate ought to be sought for." Finally he concludes that if this line of investigation shall result profitably it will be found that the blood change will prove to be quantitative and not qualitative. The various suggestions he makes are a stimulating summons to the investigators in physiological chemistry.

## SALIVARY DIGESTION IN THE STOMACH.

In the *American Journal of Physiology* for August 1, W. B. Cannon and H. F. Day review the conflicting views on this question, and add their own experimental evidence. The chemical effect of saliva is generally regarded as slight, its action being believed to be soon checked by the acid gastric juice. In 1898, however, Cannon showed, by skiagraphs, that there is a marked difference as regards peristalsis between the cardiac and pyloric ends of the stomach; at the former food is retained in a mass by the tonic contraction of this portion of the gastric wall, while the pyloric portion is undergoing active peristalsis and the contents in that region are, even after thirty minutes, usually far advanced toward chymification. Tests made on dogs and cats one to one and a half hours after eating show that here the contents are strongly acid, and the same is true on the surface of the mass at the cardiac end, but the reaction of the interior of the mass at the cardiac end remained unchanged Further, Heyde, by feeding, and then carefully removing the stomach and freezing, found that the interior of the cardiac mass remained slightly alkaline or neutral for hours. And the same difference in the motility of the two ends of the stomach has been shown to exist in man. The reasons commonly given for considering salivary digestion brief are then by no means convincing, and salivary digestion may continue long uninterrupted in the unmoved mass at the cardiac end. Cannon and Day experimented with cats. Examination of the dried contents of the pyloric and cardiac ends of the stomachs after carbohydrate food mixed with active saliva had been given, showed that at the end of a half hour the percentage of sugar at the two ends was about the same, while at the end of an hour the cardiac end contains about 80 per cent. more sugar per unit of volume than the pyloric end. The absolute amount present in the fundus is, however, really much greater than this ratio would indicate, as the fundus contains, after an ordinary meal, about five times as much food as the pyloric end. After an hour the ratio of the sugar percentages at the two ends begins again to approximate unity, this change being probably due largely to diffusion of sugar into the pyloric end and to some extent to absorption. Position does not very notably affect the differences in sugar production, though when the fundus is lower slightly more sugar is found there. When liquids or small quantities of food are given, or when the stomach is massaged, the amounts of sugar at the two ends are nearly equal. The admixture of proteid with carbohydrate food protects the ptyalin from the action of free hydrochloric acid in the relatively small pyloric portion, and on the surface of the food mass at the cardiac end. The greater mass of the food at the fundus undergoes uninterrupted amylolysis not because the proteid protects the ptyalin, but because here the food is not mixed with gastric juice. Much of the starch not changed to sugar is changed to dextrin, and thus, since dextrin is not easily fermented, the food is saved to the organism. The especial value of this process lies in the fact that it occurs in the greatest degree in the fundus, where the hydrochloric acid inhibiting the action of many of the organized ferments, does not for some time make its appearance. In the early stages of gastric digestion, if food has been properly masticated, the fundus serves chiefly for the action of the ptyalin, the pyloric portion, after a brief stage of salivary digestion, being thenceforward the seat of strictly peptic changes. Later (after two hours or more), when the contents of the fundus become acid, the food in the whole stomach is subjected to proteolytic fermentation. The authors also point out the close agreement between their observations and those of Ellenberger, Hofmeister, and Hofmeier on horses, pigs and rats, in which animals the cardiac end of the stomach is lined to a great extent with pavement epithelium and is supplied with "cardia glands," which are distinguished from the fundus glands by not having an acid secretion; whence, in the absence of gastric secretion, the cardiac end is the seat of prolonged amylolysis. This similarity in salivary digestion between animals without acid secretion at the cardiac end, and animals with free secretion there, indicates that the division of the stomach into two regions with functions chemically different during the early stages of gastric digestion, is a general fact. The important difference is the motor one, the comparative absence of peristalsis at the cardiac end and the consequent quiescence of the food there. It need hardly be added that these results emphasize the extreme importance of insalivation.

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### A Reformatory Club for Dyspeptics.

The dyspeptic club recently formed in Jersey City aims evidently to create a new "department of the interior," and to manage it on advanced and economic theories. So far there are only fifty-seven members in the organization, although a very much greater number, mostly Americans, are plainly eligible.

We have not been informed of the particular qualifications for membership, but assume that they sum up the main sins of omission in chewing and of commission in bolting various foods. Each member must make quarterly written reports of experiences, and doubtless there will be much comparison of notes, and much detail of hopes deferred and hearts made sick. The diversity of these should certainly give due variety to the sessions. But this is the only way to get at facts. The actions of different foods must be duly estimated. If need be, the old-time theories of indigestion must be combated. Pie and pain, buckwheat and bloat, sausage and suffering, pickle and pang, cabbage and colic, ham and heartburn must show their proper relations. They probably will as the game goes on. The humiliating part of the business is that each culprit must confess to his weak will and his misplaced confidences, while pork, pie, and pudding will still hold their own against odds. If the outcome were not sad it might be humorous. No man, however, with a highly developed indigestive sense can hope to be brilliantly witty or voluntarily truthful. Thus no member should be trusted to give absolutely impartial testimony unless he can prove that he was free from cramp, hyperacidity, headache, or borborygmus when his report was written. Gastralgia is as apt, in a reflex way, to affect the higher moral sense of truth as is a colic to warp sound judgment on the ordinary relation of cause and effect. The only time for good resolutions when the paroxysm is on.

### Radium as a Therapeutic Agent.

The discovery of radium may almost be said to mark an epoch in the history of science. The limit of its potentiality is as yet not nearly known, but the knowledge already gained of its properties clearly distinguish this mineral as in a measure standing apart; and it has been asserted that radium will open up a new field of scientific investigation, perhaps even lead to the isolation of a new group of elements. At the meeting of the New York Academy of Sciences, held recently, radium and the phenomena of radioactivity displayed by the mineral were considered, and a comparison was made between its powers and those of ultraviolet and Röntgen rays. George F. Kunz read a paper on the action of the Röntgen rays, ultraviolet rays, and radium on mineral substances, in one of the lecture rooms of the Natural History Museum. Mr. Kunz also touched briefly on the probable uses of radium in medicine. He said in part: "The invention of Goerl, which has been perfected under the name of the Piffard lamp in the United States by Dr. Henry G. Piffard of New York, is an instrument of great utility, as he has proved it a valuable medical adjunct. This brings to mind a possibility of the utmost importance. There is the possibility that fluorescent substances can be injected into the veins, intestines, etc., or it might be taken in powders or in solution in food, and thus a nearer location effected in organs desired to be examined. The entire tissue structure could then be examined, as well as the bony structure is at present by the Röntgen rays, under the ultraviolet rays." These, however, are but forecasts of what may happen. Some practical work has been done by means of radium. Mr. Mackenzie Davidson of London and Professor Gussenbauer of Vienna have had very successful results in the treatment of rodent cancer by the application of the rays from radium. Mr. Frederick Soddy of University College, London, has suggested a method of applying the rays from radium and thorium in the treatment of consumption. Mr. John Macintyre, surgeon for diseases of the throat and nose, Glasgow Royal Infirmary, contributed an article to the *British Medical Journal* of July 25, in which the therapeutic effects of the salts of radium—so far as is yet known—are well described. He thinks that the study of radium is evidently going to throw a considerable amount of light upon questions hitherto obscure in the region of physics, and it is not altogether improbable that the same thing may be said of it in medicine. According to Mr. Macintyre, three kinds of rays have been already distinguished: (*a*) Infinitely small positively charged atoms of matter flying at great speed, which can be measured, and the result seen by the bombardment on zinc sulphide screens; (*b*) rays which seemingly correspond to the cathodic rays in a Crookes's tube, and also described by Leonard as passing through an aluminum window in the same, and (*c*) rays which evidently correspond to the *x*-rays. The author then gives an account of some cases of lupus and rodent ulcer which yielded to treatment by the salts of radium, and concludes as follows: "A considerable time must yet elapse ere any opinion can be offered about the true value of radium compounds in the treatment of such cases. Even if its therapeutic value be thoroughly established, there will remain the questions of the time taken to produce the desired effect, the kind of cicatrix or covering which forms, and, last, but not least, to what extent they are likely to compete with the *x*-rays, high frequency, or other forces."

Radium, as a therapeutic remedy, is on its trial. There is the possibility, perhaps almost the likelihood, that it may eventually become of inestimable value in medicine, but at present sufficient is not known of its properties to pass a decided opinion. It is in the potential stage, but may emerge now at any time into an actual medical remedy of surpassing merit.

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### The Checking of Tuberculosis in New York.

Under the heading "The White Plague in New York," the *New York Evening Post*, October 17, gives an excellent sketch of the conditions with regard to consumption which prevail in the city, as well as a history of the disease, the measures which have been put into force to check its spread, and offers suggestions as to the best means of conducting a successful crusade against its inroads. So much has been written and said concerning consumption within the past few years, that it may seem somewhat supererogatory to again bring up the matter. On the principle, however, that "Continual dropping will wear away a stone," so may a persistent ventilation of the subject arouse the apathy of the general public with respect to the menace of tuberculosis. In the past ten years the deaths from various forms of tuberculosis in the Boroughs of Manhattan and The Bronx, have, it is said, averaged about six thousand annually, the great majority being due to pulmonary tuberculosis. This statement alone should be sufficient to excite the alarm of the citizens of New York and to arouse them to resolute action with a view to altering the present condition of affairs. The article in the *Evening Post* expains the indifference of the public as due to the fact that for generations people have been taught to believe that consumption was hereditary, and, when once contracted, incurable; that a certain large portion of each community had always been afflicted with this scourge and always would be; that those who were predestined to contract it would do so, and there wasn't much use in doing anything to prevent it.

Whatever may be the reasons for the disregard with which the ordinary individual regards consumption, one thing would seem to be certain, that if any headway is to be made against the spread of the disease, strict preventive measures must be taken, and that if the inhabitants of a city do not know enough to protect themselves they must be protected against themselves. In the first instance, every effort should be put forth to educate the public as to the nature and best methods of treatment of tuberculosis. At the same time the municipalities of large cities would do well to take immediate steps in the direction of preventive measures.

With perhaps some reservations, the language of the writer in the *Evening Post* in describing the methods most fitting to the situation, meets the circumstances of the case. He writes as follows: "In conducting a campaign against this destroyer of human life in a great city like New York two things are necessary for success. First, the education of the people in regard to the true nature of tuberculosis. Teach the masses that it is not a loathsome, secret, incurable disease reflecting disgrace or discredit upon the individual or his family, but an infectious, communicable disease produced by a germ which is universal, and that it is quite readily curable if taken in time. Inform them that the source of infection is the sputum cast off by the patient, and consequently, of the great responsibility which rests upon each individual to destroy the germs in the expectoration before they can become a source of danger to others. Secondly, a proper provision in the way of hospitals and sana-

toriums for those who have no homes or whose condition and homes are such that they cannot be properly treated, and who are of necessity sources of infection to the healthy. These hospitals should be controlled by a centralized department of the city government, which should have the power to remove to them, forcibly if need be, those people suffering from tuberculosis who cannot be taken care of at home, or those who may wilfully disregard the welfare of others by promiscuous spitting and other filthy habits."

The great and pressing need in New York is the establishment of hospitals and dispensaries for the treatment of phthisical patients. No large city of the world is less provided with such institutions, and until this defect is remedied, but little progress can be made in decreasing the prevalence of the malady. Consumptives in an advanced stage should assuredly be isolated, as these are—and especially in the crowded tenement districts—foci of infection. For the efficacious treatment of persons in the early stages of the disease, the erection of sanatoriums in the country is a *sine quâ non*. Dispensaries, too, might be established in the city itself for the treatment of those who are unable to get away.

Money expended for the relief of those suffering from tuberculosis is, indeed, money well spent. The MEDICAL RECORD has on every available occasion tried to drive home the obvious truth, that it is for the benefit of the citizens as a body that tuberculosis should be strenuously fought. The disease is a menace to all, and the greater the indifference displayed as to its increase, the harder will it be to combat it with any hope of success.

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## THE HEALTH OF THE BRITISH ARMY IN INDIA IN 1901.

The report of the Imperial Sanitary Commissioners for India for the year 1901 has recently been made public, and a résumé of it appeared in the *British Medical Journal* of September 26. A part of the report is taken up with a brief account of the condition of the British Army in India during 1901.

This should be somewhat interesting to American readers, for purposes of comparison with that portion of the report of the Surgeon-General of the United States Army which refers to the health of the troops in the Philippines. It appears from the report of the British Army in India that in 1901 sickness rates were comparatively low, but invaliding high. The death rate was 12.38 against 14.62 in 1900 and 16.21 in the decennium 1891-1900. Ague and venereal disease were as usual the chief causes of sickness, and enteric fever and hepatic abscess of mortality. There was diminished mortality from cholera, enteric fever, heat stroke, tubercle of lung and abscess of liver and increased mortality from pneumonia and dysentery. Madras and Bombay were the most unhealthy commands, influenza was in excess. There were 12 cases of cholera, all fatal; 30 cases and 3 deaths from smallpox, giving a death rate of 0.05, against a general rate of 0.40. Ague and remittent fever were less prevalent. Five cases of Mediterranean fever were returned. There was a decrease in both morbidity and mortality of enteric fever. The admissions numbered 776, and deaths 202, against 970 and 289 in 1900. The admissions have steadily declined during the last three years. . . . Data bearing on the causation of enteric fever are presented in considerable detail, but no novel conclusion of importance ensues. It is thought that sanitary measures have in part caused the diminution. Only three cases of plague occurred with one death and only one of cerebrospinal fever. There were twenty-eight cases of beriberi, twenty-five of which occurred in Burmah. The mortality from phthisis fell slightly, and that of pneumonia rose a little, as also that of dysentery. Some interesting statistics are given regarding the relation between dysentery and liver abscess. There was a fall from 313 in 1899 and 298 in 1900 to 276 in the admission rate of venereal diseases. Preventive measures are credited with the improvement. The death rate of officers was 11.11 against 11.80 in 1900, and 15.94 in 1891-1900. Of women 17.54 against 12.83 and 16.13, and of children 32.95 against 46.87 and 44.86.

Considering all things, the health of the British Army in India in 1901, and that of the American Army in the Philippines in 1902, was very satisfactory, and goes to show that under good sanitary conditions the white man can live in tropical countries and retain his health and physical vigor.

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## THE HEALTH OF THE UNITED STATES ARMY.

The annual report of the Surgeon-General of the United States Army for the fiscal year ending June 30, 1903, has just been issued. During the period covered by the report, of the entire army at home and abroad, the white troops showed a hospital admission rate of 17.06 per 1,000, and a death rate of 14.40, while the negro troops had 18.97 admissions per 1,000 and 24.11 deaths per 1,000, and the Malay scouts 17.07 admissions and 24.04 deaths per 1,000. At first sight it would seem as if Asiatic cholera was far more deadly among the negroes and Filipinos than the white troops, the respective cases and death rates being, for the white troops, 4.72 cases and 2.83 deaths per 1,000 of strength; for the negro regiments, 15.68 cases and 7.96 deaths per 1,000, and for the Filipino troops, 16.58 cases and 10.15 deaths per 1,000, but, as Surgeon-General O'Reilly points out, this difference in the rates for sickness and mortality from cholera is mainly explained by the fact that there are a large number of white soldiers in the United States who are not exposed to cholera, and that therefore the rates for the three races do not differ widely.

Excessive consumption of alcohol was responsible for much sickness among the white soldiers, the admission rate for this cause being 24.78 per 1,000, and 11.70 per 1,000 among the negro troops. The Filipinos showed a striking contrast in this respect—out of a force of 5,000 men of this race only three were treated for alcoholism, and the admission rate of the Malay scouts for overindulgence in stimulants was but 0.62 per 1,000. Beriberi was extremely prevalent among the troops of native blood, causing an admission rate among the Malay scouts of 123.92 per 1,000 and a death rate of 6.01 per 1,000. The white soldiers were scarcely at all attacked by this disease, nor were the negroes to any extent.

Reference is made in the report to the successful measures taken to drive out yellow fever from Cuba. An account is also given of the work carried on in the summer of 1902 at army stations of the United States situated in malarious districts with a view of exterminating the mosquitos. The work has been attended with satisfactory results, and will be continued. The methods put into force have consisted of using petroleum on stagnant water, and when practicable, of draining, clearing away underbrush, etc. The casualties in the army during the fiscal year were few in number, twenty soldiers were killed in action, thirty-one committed suicide, and there were twelve homicides.

# News of the Week.

**Conference of Boards of Health.**—The annual conference of State and Provincial Boards of Health was announced to be held October 23 and 24 at Baltimore, Md. The following subjects were to be brought up: "Transportation of the Dead," "The Mosquito and Yellow Fever Question in Havana During the Last Year," and the "Control of Venereal Diseases."

**Free Practice for Osteopaths in New Jersey.**—A curious story from New Jersey is published in the newspapers. It is stated that eight of the leading physicians of Vineland, in that State, had an osteopath arrested on the charge of practising without a license, but the Grand Jury refused to indict for the reason that the majority of the jurors thought a free American citizen should be allowed to call any doctor or physician he wished. There is no New Jersey law under which a license may be granted to an osteopath.

**Yellow Fever in Laredo.**—The fever is now spread over all parts of the town of Laredo, some twenty new cases being reported daily. The total number of cases up to October 18 was 400; of deaths, 27. The city was to have been saturated with oil, all the cesspools and other collections of water being well covered, and it is hoped by this means to put a stop to the increase of the yellow-fever mosquito.

**Cholera in the Holy Land.**—It is reported that cholera has broken out at Bethlehem and the town has been surrounded by a cordon of troops in the hope of preventing the invasion of Jerusalem by the disease.

**Hospital for Contagious Diseases at Greenwich.**—Mr. Robert M. Bruce and his sister Sarah E. Bruce have presented to the town of Greenwich, Conn., a plot of ground with four buildings to be used for a contagious disease and emergency hospital. It is opposite Putnam Cemetery, on high ground, and has one stone house for smallpox and two others for other contagious diseases. The caretaker's house is equipped as an emergency hospital.

**Another Investigation of Randall's Island House of Refuge.**—Not satisfied with the adverse criticisms of the State Fiscal Supervisor, regarding the management of the Randall's Island House of Refuge, the president of the institution has requested the State Board of Charities to cause an investigation of the administration of the institution to be made. The State Board has granted the request, and the board's committee on reformatories will make the investigation at once. The members of this committee are William Rhinelander Stewart, Mrs. Annie G. DePuyster, and Dr. Stephen Smith of New York City.

**"Archives Latines de Médecine et de Biologie"** is the title of a new trilingual monthly medical review, the first number of which was announced for publication on October 15. Beginning with the first of January, 1904, there will be published a bimonthly, eventually perhaps a weekly, supplement containing medical news and information of a practical nature relating to new instruments and remedies, hygiene, sanitary legislation, etc. The original articles will appear in the language of the writers—French, Italian, or Spanish—and each paper will be followed by abstracts in the two other languages. The editor in chief of the new review is Dr. Gustavo Pittaluga of Madrid, with whom are associated Drs. Albert Robin and Raphael Blanchard of Paris, Carlos Maria Cortezo and Santiago Ramón y Cajal of Madrid, Eduardo Maragliano of Genoa, and Battista Grassi of Rome.

**The American Public Health Association.**—The thirty-first annual meeting of this association will be held in Washington on Monday, Tuesday, Wednesday, Thursday, and Friday of next week, October 26, 27, 28, 29, and 30, under the presidency of Surgeon-General Walter Wyman of the Public Health and Marine-Hospital Service. The executive committee has selected the following topics for consideration, but papers will be received upon other sanitary subjects: Purification of Water Supplies, Disposal of Industrial Wastes, Purification and Disposal of Sewage, Disposal of Garbage, Animal Diseases and Animal Food, Car Sanitation, Steamboat and Steamship Sanitation, Etiology of Yellow Fever, Tuberculosis, Plague, Demography and Statistics in Their Sanitary Relation, Cause and Prevention of Infectious Diseases, Infectious Period of Communicable Diseases, Public Health Legislation, Cause and Prevention of Infant Mortality, Disinfectants and Disinfection, Production and Free Distribution of Vaccine, Teaching of Hygiene and Granting of Diploma of Doctor of Public Health, Sanitary Aid Societies, and Canteen in Armies.

**Dr. Louis Rosenwasser** of this city writes: "I would ask you, kindly, to deny in your columns the rumor of my death, which has been current in New York and which has, in fact, been printed in the newspapers. I am in Denver for the benefit of my health, but am far from being dead." We are very pleased to be able to make this announcement on such good authority, and trust that for very many years yet to come Dr. Rosenwasser will be able to characterize any repetition of such a rumor as, in the language of Mark Twain, "grossly exaggerated."

**Hasty Diagnosis of an Ambulance Surgeon.**—Dr. M. Cinberg of this city sends us a protest regarding the snap diagnoses sometimes made by hospital internes. He writes that a patient of his, a business man of the highest probity and respectability, who suffers from a weak heart, was seized the other day with an attack of cardiac syncope in the street. A police officer called an ambulance, the surgeon of which pronounced the man intoxicated, and he was accordingly locked up in the police station. The man was not under the influence of alcohol, and the ignominy of being arrested on a charge of intoxication so disturbed him that his weakened heart is still suffering from the effects of the excitement.

**A New Hospital in Utica.**—Bishop Olmstead of the Episcopal Church, on October 17 laid the cornerstone of the new St. Luke's Home Hospital on Whitesboro street, opposite the State Hospital in Utica. The hospital is the gift of Mr. and Mrs. Frederick T. Proctor of Utica, who purchased the plot, and will build and equip the hospital at a cost of $200,000.

**Tuberculous Teachers Barred.**—The State Board of Health of Indiana has isued orders forbidding the reëmployment of 250 teachers in the public schools who are afflicted with tuberculosis.

**St. Luke's Day Services.**—A special service for physicians was held last Sunday evening in Calvary Protestant Episcopal Church, of which the Rev. Dr. J. Lewis Parks is rector, the service being to mark the feast of St. Luke. Bishop Potter officiated, assisted by the rector and several local clergymen. About two hundred physicians were present. The lesson from Ecclesiasticus, 38, 1–14, beginning "Honor a physician with the honor due unto him for the uses ye may have of him, for the Lord hath created him," was read by Dr. D. B. St. John Roosa, and an address was delivered by Dr. William H. Thomson. Bishop Potter also made a

brief address. The service was preceded by an organ recital by Mr. Lacey-Baker, choir master of Calvary Church.

**Day Patients at the Hospital for Tuberculosis.**—Mr. Homer Folks, Commissioner of Charities of this city, has instituted an improvement in the service of the tuberculosis hospital of the Metropolitan Hospital on Blackwell's Island by the institution of a system of day treatment. At present there are about 330 male and seventy female patients resident at the hospital. A number of female consumptives who would otherwise be benefited by the treatment are, it is believed, precluded from staying at the hospital by the necessity of attending to household duties. A day treatment system has therefore been inaugurated by which women visit the island during the day and are given the open-air treatment, together with the medicines and good food which the regular patients receive. The women return home at night.

**Smallpox in Illinois.**—An outbreak of this disease has occurred at Westfield, Ill. Seventeen patients are now in quarantine in the isolation hospital and others are quarantined in their homes. The public schools have been dismissed indefinitely and all church and public meetings cancelled.

**Philadelphia Pediatric Society.**—At a stated meeting, held October 13, Dr. D. J. Milton Miller exhibited a patient with pseudo-hermaphrodism and an abdominal tumor. The patient was a child two years old, in whom distention of the abdomen had been noticed for ten months, during which time enlargement of the right kidney, of the liver, and of the spleen had been observed. Examination of the blood showed a reduction in hæmoglobin and in the number of red-blood corpuscles and an increase in the number of leucocytes, involving the lymphocytes in a noteworthy degree. The condition was considered to be one of sarcoma of the kidney, with metastatic involvement of the liver, and it was suggested that the splenic tumor might be an independent disorder. In addition, the child presented an hypertrophied clitoris simulating a penis, with a well-marked prepuce, but it contained no urethra, which was, however, present in the usual situation. A vagina was present, but the uterus could not be palpated. The labia majora were greatly enlarged, but they contained no tissue suggestive of testicles. There was also a moderate growth of hair on the vulva. Dr. Herbert V. Carpenter exhibited a patient with bilateral stenosis of Stenson's duct. The condition had been observed only for a period of three weeks, and was characterized by cystic dilatation of the duct visible both externally upon the cheek, and internally within the mouth. It was thought to result from an inflammatory process within the buccal cavity involving the duct by continuity. Dr. Carpenter exhibited also a patient with interesting cardiac signs, a girl of about ten years of age, who had previously had an attack of scarlet fever, followed by muscular and articular pains. The heart was greatly enlarged, and a systolic murmur was audible in the mitral area, and a systolic and a diastolic murmur in the aortic area. There was no œdema and no effusion into serous cavities. The subjective symptoms were comparatively slight, the patient complaining principally of dyspnœa. Dr. I. Valentine Levi read a paper on "Congenital Dilatation of the Colon," reporting the case of a child in whom marked improvement followed the employment of enemata of normal saline solution and administration of nux vomica in increasing doses. In addition to the dilatation of the colon there was also diastasis of the recti muscles and splanchnoptosis. Dr. John H. Jopson presented a communication entitled "Subphrenic Abscess in Children, with the Report of a Case." He pointed out the general rarity of this condition, particularly in children, and he discussed the etiology and treatment. The case reported occurred in a child fifteen months old and the etiology was obscure. The patient had had bronchitis and a slight enterocolitis, and these were thought possible factors. In addition, the responsibility of traumatism as a cause could not be entirely eliminated. The child survived, although the post-operative course of the case was protracted.

**College of Physicians of Philadelphia: Section on General Medicine.**—At a stated meeting, held October 12, Dr. Joseph Sailer exhibited a case of chronic pneumonia in a girl thirteen years old. The patient was a colored child, who gave a history of having had pneumonia four years previously, and who complained of persistent cough. On physical examination there was found impairment of the percussion-resonance, blowing breathing, bronchophony and pectoriloquy and increased vocal resonance and fremitus, On careful observation occasional elevation of temperature was noted, but injection of tuberculin was without effect; and examination of the sputum failed to disclose the presence of tubercle bacilli. The nutrition was little, if at all, affected. Drs. Joseph Sailer and Charles H. Frazier reported a case of typhoid fever, complicated by strangulated Meckel's diverticulum. The patient presented symptoms suggestive of perforation of the bowel, but on operation strangulation of a distended Meckel's diverticulum was found, with some evidences of previous but not of present peritonitis. There were no indications of obstruction of the bowel, and no noteworthy leucocytosis. The diverticulum was ligated and inverted into the intestine, but on account of the poor condition of the patient, further search for a perforation was not made. Death resulted, and on post-mortem examination fluid effusion into the peritoneal cavity was found, together with other evidences of recent peritonitis, but most careful search failed to disclose the presence of any perforation. It is believed that the primary changes in the diverticulum had begun at an earlier date, when the patient was thought to have had an attack of biliary colic, and that infection, perhaps with typhoid bacilli, had taken place during the fatal illness. Dr. David L. Edsall reported a small epidemic of staphylococcus infection of the skin occurring in cases of typhoid fever. Furuncles and vesicles developed, principally in and adjacent to the sacral region in a series of half a dozen cases of typhoid fever in close proximity, and it was thought that the infection must be conveyed by attendants, perhaps in the process of bathing, or in the use of the bed-pan or the like. Upon the institution of prophylactic measures directed toward these factors, no further cases occurred, though at a later date there was some recurrence. Dr. David Riesman made a clinical report of a case of horizontal dilatation of the left auricle (Ewart). He referred to the cases reported by Ewart and Owen, in which the condition described was observed during life and confirmed on post-mortem examination. Among the symptoms were marked enlargement of the heart, particularly at the base and to the right, with systolic pulsation, and also pulsation of the liver, without pulsation in the vessels of the neck, ascites or œdema of the lower extremities, and with murmurs of mitral obstruction and insufficiency. Dr. Wm. Pepper reported a case of aneurysm of the abdominal aorta and formation of a large adventitious sac. The patient was a shoemaker, with a history of syphillis, and to this, together with the

pressure of his tools upon his abdomen, was attributed the origin of the condition. Dr. Alfred Stengel presented a communication entitled "Desquamation after Typhoid Fever, with Particular Reference to the Occurrence of this Condition in Children." He reported a series in observations in which desquamation, either furfuraceous or squamous, was found in more than 50 per cent. of the cases, principally late in the disease, at or near convalescence. He was inclined to attribute the peculiarity to bathing, although other observers thought sudamina and perhaps trophic conditions might be responsible in some instances. It seems to occur with peculiar readiness in children, perhaps on account of the delicacy of their skin.

**Dr. Hilary M. Christian,** surgeon in charge of the Genito-urinary Dispensary of the University of Pennsylvania, has been recently elected Clinical Professor of Genito-urinary Diseases, at the Medico-Chirurgical College of Philadelphia.

**Disappearance of a London Physician.**—The body of Miss Hickman, the woman physician of London, who disappeared suddenly and mysteriously two months ago, has been found in an unfrequented part of Richmond Park. The throat had apparently been cut, though the body was so decomposed that it was difficult to determine whether this was so, or whether the head had been separated by the gnawing of rats. Miss Hickman, who was a fully qualified doctor of medicine, twenty-nine years old, had been performing her duties at the Royal Free Hospital on the afternoon of August 15, when she left the hospital. Since that time the police of the whole country have unavailingly searched for her. She took nothing with her except a few pounds sterling. No reason is known for her disappearance. The body was identified by a medal which she had won in a swimming competition and by her ambulance cross.

**Obituary Notes.**—Dr. JEAN CHAUVEAU died on October 17, at his home in this city. He was born in the West Indies seventy-two years ago, was graduated from the Geneva Medical College in 1853, and then came to this city. He celebrated his fiftieth anniversary as a physician last June. He had been the attending physician at the French Hospital in West Thirty-fourth street since it was opened in 1883, and he was the correspondent of the French Medico-Legal Society and a member of the New York State Medical Association, the New York Academy of Medicine, the Neurological Society, the Medical Society of the County of New York, and other societies. Dr. Chauveau leaves a widow and a son, Dr. J. F. Chauveau, Jr.

Dr. JONATHAN TAFT, one of the best-known dentists in the country, and founder and for many years dean of the dental department at the University of Michigan, died at his home in Ann Arbor on October 15.

Dr. H. M. ALEXANDER died on October 14, at Conewago, Pa., at the age of fifty-two years. He was the proprietor of the Lancaster County Vaccine Farms.

Dr. ROBERT ABERDEIN of Syracuse died at the Hospital of the Good Shepherd in that city, on October 18. He was born in Chippewa, Ontario, on December 7, 1845. He was a graduate of the University of Toronto and of the Baltimore Hospital Medical School in 1867. He practised in Syracuse from 1875 until three years ago, when the illness from which he died attacked him. He was a Fellow of the Royal Microscopical Society, a member of the American Microscopical Society, and a member of the Onondaga County Medical Society and of the American Medical Association.

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

OPENING OF THE WINTER SESSION—REGISTRAR-GENERAL'S REPORT—IRISH DISPENSARY DOCTORS—HOSPITALS AND SHOPPING—TSETSE FLIES—RUGE'S MALARIA—LAFER'S MYCOLOGY.

LONDON, October 2, 1903.

THE long vacation is over. The winter session began yesterday. The opening day at the schools has lost a good deal of its old charm since a number of them replaced the time-honored Introductory lecture by a dinner or conversazione. Some, however, stand on the ancient ways. King's College secured Sir J. A. Cockburn as lecturer, and King's being one of the centers of the higher education in all directions, he took an extended view of his subject, pointing out that the world-wide possessions of Great Britain presented an unparalleled field of activity for every well-equipped medical student. Science owed much to the facilities for research and travel afforded by such a vast area. Cables and steam had, as it were, contracted the surface of the earth so that the nation no longer sufficed as the unit of power and all aimed at empire. Future rivalries would be between empires of which nations were component parts, and he looked with confidence to the continued progress of the Anglo-Saxon race.

At St. George's Hospital Dr. Dakin took a more medical view of his position, and having welcomed the new students, told them a doctor's life involved the greatest strain on the physical, mental, and moral powers. But it was extremely interesting, and after a day's work well done the doctor might seek his bed with a clearer conscience than many of his fellow citizens. The persons who were not suited to the medical life were those who were cursed with a despondent mind, those who were fit for parts more of a lighter character, and those of not quite perfect honesty of purpose. Extreme ability was not indispensable, though it was certainly most useful at times. The greatest success, at any rate from a financial point of view, had been known to be obtained in its complete absence. But though we see the wicked man flourish in the proverbial manner it did not last long, unless he was a very clever knave indeed. Apart from abstract principles of morality, he had no doubt it paid in their profession to be straight. In addition to honesty, a fair degree of intelligence and average common sense, the lecturer thought a sense of humor was very desirable. The greatest difficulty was often to keep abreast of the special knowledge and power of original research possessed by one's patients. Only by severe application and constant study of foreign literature, combined with some evasions, could the doctor bring himself on the platform of certain patients and convince them of his fitness to carry out their suggestions as to the proper treatment of their unique cases. When the laughter at this sally subsided, Dr. Dakin proceeded to discourse on the progress of gynecology, and midwifery became the obstetric physician to the hospital.

So, too, at the Middlesex Hospital, Mr. William Hern, the dental surgeon, took for his text the care of the teeth. He inveighed against the tendency to ignore minor causes of disease and urged that satisfaction at possessing a remedy for a disease should not lead to neglect of the means for preventing it. To this end medical men should continue to impress on the people the observance of hygienic principles. In a recent investigation 80 per cent. of the children in industrial schools were found to be suffering from dental caries. Thousands yearly sought the help of hospitals for ailments due to oral sepsis, caries, or loss of teeth—the consequences of neglect in childhood. He thought the State should organize some system of supervision and instruction of the children on the importance of preserving their teeth, and the means of doing so.

At the School of Medicine for Women, Dr. Elizabeth Pace traced the history of the medical education of women in Great Britain from the time when Dr. E. Blackwell, some sixty years ago, began her study and became the first woman doctor of modern times. This London school was opened in 1874, and three years later the Royal Free Hospital was opened to the pupils for clinical work and has continued in intimate association ever since.

At St. Mary's, Dr. V. Warren Low, who has served in South Africa, and is now surgeon and joint lecturer on surgery at the hospital, gave an address on the relation of the military medical service to the civil profession. He mentioned that in the reign of Edward II there was a chirurgeon with every 1,900 men who had four pence per day, but the service only dates practically from the regimental surgeon who held the King's commission in the same way as the military officers, and was as much a

art of the regiment as its colonel. From this he traced riefly the history of the service to the establishment of he Royal Army Medical Corps, and commented on the act that it did not break down in spite of inadequacy. ut the lavish expenditure was the result of want of reparation. Some 500 extra officers would be required efore three army corps could take the field, and public pinion has not insisted on provision in peace for a time f war. Dr. Warren proposed a reserve of civilian practioners to be paid a retaining fee according to grade, to e properly trained to be called on in national emergenies, to rank with the Royal Army Medical Corps. He uggested three grades: (*a*) Men qualified for three ears or less; (*b*) surgeons on the junior staff of hositals; (*c*) a few of the heads of the profession—one to be n eminent pathologist. This reserve would supplement he Royal Army Medical Corps and work with it. What ill the War Office say?

At Charing Cross Hospital the old Introductory has een given up, but Sir Charles Wyndham came to distribute the prizes, and delivered a pleasant little address, n which he said he formerly had the honor of belonging o the profession, though the theater in which he now perates is not surgical. But years could not break the ond between him and the profession. He would not ongratulate the prizemen, for they had given hostages o fortune and had to live up to their position. To all the tudents the first counsel he would give was to be loyal to he high ideals of their calling, and no ideal could be too igh. He urged the importance, nobility, and sanctity of hat calling. Watchfulness, care, and discretion should e exercised and their position never misused. Science lemanded moral courage in not disguising the truth. ilence was not always golden, and he believed in stern lenunciation and the caustic criticism of an Abernethy, hen fashionable complaints were brought on by folly hich could, perhaps, be prevented by timely warning. he achievements of the past were nothing to the promise f the future.

The Royal Veterinary College calls for a notice here, as it secured Mr. J. Astley Bloxam, formerly surgeon to Charing Cross Hospital, to give an address. He said that the purpose of the foundation, a century ago, had been adhered to. It was to bring into a regular system that branch of medicine which related to diseases of animals. He traced some of the early history of the college and referred to the distinguished men who had occupied the post of its principal. The first diploma granted was dated 1794, and on it were the signatures of those great surgeons, Henry Cline, John Abernethy, Ashley Cooper and Everard Home. Many are the medical problems awaiting solution in which the veterinary surgeon can coöperate, such as those presented by new growths. The causes of anthrax, glanders, and swine fever were known, but the contagion of others has to be discovered. Rabies he hoped had been stamped out, but it was premature to conclude that such is the case.

Mr. Bloxam held that the State must follow the example of other countries and recognize the importance to mankind of veterinary science. He advocated the establishment of a farm for convalescing animals and a place where sound animals could be studied, as well as endowment for the college.

The Registrar-General's sixty-fourth annual report has appeared at last. It is for the year 1901, and the delay in issuing it certainly detracts from its interest, and, in some respects, from its value. The Registrar-General seems to have taken a hint from the fact that his dilatoriness was the subject of remarks in the House of Commons, and he offers in the new blue book his explanation. It is said that the process of compilation can only be commenced after the enormous number of entries have been subjected to close scrutiny and the numerous points of doubt have been cleared up by correspondence. Further, that a large part of the work can be performed only by specially trained clerks—an assertion which rather surprises one and makes one think that the head of this office ought himself to have been an expert, and not a mere political placeman, as I wrote to you when he was appointed. It is further stated that this year an enormous number of death rates relating to the years 1891 to 1900 has been required in accordance with the detailed results of the recent census, and a rearrangement of the form of the statistics of causes of death. This last point gives one pause as to the possibility of comparing these statistics with those of previous returns. I am glad, therefore, to note that the medical superintendent of these statistics (Dr. Tatham) considers the records are comparable with those of preceding reports. Nevertheless, the disappearance of some of the old headings, such as zymotic, will certainly cause some embarrassment to those who only consult the statistics occasionally. Yet some change seems necessary for its purpose, though it is not offered as a scientific nomenclature, but only as a convenient tabulation, and that also more or less provisional. As I have commented on the delay in the issue of the annual report, I would add that the "weekly return" is brought out with great regularity and shows the mortality of the great towns. The quarterly return appears about a month after the close of each quarter and relates to the whole of England and Wales. Both these are of great use to sanitarians and others.

The Irish dispensary doctor's lot is a hard one. This is always admitted by those who could improve it but who never trouble to do so. At first the law was carried out, with a view of fulfilling the intention to afford relief to the real paupers. But gradually abuses crept in until any one could demand attendance on production of a ticket, and as such a ticket could be usually had for the asking, any one who was not ashamed to receive gratuitous medical assistance was able to call upon the dispensary doctor for his services. The abuse has at last become so flagrant that some of the newspapers are calling for its redress, but the official seems unable to comprehend that the doctors may really unite, as they threaten to do. At present they are asking for some form of inquiry. If this is refused, there will be definite demands and an appeal to Parliament. Many and curious are the schemes proposed for raising money for hospitals. We have a Sunday Fund, a Saturday Fund, and a League of Mercy, besides all sorts of entertainments. Now we are threatened with a "Hospital Shopping Day" to assist King Edward's Fund. The proposal is to do our shopping as far as possible on a fixed day, at shops where a percentage of the day's takings is promised to be handed over to the King's Fund for the hospitals. Some proprietors of large establishments have already joined the scheme, and the first day for putting it in force is fixed for November 3. I suppose the shopkeepers think that it will be a good advertisement. But there are strong objections expressed by not a few, and yesterday the Drapers' Chamber of Trade passed a resolution of strong disapproval of the innovation, which, if agreed to, the resolution said, might be repeated by other institutions.

An important volume has been issued by the authorities of the British Museum, viz., "A Monograph of the Tsetse Flies (Genus Glossina, Westwood)." It is based on the collection in the museum, and written by Ernest Edward Austin, with a chapter on the mouth parts by H. J. Hansen, Ph.D. It is illustrated with nine plates by Terzi, and extends to 330 pages, royal 8vo. Mr. Austin, you will remember, identified the tsetse from Uganda as Glossina palpalis.

A translation of Reinhold Ruge's "Introduction to the Study of Malarial Diseases" has appeared. It is a book of 138 pages, designed to assist medical men who have not the opportunity of consulting others, as in some colonies or on ships. There are two plates of the parasites and numerous woodcuts and temperature charts.

Dr. Lafar's "Technical Mycology" is being translated by Mr. C. T. C. Salter. It is devoted to the study of microorganisms as utilized in the arts and manufactures. The first volume is on Schizomycetic Fermentation and extends to above 500 8vo pages.

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## LETTER FROM BEIRUT.

(From Our Special Correspondent.)

BEIRUT, September 7, 1903.

TO-NIGHT Beirut is like unto a city of the dead. For some time past a species of *vendetta* has been going on—Christian against Moslem. Yesterday this culminated in a party fight at Mossaitby and Mazra, suburbs on the south of the Beirut promontory. At first a fight, it looked dangerously like degenerating into a massacre; and many acts are authenticated on the part of the Moslems (who, it appears, though far superior in numbers, would not obtain possession of the Christian quarters at Mazra and Mossaitby) that could only be characterized as butchery in cold blood. A young girl of good family—shot twice through the chest—had her hands cut off in order to obtain possession of the bangles she wore. An old man left alone because "he was not worth killing." Another old man—less fortunate than the former—cut down as he was relieving nature in his watercloset. One man cut in four pieces before his wife and family because he defended his house. Dynamite was freely used, and some women were killed by falling houses. A church was entered and desecrated. An inoffensive priest was deliberately shot, and, that not being effectual, he was finished by a bomb thrown at him. The Moslem mob then approached Beirut and looted and killed in a quarter called Ras el Nebba. A doctor's house was plundered near this quarter, the guardian (the doctor being on his summer visit to the mountains) being immediately cut down on offering resistance. Most of the Christian inhabitants that remained during the summer months

have taken refuge in Lebanon, where, of course, they are under the protection of the six European powers, and the Moslem is in subjection to the laws of rule and order. The shops are closed and will probably remain so, and business will be at a standstill for some days to come. The Vali is either incapable or guilty. Anyway he seems utterly worthless in the emergency. For some time past—say for the last fifteen days—murders and attempted murders have been of daily occurrence. There were shooting and stabbing in open daylight: the assassins, or would-be-assassin was *non est*, and the authorities went on the even tenor of their way—some hint darkly that they accepted an occasional *honorarium* for their generous ineptitude. Be that as it may, things have come to a climax, and there is what might be called a reflection of Macedonia in the clouds of Beirut at present.

The dyspeptic among us—particularly those of us who have been suffering from the formidable so-called hypersthenic type of that malady, must look upon these riots and their accompaniments as not an unmixed evil. We have been put on a system of enforced starvation for the last two days. No meat in the market, and very few vegetables; no eggs, and milk is beyond price. However, we have still bread and water diet to look forward to, so long as flour holds out and the bakers don't close their ovens.

Our streets have been or are being paved, as we said in a former letter. Those of them that have already been paved are already showing signs of decrepitude and incipient old age. Either the engineering was bad or the job was one of those cheap and nasty ones in which the amount expended does not steer a direct course to the laborer's pocket. With good intent, good purpose, and good accomplishment, Beirut, as it stands, gives all facilities to competent men—engineers and sanitarians—to make it a model for health, comfort, and cleanliness.

We are always hopeful here—perhaps it is due to sunlight and bright skies. But things look dark enough just now.

We give a few undated details: An English consul stopped and insulted in the principal square of the town in open daylight; an English vice-consul held up, the sleeve of his coat cut off, and his watch taken from him—in each instance *no notice taken*, an English archdeacon shot at—result as above; an American vice-consul twice attacked for presumable purposes of robbery, and a third time shot at evidently with intent to kill. In the latter instance some notice *has* been taken, and, as we write, there are two American frigates lying in our roadstead.

So far cholera and plague have given us a wide berth. True it is noised abroad that they are in our vicinity, and we are happy in that they have not reached our very doors.

We have, however, to put up with the constant company of a canker that is eating at the root of all things here—fanaticism, to wit, with its accompaniments. Against this novel sickness there is no remedy. It may wear itself out; but while it exists there will be always all things rotten in this Kingdom of Beirut.

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# Progress of Medical Science.

*Boston Medical and Surgical Journal, Oct.* 15, 1903.

**The Formation of Loose Cartilages in the Knee-joint.**—E. A. Codman states that the life history of the loose cartilage must comprise two injuries, one to depress it and one to free it. As a matter of fact this is often the case, although the first injury is forgotten. Torn or displaced semilunars do not show in the *x*-ray. The writer calls attention to the formation of the "joint mice," cartilage-like bodies varying in size from that of a small bean to that of an oyster, and being either free in the joint or held by a pedicle of light adhesions to the capsule. Such bodies are common enough, and in many cases cause little or no trouble, while in others much annoyance is produced by locking of the joint and the production of a chronic synovitis. At this time the patient usually comes to operation. A small incision in the capsule is made and the mouse pops out. The result is usually a perfect cure. As to the origin of these bodies the writer believes that they are actual bits of articular cartilage set free by trauma, at least in the vast majority of cases. In the majority of these mice, one side is of cartilage and the other of modified spongy bone. Such bodies show in the *x*-ray, for they consist in part of bone. The practical surgical point to be learned from all this is that in these operations the articular surface of the internal condyle should, if possible, be inspected. When the knee is flexed, the internal cartilaginous surface is exposed to violence. The writer has experimented on the cadaver, and found that a blow merely dented in the articular surface in just such a manner as a fragment is depressed in a skull fracture. This fragment can be easily pried out. In every case it brings with it a lamina of spongy bone.

**Parasyphilitic Affections or Remote Effects of Syphilis.**—Abner Post gives two principal characteristics which establish a well-marked line of demarcation between the affections called syphilitic and the parasyphilitic affections. The latter are not referred necessarily to syphilis as a cause, while the purely syphilitic affections never exist without syphilis as a cause. The latter are not influenced by mercury and iodide of potassium as are the true syphilitic affections. The most important members of the parasyphilitic group as sequels of acquired syphilis, are locomotor ataxia, general paralysis, and epilepsy. Tabes and general paralysis seem to be two topographical manifestations of one and the same malady. When it locates itself exclusively or predominantly upon the cord it constitutes tabes. When it locates itself upon the brain, it constitutes general paralysis. When it affects both cord and brain, it constitutes a hybrid type to which the name cerebrospinal tabes would be applicable. Epilepsy often follows syphilis, or at least epileptiform attacks are symptoms in the evolution of a cerebral syphilis. As such they are the direct results of syphilis and to be classed with other tertiary lesions, but now and then there occurs an epilepsy not conjoined with other syphilitic lesions, which Fournier believes should, as we are ignorant of its true nature, be classed with parasyphilitic affections. A curious form of progressive muscular atrophy deserves a place in this category. Antisyphilitic agents exercise no influence upon the disease. There are many cases of hysteria in the children of syphilitic parents, but the relation of cause and effect is not so sure. Also of epilepsy it may be said of certain cases in heredosyphilitics that while many of them are due to syphilitic lesions there are many others in which the convulsive seizures are the only symptoms, and in which it is impossible to say whether there are syphilitic lesions, whether syphilis is a provoking cause, or whether syphilis bears no relationship. More certainty can be felt as regards tabes and general paralysis. The writer does not consider this as a final account of the subject of parasyphilitic affections. It may be necessary in the future to add or subtract from it. It may be that it can never be completed until the bacteriology of the disease is known, and enables us to distinguish between diseases which are syphilitic by nature and those which are parasyphilitic.

*Journal of the American Medical Association, Oct.* 17, 1903.

**Hygiene of Young Girls.**—J. H. Carstens says that in many cases it is the mother that must be treated rather than the daughter. She must be taught to bring up her daughters properly. In case of girls who are early compelled to go to work, modern laws have done much to help their condition. Such laws as refer to regulating the hours of labor, suitable ventilation, proper toilet facilities, and opportunities for getting food at proper intervals should be encouraged. Gymnastic exercise is good but should be under medical regulation. In this way menstruation will, unless there be organic defects, take care of itself. If the physical condition is below par, care should be taken not to overstimulate the mental faculties. No one set of rules will answer for every case.

**Pelvic Diseases in Young Girls.**—F. F. Lawrence presents the following conclusions: (1) All cases, whether in young girls or in older women, in which menstrual pain, intermenstrual or premenstrual pain is a prominent symptom should be subjected to careful and thorough examination to determine its cause. (2) No leucorrhœa should be permitted to pass unnoticed or treated by such "slipshod" methods as ordering a douche, giving medicine, etc., without first ascertaining its cause In all cases in which discharge is purulent a microscopical examination should be made to determine presence or absence of gonococci, tubercle bacilli, or other important septic organisms. (3) All cases of excessive flowing, intermenstrual hemorrhage, or prolonged menstruation should be thoroughly examined. (4) In all cases in which amenorrhœa exists every effort should be made to find the cause. (5) In young girls subjects of neurotic troubles which develop at puberty or occur with each menstrual epoch, a careful and thorough examination of the pelvis will often reveal the cause. (6) If menstrual pain, irregularity, leucorrhœa, and neurotic disturbances follow the exanthemata, a pelvic examination is imperatively demanded. (7) In all virgins the rectobimanual examination should be used—the vaginal touch only being used when absolutely necessary.

*Medical News, October* 17, 1903.

**The Importance of the Surgical Treatment of Chronic Middle-ear Suppuration.**—Edward Bradford Dench recapitulates as follows: In all cases of persistent and profuse aural discharge the radical operation is the operation

of election. In cases of recurrent aural discharge associated with lesions of the upper airtract this tract should first be put in a normal condition. In case of persistent but slight discharge from the ear the operator may advise the removal of the carious ossicles together with thorough curettement of the middle ear through the external auditory meatus. It should always be explained to the patient, however, that this operation is a tentative one, and that the more radical procedure may be necessary later.

**Early Recognitions of Impending Obstetric Accidents.**—Joseph B. De Lee first considers impending eclampsia. In the first place the family history must be learned, then the personal history of the patient: whether there has been any infectious disease leaving damaged kidneys or a deranged liver. All these conditions indicate the possibility of eclampsia. As a routine practice the urine of pregnant women should be systematically examined. The presence of albumin and casts is a most reliable sign of threatening danger, and should always be an object of careful search during pregnancy. Next in importance is the amount of urine passed daily, together with the specific gravity. That is, the daily amount of total solids excreted. Normally the pregnant woman passes sixty ounces of urine a day with a specific gravity of 1014, giving her a normal excretion of solids. The patient may pass 30 ounces of urine with high specific gravity and be well, or more urine with low specific gravity. The writer believes that the urea index is of least importance. He places more reliance on a careful study of the patient as just described, and a watch for the signs of deficient excretion or of toxæmia. Every pregnant woman should be fortified against postpartum hemorrhage and placenta prævia. As to contracted pelves, the routine examination of the pregnant woman should include, first, the size, shape, and inclination of the pelvis, and, second, the size and development of the child. Should there be any doubt about the child being able to pass through the pelvis the patient should be examined each week. A woman with a pelvis slightly contracted should not be allowed to go over time. The writer always visits each woman shortly before her labor to determine by external examination the position of the child, the engagement of the head, the presence of twins, etc. During labor much can be done to anticipate impending danger to the fœtus. The fetal heart tones give the most reliable evidence, and much can be learned by studying their frequency, rhythm, and quality. The physician should be in a state of armed watchfulness to foresee far in advance impending accidents.

**Bronchiectasis in the Tuberculous.**—S. Edwin Solly declares that as a fundamental principle it may be stated that tuberculosis may occur as a complication of bronchiectasis, but that practically bronchiectasis of large areas never arises as a complication of tuberculosis. This is an axiom stated by Hoffmann. Moreover, he admits that small bronchiectatic areas with special clinical importance are not infrequent. Also that large areas sometimes occur in the tuberculous in cases in which there have been circumscribed processes in the apices and a tendency to recovery by subsequent fibrosis, and only under such circumstances. In this category the case reported apparently falls, in so far as there was undoubtedly a previous tuberculosis at the right apex and in the bronchial glands, but that the bronchiectasis was caused, or at least, brought into prominence by the pressure of the swollen bronchial glands rather than by the fibroid changes of the lung tissue. The patient was a woman forty-eight years old, subject to frequent attacks of bronchitis. There came a period when there was a good deal of spasmodic coughing without expectoration and a general depression of health, but no fever. Then came a continuous fever, and not intermittent, like hectic cough diminished, and still no expectoration; emaciation, general depression, gastro-intestinal indigestion, and no relief of the fever from treatment. Iodide of potash gave relief. It apparently effected its purpose by causing an absorption of lymph and a free escape of purulent tuberculous matter, which had evidently been compressed in some sac or tube. Resulting, there was a subsidence of the high continuous fever, and in its place an ordinary mild hectic, with free expectoration and moderate cough, which was interrupted several times by a cessation of the cough and expectoration, followed by a return of the high continuous fever, which was not relieved until the iodide of potash was given freely again. Finally a period of six weeks of almost steady improvement with free but slightly diminished cough and expectoration. The local pulmonary signs indicated an old inactive tuberculous process at the right apex and solidification around the root of the right lung, with slight incomplete atelectasis of the right lower lobe. The writer believes that at some indeterminate time in the patient's history there had been an acute tuberculous infiltration at the right apex which had been arrested by fibrosis; and also tuberculous infiltration of the bronchial glands probably preceding the apical disease.

*New York Medical Journal, October 17, 1903.*

**The Treatment of Convergent Strabismus.**—W. G. Craig offers the following propositions: (1) The earlier the child is seen, the better the prospect for a cure. (2) The vision of squinting eyes can in a majority of cases be improved and some function restored if treatment is begun early. (3) A small percentage of cases of convergent squint can be cured by mydriatics, glasses, and proper exercises, alone without operation. (4) The correction by non-operative methods is much to be preferred, as the motility of the eye is more perfect and the deformity produced by sinking of the caruncle is avoided. (5) Operative procedures should be employed in those cases in which non-operative treatment after a thorough trial has failed, and in those cases in adults in which we operate for the cosmetic effect.

**Left-sided Appendicitis.**—E. W. Holmes gives the autopsy findings on two white male adults. In one the appendix was attached just below the ileocæcal valve (which was on the left side of the fourth lumbar vertebral and pointed upward and backward toward the liver; in the other the appendix was a little to the left of the median line, entering the cæcum as it rested on the promontory of the sacrum, the base being on a line between the anterior superior spinous processes of the ilium, the body running upward in front of the sigmoid mesocolon, then turning downward in front of the omega loop in front of the brim of the pelvis. In both there were various abnormal displacements of the viscera, explainable on embryological grounds. Appendix pain may be reflected to the left side when the organ itself is normally located. According to the author, the McBurney point should be fixed with regard to the site of the base of the appendix rather than rigidly in relation to the external anatomical structures.

**The Value of Albuminuria in Differentiating Pyelitis from Cystitis.**—T. R. Brown reports nine cases, which he claims justify his contention that pyuria due to a cystitis, even if of high grade, is associated with but a small amount of albumin if the urine is examined immediately after catheterization, if the pyuria is not accompanied by hæmaturia. On the other hand, in all cases of pyelitis, even if the grade of pyuria is low, there is always, or at least almost always, a considerable quantity of albumin present. In some cases the presence of casts and epithelial cells from the renal pelvis may help in arriving at a correct diagnosis, but in the vast majority of cases no help can be derived from the microscopical examination, and we must depend largely upon other means for arriving at a correct diagnosis. In the determination of the relationship between the grades of pyuria and albuminuria there is a ready and simple means of differentiating pyelitis and cystitis. In other words, in any case in which on association with pyuria there is a considerable albuminuria, there is a great probability, if not a certainty, that an infection of the kidney is present, except in those cases in which the albumin present is referable to a nephritis, which is also present—in which case obviously the presence of casts on microscopical examination will demonstrate to us what is the cause of the albuminuria—or to a high grade of hæmaturia.

*American Medicine, October 17, 1903.*

**Cardiac Complications of Influenza.**—E. G. Wood declares that in the number and protean character of its complications and sequels influenza probably ranks second only to typhoid fever. Grippal pericarditis shows anatomical changes similar to those found in other forms of the disease. Endocarditisis generally thought to be a rare complication of influenza. It may be simple or ulcerative or malignant. Myocardial changes are common in influenza. The influenza bacillus elaborates a poison which, circulating in the blood in sufficient quantities, acts as a powerful heart depressant and modifier of the nutrition of the heart muscle. Among the functional cardiac disturbances following influenza are palpitation, irregularity, bradycardia and tachycardia. Fortunately these disturbances usually disappear in a few weeks, but in some instances they have persisted even for years.

**The Interrelations of Diabetes and Other Constitutional States.**—George F. Butler says that the great error ruling conceptions of disease in its clinical and therapeutic aspects is that which fixes upon one symptom as a test of disease rather than the symptom complex. Every one of the febrile conditions may be glycosuric. With delirium tremens and the confusal insanities, temporary glycosuria may at times be coincident. Pregnancy is often attended by glycosuria. In many neuroses glycosuria may disappear just previous to cerebral complications. Diabetic vertigo often assumes an elipeptoid character. Asthma, exophthalmic goiter, and other respiratory neuroses are not infrequently temporary expressions of

diabetes. The most serious symptom of diabetes is coma. The etiologic importance of coma lies first in the condition of the patient at the time of the attack, and depends largely upon the condition of the emunctories. Another phase of etiologic moment is the condition of the arteries. There are many eye, ear, nose, throat, gum, skin, and genito-urinary phenomena found in diabetes which bear some relationship to the disease. They are an outcome of diabetes and modify it or are modified by it. Finally they may be mere coincidences. Most cases of diabetes are at first expressions of nutritional and assimilational instability.

**Antistreptococcic Serum in the Treatment of Inflammatory Rheumatism and Other Diseases; with Report of Cases.**—G. H. Sherman has given antistreptococcic serum in all the stages of erysipelas always with good results in proportion to the time and amount given, obtaining, however, the best results when given early. He reports numerous cases of inflammatory rheumatism. His experience in their treatment extends over a period of twenty years. All of these cases, with possibly one exception, give a typical history of inflammatory rheumatism and some showed early evidences of more than the usual severity. There were no cases of prolonged convalesence or general debility after the rheumatic symptoms disappeared. A characteristic feature of all these patients was the evident good condition of the digestive organs as shown by their general expression of having a good appetite and being able to eat well after the serum was given. None of the patients developed heart complications, for the disease was cut short before heart involvements usually take place. While the serum treatment was used no other treatment was resorted to. The writer concludes that when we consider the results obtained in these cases, from a marked improvement after the first and second dose to a complete recovery in a comparatively short time, the therapeutic value of antistreptococcic serum in treating inflammatory rheumatism becomes strikingly apparent.

*The Lancet, October* 10, 1903.

**Diabetic Intraocular Lipæmia, in Which the Blood Was Examined During Life.**—The patient of W. H. White was a man of twenty-six years, admitted to hospital for hunger, thirst, polyuria emaciation and weakness. He was placed on the usual anti-diabetic diet and did well though he grew very drowsy on several occasions and at one time seemed likely to die. After a while levulose was allowed him and he did well on it, the sugar in the urine not increasing. On admission it was noted that the retinal arteries and veins both appeared to have in them blood of a pale salmon color. The retina was pale. As the patient improved the color in both sets of vessels became more healthy and was quite natural after he had been in for two months. Examination of the blood showed a milky appearance and the serum after clotting was milky. The microscope showed many fine granules, but no globules or anything staining with osmic acid. The author refers to several previously reported cases.

**Some Observations and Comparisons on the Dietetic and Drug Treatment in Chronic Pulmonary Tuberculosis.**—D. Lloyd Smith gives a series of tables showing comparative results following (1) creosote, cod-liver oil, and malt in nine cases; (2) guaiacol in pill form with oil and malt in six; (3) arsenic only in six; (4) nux vomica, gentian and acid, in eight; (5) urea in six, and then gives the uranalysis results in groups 1, 2, and 6. He concludes by saying that diet is of as paramount importance as any of the active principles of any mixture or drug. Meat must be given freely, but the amount for a given case can be determined only by observation. With an abundant mixed diet, cod-liver oil is not necessary. A gain in weight is not everything, as this sometimes happens coincidently with a progressive lung lesion. In such cases the selection of the proper diet is a matter calling for careful observation and selection. Here comes in one great element of success in sanatorium treatment, viz., "the ability to interpret the individual variations in metabolism."

**Cases of Stokes-Adams Disease. (?)**—I. Crawford reports two cases. The first was that of a woman with delayed resolution in pneumonia. He was suddenly summoned to her as she was supposed to be dying. He found her pulseless at the wrists and unconscious, while her breathing was imperceptible. There was a faint, slow flicker to be detected with difficulty in the region of the cardiac apex. Injections of strychnine and digitalin were employed and heat was applied to the extremities and præcordia. She slowly revived, the heart-beats gaining in strength and rhythm until the heart behaved in its customary manner. On inquiry her friends said that the oncoming of unconsciousness was gradual. She had five similar attacks, there being an interval of several days prior to the last, which proved fatal. Digitalis was given, and curiously enough it was stopped about a couple of days before the last attack. Whether that contributed to the fatal result it is hard to say. In the intervals the heart was normal, no murmur or irregularity being observable. There was no history of any previous similar attacks. A similar case was that of a primipara delivered with instruments under chloroform. There was some hemorrhage, but not enough to be dignified by the name of postpartum hemorrhage. She then for no obvious cause passed gradually into a state of unconsciousness. Her pulse became slower and weaker, and finally could not be felt at the wrists; her breathing could not be perceived; her cheeks became white; her limbs grew cold; and the fingers could not detect any sign of life at the cardiac apex. She lay in bed as motionless as if she were carved out of marble. Similar steps toward restoration were taken as in the previous case without result, but the patient rallied inside of twelve hours and made a good recovery.

*British Medical Journal, October* 10, 1903.

**On the Protective Effect Achieved by Antityphoid Inoculation as Exhibited in Two New Statistical Reports.**—A. E. Wright presents two tables showing the incidence of and death rate from typhoid fever in the British Army in India during the year 1901, and the incidence of the fever in Lord Methuen's column at the Modder river, South Africa, from December, 1899, to March, 1900. From the first table it is learned that antityphoid inoculation diminished the incidence rate of tyhoid fever by one-half and the death rate by five-sixths. Statistics suggest that the protective effect of inoculation continues for a minimum of three years. The second table testifies to a diminution of the incidence rate by more than half during the period of observation. It would seem legitimate, in view of statistics set forth above and of previous statistics to infer the continuance of a similarly diminished rate of incidence during the whole of these men's service in South Africa.

*Deutsche medicinische Wochenschrift, September* 10, 1903.

**Traumatic Late Apoplexy.**—H. Kron reports a case which shows that a traumatism of the head may subsequently give rise to a cerebral hemorrhage and death therefrom. The patient was healthy before the traumatism and recovered fairly well from the immediate effects of the same. Seven weeks thereafter he was seized with a sudden apoplectic attack and died therefrom. The autopsy showed a large hemorrhage in the right hemisphere, but a normal condition otherwise throughout the body, except a slight cloudy swelling of the renal epithelium and fatty changes in the pericardium covering the right ventricle. Neither of the latter changes are in any way sufficient to account for the apoplectic attack, and and this must be ascribed to the traumatism received.

**Immunization against Tuberculosis.**—F. Neufeld, starting from Koch's view of the non-identity of human and bovine tuberculosis, shows that certain animals (goats, asses, and cows), which are immune to the former but susceptible to the latter, may be immunized thereto by injections with human tubercle bacilli. These animals were given successive subcutaneous and intravenous injections with dead human tubercle bacilli in increasing doses. After a time it was found that they were absolutely immune to infection with the bovine tubercle bacillus. These results in no way contradict those obtained by Koch, who has submitted tuberculous men to injections with dead human tubercle bacilli. For, in the first instance, the process was acute, and in the latter chronic, and in addition the animals employed were healthy when the experiments were begun, while, as before said, Koch has dealt with individuals in which there was already present a tuberculous infection.

**Dependence of Cyclic Albuminuria upon the Circulation.**—Paul Edel thinks that in cyclic albuminuria the periodical appearance of albumin in the urine is due to lowered paterial blood-pressure. Observation shows that in cases of this character the albumin is present or increases in the urine during periods of lowered blood-pressure, but when the arterial pressure is high the albumin is either very much reduced or entirely absent. These facts were obtained by examining patients with cyclic albuminuria previous, during, and subsequent to cold bathing and exercise. In such, during the exercise or bathing, the blood-pressure is high, and no albumin is present in the urine, while following the exercise the reverse holds true. By following out a system of breathing exercises following the exercise, the blood-pressure may be prevented from lowering with the result that no albumin appears in the urine. In healthy individuals following bathing and exercise no considerable period of lowered blood-pressure occurs. In those suffering from cyclic albuminuria, however, the heart, under these conditions, does not seem to be able to answer the demands with the results above noted.

*Deutsche medicinische Wochenschrift, September* 24, 1903.

**Negri's Organism of Rabies.**—Schüder denies the specificity of Negri's protozoa. According to Negri, the diameter of his organism varies from 1 to 15 μ. Shüder has constructed a filter through which the vibrio of cholera cannot pass, but which easily transmits the virus of rabies. Consequently, the organism of the latter must possess a smaller diameter than the vibrio of the former, which, in the average, is .4 μ. Hence the contention of Negri is erroneous.

**Recovery from Progressive Total Bone Atrophy.**—Edm. Rose shows that this result may be obtained by the substitution of a stick of ivory for the atrophied bone. The case reported was of sixteen years' standing—the tibia being the bone involved—and was accompanied in the beginning by suppuration. Nevertheless, the ivory stick enabled the patient to walk during this period, remained healed in the wound for the entire time, and at the end thereof the entire tibia had been practically regenerated.

*Berliner klinische Wochenschrift, September* 28, 1903.

**Work Houses for Syphilitics.**—Edmund Saalfeld recommends the establishment of work houses as a valuable measure in the prophylaxis and treatment of syphilis. In such institutions the work done by the patients could be carefully regulated and controlled so that the spread of the disease through their handiwork would be a practical impossibility. In this manner such syphilitics as were able to work could be improved in their social and mental condition, and when ready for discharge would not be found in the demoralized state that a similar time spent without work in a hospital would bring about. Furthermore, the general results of treatment would be much better than those now obtained in the vast majority of syphilitics treated in clinics, etc., since, if confined in an institution, they would be under constant medical attendance and the treatment could be pursued uninterruptedly until a cure is obtained. Although this idea is a new one and may present many difficulties, its practicability is shown by the success of similar institutions which have been established during the last few years for those suffering from various nervous diseases.

**Alopecia and the Localization of Skin Diseases.**—A. Busche gives the results of his recent experiments with respect to the mode of action of the acetate of thallium in the production of alopecia, a fact which was recorded by him in December, 1902. As stated at that time, if minute quantities of this substance are administered to white mice there develops, after a short period, an alopecia which is occasionally diffuse but usually circumscribed and limited in location to the head and face. Bettmann has confirmed the same as occurring under similar conditions in rabbits, and in the present experiments these animals were exclusively employed. The results are negative rather than positive, and the mode of action of thallium in producing the condition has not been determined. Nevertheless, several interesting facts have been established with respect thereto. The production of alopecia under similar conditions is not peculiar to thallium, as the author formerly held, since other substances, notably mercurial and lead salts, give rise to a falling out of the hair. The mode of action, however, of these various substances cannot be identical, as the character and localization of the alopecia differs according to the substance used. Nor is it similar to the loss of hair which is so commonly observed during convalescence from many infectious diseases, and which is undoubtedly due to a general reduction in the vitality of the organism. The general characteristics of the latter are entirely different from the alopecia due to thallium. As is well known, this substance has a decided action in reducing the activity of the sweat glands. The alopecia, however, cannot be due to this property, since it regularly occurs when the action upon the sweat glands is nullified by the simultaneous administration of pilocarpine or physostigma with the thallium. That the action of the thallium in this respect is exerted through the production of pathological changes in the nervous system is extremely unlikely, as the entire clinical picture produced by the administration of thallium in minute doses denotes merely a functional disturbance of the nervous system. The localization of the alopecia due to thallium appears to be definite, since it never appears upon other regions of the body, although various measures were employed to reduce the resistency of the hair follicles in such locations.

*Münchener medicinische Wochenschrift, September* 29, 1903.

**Plastic Quadriceps-operations.**—Sigmund Stiassny reports an operation upon a cat, in which he divided the quadriceps and united to the divided tendon the end of the adductor magnus which he had dissected from its insertion. Primary union was obtained and the action of the quadriceps fully restored.

**Removal of Gallstones by Irrigation.**—Franz Kuhn recommends this method. The bile passages are to be washed out with a normal salt or similar solution by the means of a water-tight tube introduced through the fistula, if one exists, or at the time of the operation. In addition to removing stones or other obstructions, the irrigations have a favorable influence upon the mucous membrane which lines the biliary passages. The pressure of the fluid depends upon the height of the column from which the stream flows. This should usually not exceed 50 cm., but may occasionally be increased to 150 cm. The velocity of the stream depends upon the obstruction or non-obstruction of the bile ducts. Under normal conditions the velocity is 25 c.c. in one-half a minute with a water column of 50 cm. No unfavorable symptoms are observed as the result of the irrigations, except that when the pressure is too high attacks simulating biliary colic are produced. Such attacks may be produced at will by increasing the pressure of the fluid, and they show conclusively that biliary colic is caused by an increased pressure of the bile in the biliary passages, due to some obstruction in the same.

*French and Italian Journals.*

**Antiseptic Washing of the Intestines.**—A. Gauducheau carried out a series of experiments on dogs with a view of ascertaining whether the dangers attending the injection of poisonous antiseptics might not be avoided or modified by the simultaneous use of hypodermoclysis and purgation. Mercury was administered, while three physiological processes were initiated: (1) Preliminary repletion of the circulatory system by means of a subcutaneous injection of a large amount of fluid to cause vascular hypertension in general and of the intestinal blood vessels in especial. This induces a certain amount of resistance to absorption. (2) Elimination of the poison through the kidneys. This also is accomplished by means of the hypodermoclysis. (3) Purgation by means of sodium sulphate, which increases peristalsis and assists exosmosis. The author is gratified with the results of his experiments, and intends to pursue his researches.—*Gazette Hebdomadaire des Sciences Médicales*, August 30, 1903.

**Adrenalin in the Treatment of Purpura Hæmorrhagica.**—M. Loeper and O. Crouzon report a case of grave purpura which would not yield to treatment by ergotin, serum, calcium chloride, and the sulphate of quinine. Even adrenalin applied to the gums was of no avail in checking the local hemorrhage, but in twenty-four hours there was marked improvement, and in five days a complete cure of the condition, thanks to the ingestion of 4½ milligrams of adrenalin. Up to the present time adrenalin (or renalin, the action of which appears to be the same) has been administered by local application for nasal, laryngeal, and ocular hemorrhages, subcutaneously or by intrapulmonary injections in hæmoptysis, and by washings and ingestion in gastric and intestinal hemorrhages. The authors are aware of one only case in which a cure is reported in Werlhoff's disease after daily injections of one milligram of adrenalin. In their case they tried the effect of absorption through the digestive tract with excellent results, as shown above.—*Le Bulletin Médical*, September 2, 1903.

**A New Method of Administering Boric Acid in the Treatment of Tuberculosis.**—A. F. Plieque considers that Gaucher proved the efficacy of boric acid in the relief of many symptoms of tuberculosis, and in an improvement of the general condition. Given by the mouth, however, the amount necessary to produce the desired results caused serious digestive disturbances. The author has found that given in a rectal injection (4 grams of boric acid in about 125 grams of fluid) tolerance is perfect. The acid may be dissolved in a teaspoonful of boiling water, and then added to milk, which is injected. Patients who are unable to take the medicament by the mouth support it well when given in this way, and show improvement in the temperature curve and in the expectoration, although the number and virulence of the bacilli are not sensibly affected. Elimination by the urine is more marked than by the sputum. This form of treatment would seem to be applicable to tuberculosis of the kidney; Gauchard used it successfully in combating hæmaturia and pyorrhœa. It should be of equal value in pyelitis and cystitis.—*Le Bulletin Médical*, August 29, 1903.

**Latent Scarlatina.**—P. Caziot reports cases of latent or walking scarlitina, of which there are two types, the first eruptive, with a slight general eruption, and slight tracheopharyngeal irritation, with some headache; the second characterized by angina and pharyngeal redness, a little fever and slight asthenia. No eruption has been observed, but it may exist. This is merely an attenuated form of scarlatina, and not of great importance, except from the point of view of possible contagion.—*Revue Française de Médecine et de Chirurgie*, September 28, 1903.

# Society Reports.

## AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

*Proceedings of the Sixteenth Annual Meeting, Held in Chicago, Ill., September 22, 23, and 24, 1903.*

THE association met in the Northwestern University Medical School, under the presidency of Dr. L. H. Dunning of Indianapolis, Ind.

Dr. WILLIAM A. EVANS of Chicago delivered an address of welcome on behalf of the local medical profession, which was responded to by President Dunning.

After a short executive session, the reading of papers was proceeded with.

**The Relation of the Colon to Abdominal Tumors.**—A paper with this title was read by Dr. JAMES F. BALDWIN of Columbus, Ohio. The colon, while it was quite movable, had its mesocolon well fixed to the abdominal parietes. By inflating the colon, when necessary, by pumping air in at the anus, its relationship to abdominal tumors could be quite definitely determined, and this relationship would enable an accurate diagnosis of the tumor to be made in many cases in which such diagnosis would otherwise be impossible. This was particularly true in differentiatng tumors of the spleen, pancreas, kidneys, liver, including the gall-bladder, etc., from tumors originating in the pelvis or in connection with the small intestine and mesentery.

**The Value of Vaginal Cæsarean Section, with Report of Two Cases.**—Dr. M. STAMM of Fremont, Ohio, read a paper on this subject. He stated that to Duhrssen of Berlin the credit was due for having introduced this valuable method into practice. The clinical reports of operations undertaken on various indications spoke favorably of this method. The indications for this operation, as given by Duhrssen, were: "(1) Abnormal conditions of the cervix and lower segment of the uterus (carcinoma, myoma, rigidity, stenosis, partial pouch-like distension of the lower uterine portion). (2) Dangerous conditions of the mother which may be removed or relieved by prompt emptying of the uterus affections of the heart, lungs and kidneys. (3) Conditions of the mother where death is imminent and can be foreseen." The last two indications had value only in cases in which the cervix was closed and not dilatable, or in which the depressing influence of labor pains should be obviated, as in affections of the heart and lungs. In pregnancy complicated with cancer of the uterus, Duhrssen advocated immediate vaginal section, with subsequent extirpation of the uterus, no matter at what time of pregnancy or at what stage of labor this condition was encountered. Duhrssen's mode of procedure was described by the author.

**The Limitations of Cæsarean Section.**—In a paper on this subject, Dr. E. GUSTAV ZINKE of Cincinnati, Ohio, stated that the basis of his paper was an analysis of eighty-eight cæsarean sections, including eight Porro operations, which had been reported by fifty-two different authors since January, 1900. The causes for which the operation was performed were, in the order of their frequency, as follows: For pelvic deformity, 28 times, namely, flat rachitic pelvis, 13; uniformly contracted and rachitic pelvis, 7; irregularly contracted, rachitic pelvis, 4; flat rachitic pelvis, complicated by eclampsia 3; flat rachitic pelvis, complicated by tumor, 1. For justominor or uniformly contracted pelvis, 12 times; for fibroid tumors obstructing labor, 11 times; for eclampsia, 6 times; for hysteropexy, 6 times; for cicatricial contractions of vagina, 5 times; for causes not stated. 4 times; for simple disproportion between fetal head and pelvis, and lack of expulsive power, 3 times; for carcinoma of cervix, 3 times; for carcinoma of rectum, 2 times; for placenta prævia, 2 times; for retrodisplacement, impaction, and adhesion of fundus, 2 times; for gunshot passing through gravid uterus, 1 time; for ovarian tumor obstructing labor, 1 time; for threatened rupture of uterus, 1 time; for congenital displacement of kidney, 1 time. Among the 13 cases of flat rachitic pelvis was Coakley's case, in which the operation was done three times in six and a half years, and Ill's case, in which the operation was done twice in one year. Of these 88 cases, 66 mothers and 56 children lived. In 7 instances, however, it was not stated whether the mother lived or died, and in 13 the same information was wanting as to the child. In the consideration of the maternal and fetal mortality, the cases in which there was no reference as to the result of the mother and child were excluded. Thus it was found that out of 81 mothers, 66 lived—81.5 per cent Again, it was found that death in 5 of the mothers was really due to malignant disease, and the patients recovered from the effects of the operation, death taking place two months, four months, one year, and two years, respectively, after the operation. Counting these five cases as recoveries, 71, not 66, mothers lived. Maternal mortality, 12.34 per cent. Of the 90 children born, 56 lived. If the 13 cases were excluded in which the result as to the child was not stated, the fetal mortality amounted to 49 per cent. But a careful study of all cases revealed the fact that 3 of the children were dead before the operation; 2 succumbed during the operation; 7 died within twenty-four hours; 4 within forty-eight hours. Three lived two weeks, and one died of enteritis at the end of three months. If there were added to the list of children surviving the operation those who lived twenty-four hours and over, 15 in all, the immediate fetal mortality was reduced to 25.26 per cent. The principal object of the paper was to determine as accurately as possible the limits of the sphere of usefulness of cæsarean section in the light of recent advances in operative obstetrics and for the sole purpose of obtaining the best results for both mother and child under the most trying circumstances.

**The Gilliam Operation: A Clinical Contribution.**—Dr. EDWARD J. ILL of Newark, N. J., followed with a paper on this subject. The author had done Gilliam's operation eighty-six times since the author described it three years ago. In other words, he had done it in 68 per cent. of all cases operated on for retrodisplacements. There were no deaths. Fifty-one of these cases had reported themselves as entirely well, six as markedly improved, and four as no better. Seven had become pregnant, and two had given birth to children normally. Only one of the four reported as no better had a relapse of the malposition. This one was operated on again and an atrophy of the distal end of the round ligament discovered. The writer had modified Dr. Gilliam's operation by not piercing the whole abdominal wall, fearing a weakness from which hernia might result. He would separate the rectus abdominis from its anterior sheath and pierce the rectus muscle, the inner sheath, and the perineum, and progress, as taught by Dr. Gilliam, fastening, however, the round ligament to the posterior surface of the anterior sheath of the rectus muscle with chromicized catgut, thus leaving a strong fascia intact.

**Analysis of Common Causes of Death Following Pelvic and Abdominal Operations.**—In a paper on this subject, Dr. JOSEPH PRICE of Philadelphia, said that he had selected this topic not because he had had a high mortality, but for the reason that it was one of great interest to the members. He said he had written several papers on postoperative complications and several upon repeated operations in incomplete abdominal procedures. This was the class of cases that perplexed him more and more as he grew older, and gave him the only mortality he met with nowadays. Recently he had had a number of trying and sad experiences. In one case a patient came from a prominent hospital after a very simple but incomplete operation, in which the operator had only partially removed one pathological ovary and tube, leaving the

organs on the other side in a badly diseased state. She was sent to him some four months following this incomplete procedure, emaciated, septic, and suffering acutely. He opened the abdomen and found a strongly adherent bowel and omentum. The consolidation of everything made him strongly suspicious of what he would find below. The viscera freed, he found a huge four-foot gauze towel anterior to the uterus, the towel and pus pushing the uterus well back. The stench contaminated the hospital in a few seconds. This patient lived but a few hours, her death being the only one in the hospital in a long series, greatly distressing the operator, nurses, and all concerned. Postoperative sequelæ and deaths from gauze were very common. He was satisfied that they were thrice more common than from sponges. For a number of years he used sponges, and valued them for clean work, for packing, or for a dry operation, and he believed viscera troubled him less than at the present time. He was then wholly ignorant of postoperative sepsis in his own work, and in that of his pupils. Had he now the time to take care of his sponges, he would go back to them, as highly as he valued gauze. To his mind it was one of the most valuable materials in surgery. He spoke of the value of good nursing in the reduction of mortality rate. A number of good operators attributed their low mortality wholly to the use of gloves. One very scientific teacher asked him before adopting the use of gloves, if he did not think 12 to 15 per cent. was a low mortality, taking the cases as they came? He replied, "No, too high." After adopting the gloves he reduced his death rate to about *nil*, but his precautions, said Dr. Price, were all redoubled. For example: After operating on a septic case, other operations were postponed for thirty-six to forty-eight hours. Again, in a study of the complications and pathology, in his reported cases, Dr. Price failed to find one which could have died from good surgery. Recently a brilliant young surgeon assisted him in an operation for acute gangrenous and perforative appendicitis, complicated with general septic peritonitis, the peritoneum being bathed in septic fluid. This patient got a wash toilet and a coffer-dam drain; she never had a bad symptom. The young surgeon remarked that nearly all these cases ended fatally in his hands. In a splendidly appointed hospital, with which this young surgeon was connected, the mortality was high in appendicitis operations. His reasons for alluding so fully to this subject were that the disease was so common and the death rate so high. Vaginal incisions and perforations favored a high mortality in later operations, made for the clean removal of the remaining pelvic pathology. Puriform tubes and ovaries, suppurating tubes and ectopic pregnancy, seldom allowed sufficient improvement in vital force and stamina to bear well the complete operation—suprapubic—after they had been incised through the vagina. Primarily they would all have been easy by complete methods and without mortality. The choice of method and material was of paramount importance to good work, and the suprapubic procedures, when complete and done early, drainage being used when necessary, should, like the infrapubic, when done by one of the finished operators, give a mortality close to *nil*. He had done a large number of vaginal hysterectomies for malignancy of the uterus, cervix or fundus, and for small fibroids, without a death, and it was one of the easiest operations he was asked to do. In suppurative forms of tubal and ovarian disease he did not consider the vaginal route complete surgery, because the adherent omental and bowel adhesions and the diseased appendix were wholly neglected.

**Report of a Fourth Consecutive Successful Operation for Acute Perforated Gastric Ulcer, with General Infection of the Peritoneal Cavity.**—Dr. H. HOWITT of Guelph, Ont., presented a paper on this subject. Acute gastric ulcer perforation, as understood by him, referred to those cases in which nature failed to prevent the escape of gas, liquid, or other contents of the stomach by adhesion of the part to adjacent structures. In reference to successful treatment, attention was called to the importance of early diagnosis and prompt action on the part of the surgeon. He believed that the diagnosis should be made without difficulty when the perforation occurred in a young, anæmic girl, who had a previous history which indicated the presence of an ulcer, and that it should not be difficult in the majority of the other cases, for there was generally a history of after-meals gastric distress, and frequently other symptoms to indicate the trouble. With or without such previous history, the sudden onset of intense pain in the epigastric region, the pronounced shock, the rigidity of the abdominal wall and the thoracic character of the respiratory movements aided in arriving at a correct conclusion; and, if in addition to these the initial pain radiated in a certain direction, and the position of greatest suffering changed and gradually took a downward course in the abdomen, the diagnosis might be made without delay. In the rare instances of rupture of the gall-bladder or perforation of the duodenum in which the symptoms closely resembled those of gastric perforation, the indications for prompt surgical treatment were practically the same. In perforation of the anterior wall to the left of the median line, the material, and consequently the pain, followed a course along the inner side of the descending colon. In all other situations along the descending colon toward the pelvis. The administration of morphine in the early stage, before a diagnosis had been made, often prevented timely recognition and prompt action. It was the general practitioner who was first called, and until he became more familiar with the true import of the initial symptoms successful operations would not be common. The speaker believed that the symptoms indicated the position of the ulcer in the stomach in a manner sufficiently definite for all practical requirements of the surgeon. Before perforation took place, when the ulcer approached the peritoneal coat, a local sensitive area of peritonitis was produced, and it was very sensitive to pressure or other form of irritation. Hence the posture of the patient was that which avoided pressure and kept the contents of the stomach away from the ulcer. For instance, when the ulcer was on the anterior wall, the patient was more comfortable when lying on the back, and so on, according to the position of it. When it was on the anterior wall, point pressure of a superficial character might, by causing severe pain, indicate the exact position. Whether caused by pressure, food or otherwise, the pain, when severe, tended to radiate in certain directions, according to the position of the ulcer. Thus, if near the pylorus and on the anterior wall, to the right, or to the right and downward. On other parts of the anterior wall, to the left and to left and upward to shoulder. On posterior wall, to back immediately behind its situation and to right or left, according to whether it was right or left of spinal column, and upward to interscapular space. In acute perforation of the stomach wall with distension of the bowels, the organ was collapsed and crowded on to the ribs and diaphragm in such a manner as to render it impossible for any surgeon to deal with the trouble without exposing more or less of the intestines. A large incision, collapse of the distending coils of intestines by temporary enterotomy and evisceration rendered the work easy and more expeditious, and with less damage to the delicate parts than was possible by any other method. When the perforation was large, drains were used in each flank, and in the pelvis, not through a large incision, but through separate stabs.

**Should the Uterus and Ovaries Be Removed in Operating for Double Pyosalpinx?**—Dr. C. C. FREDERICK of Buffalo, N. Y., read a paper on this subject. The operation, at first practised by Tait and his followers for several years, consisted in removing both the tube and ovary through the suprapubic incision, leaving the uterus.

In making a pedicle common to both tube and ovary, there was of necessity an incomplete removal of the tube, leaving, in most cases, a part of the proximal end. Many patients were cured and others were not cured, the failure being, in many instances, due to a continuance of the diseased process in that part of the tube remaining. Some of them who had undergone this incomplete operation were again operated upon; the uterus was removed, and in many cases a cure resulted. The natural inference was that the uterus was the offending organ which prevented cure after the first operation; hence arose the teaching that the uterus should be removed with the diseased tubes, in order to insure success. Then came the resort of the French school to vaginal operation for pus tubes, and then every vestige of uterus, tube, and ovary was removed, whether it was necessary or not. After an experience of about fifteen years with the various surgical procedures, and noting the effects of these operations, gynecologists were in a position to decide quite accurately the amount of pain, discomfort, and illness due to disease of the various anatomical parts of the woman's sexual apparatus. As a result of these observations and deductions, it was not necessary to sacrifice all of these organs when they were not all hopelessly diseased. In other words, gynecologists were justified in removing nothing but those organs which were distinctly diseased, and they were in duty bound to retain for the woman all that were not diseased. The rule should be to save as much healthy ovarian tissue as possible, even if it be only the fourth or eighth part of one ovary. In some rare instances the uterus should be removed. If the condition was known to be tuberculous, the uterus should certainly be removed. But even if both tubes and uterus were taken out, one should still preserve all the ovarian tissue possible.

**The Indications and Technique of Vaginal Drainage for Suppuration in the Pelvis.**—Dr. ALBERT GOLDSPOHN of Chicago discussed the chief routes by which infection entered the female pelvis. He described the type of pathological changes resulting from each route. While pelvic cellulitis was rare and of little significance in non-puerperal infections, via the tubes, it was the leading or primary anatomical change in puerperal infections, via the lymphatics. When vaginal evacuation of the pus in pelvic suppuration needed to be followed by a more radical secondary operation, in many cases it enabled the inflammation in the associated uterus or tubes, or ovaries, to subside during the interval, so that they need not be removed, as would have been deemed necessary if a radical operation had been performed in the first instance or during the acute stage. Vaginal drainage helped to save life in cases that had become too feeble for a radical procedure to be applied at once. Preliminary drainage improved their condition so that they could stand a radical operation later, with no higher rate of mortality than obtained after abdominal section in other cases that were not so reduced. This operation should never be a puncture with a trocar, knife or scissors, but should always be a transverse incision into the posterior cul-de-sac, preferably with the thermocautery. From this entrance, as a vestibule, laterally located purulent accumulations, if not yet opened were best attacked by a finger assisted by a forceps.

**Shortening of the Round Ligaments by the Blunt Hook Method.**—Dr. H. W. LONGYEAR of Detroit, Mich., described this method of shortening the round ligaments as follows: "The location of the internal ring is determined by finding the point of crossing of Poupart's ligament and femoral artery, as the ring is situated immediately back and above it. Beginning half an inch inside this point and cutting toward the pubic end parallel to Poupart's ligament, a one-inch incision is made through skin, fat, and superficial fascia. Eye retractors and blunt hooks are then used, the tissues separated down to the aponeurosis of the external oblique, which is thus laid bare to the eye, to the extent of about one square inch. A puncture is now made through this aponeurosis one-quarter of an inch long, situated just above Poupart's ligament and to the back of the square inch of cleared aponeurosis, and through this the blunt hook is inserted and the ligament drawn out, usually with more or less of the fat of the canal along with it. The ligament is isolated and its fibrous attachments stripped back toward the internal ring with blunt pointed dressing forceps, the ligament drawn out to the necessary length, an aneurysm needle passed through the aponeurosis and the loop of ligament drawn through this, folded back on itself, and, with one stitch of kangaroo tendon, made fast, the suture embracing in its grasp the edges of the aponeurosis where the ligament first passes through it, half of the ligament at the same point, and half on each side of the loop that is folded back on it. The skin is then closed by a running catgut suture, and dressings applied. The operation is applicable only to cases of mobile uteri without diseased appendages, in which cases it is an ideal procedure, or to cases in which adhesions may have been previously broken up by abdominal section. A number of devices have been resorted to for the purpose of catching the ligaments and suturing them through the abdominal incision, and thus avoiding the making of the secondary operations in the groins, but they cannot expect to equal the method which leaves the shortened ligament in exactly its normal position."

**The Need for Study of the Symptoms of Perforation in Typhoid Fever, and the Life-saving Possibilities of Early Operation.**—In a paper on this subject, Dr. W. D. HAGGARD of Nashville, Tenn., stated that only about three hundred cases of operation for intestinal perforation in typhoid fever had been reported since the first case in 1884. Granting that this represented only one-half or one-fourth, the number was pitifully meager when it was computed that 25,000 persons died yearly in the United States from perforation and peritonitis in typhoid fever. He made a plea for an early diagnosis and an attempt, at least, to save a part of this appalling number. On a basis of a possible 30 per cent. recovery, which was shown to have been attained in the reported cases, 7,500 lives might be preserved yearly by prompt operation The difficulty lay in making an early diagnosis. The abdomen of typhoid cases should be exposed and carefully examined daily. No abdominal symptom or sign should be considered trivial. Pain was usually the first note of alarm—sudden, severe, colicky, and persistent. Collapse at the time of perforation occurred in only 6 or 7 per cent. Fall in temperature, while not constant, was significant; but prompt rise in pulse was uniform and a symptom of the highest value. Tenderness, rigidity, and localization of pain commonly occurred in the order named. Continuance of pain would distinguish it from colic. Exploratory laparotomy, under cocaine, if necessary, was earnestly urged as a diagnostic measure in suspicious, but doubtful, cases. A plea was made for recognition and interference with the early and mild symptoms, and the classical picture of perforation so-called; the drawn features; cold extremities; feeble pulse; sighing respiration; distended abdomen; restlessness and delirium were not symptoms of perforation *per se*, but of the consecutive peritonitis and really of impending death. A man in the second or third week of a mild attack of typhoid fever without previous abdominal symptoms, and progressing without incidence, who was suddenly seized with acute, paroxysmal, colicky pain in the right iliac region, that caused him to cry out, that did not subside or was not relieved by the ordinary measures, followed by a drop in temperature and a sudden rise in the pulse, and heightened temperature, succeeded by sensitiveness and right-sided rigidity, and a rapidly increasing leucocytosis, might be said to have perforation, not absolutely but with sufficient assurance to demand immediate exploration. It was admitted that all cases did not present the typical symptom-grouping, and an analysis of the value of the

various symptoms was detailed. Statistics of all the reported cases were presented as regards the greater frequency in men, the rarity in children, the predilection of occurrence in the second and third weeks, the preponderance of location in the ileum; the likelihood of finding the perforation single (84 per cent.); the relative locations in the various portions of the canal, and the uniformity of death without operation. The surgeon should stand in close relationship with the physician in all typhoid cases, as was done in appendicitis. Doubtful cases should have the closest surveillance and operation at the first indication of a beginning peritonitis. Dr. Haggard reported three consecutive successful operations for intestinal perforation, two of which were localized; one with abscess; one with localized peritonitis, simulating appendicitis, with three perforations, and one operated on eight and a half hours after the onset of pain, on the twelfth day of a mild attack. Operation was performed at night in a farmhouse by lamplight. The technique was described, and statistics presented showing a recovery rate of 36 per cent. in cases of perforation before the advent of peritonitis; of 47.3 per cent. in cases of localized peritonitis, and 21 per cent. in cases of generalized peritonitis. An earnest advocacy was made for a realization of the possibilities of life-saving in this hopeless class of sufferers.

(To be continued.)

## NEW YORK STATE MEDICAL ASSOCIATION.

*Twentieth Annual Meeting Held in New York City, October 19-22, 1903.*

*Monday, October 19—First Day.*

**Meeting of Council and Fellows.**—The meeting of the governing body of the association convened in the New York Academy of Medicine at 1.45 P.M., at the call of the President, Dr. Frederick Holme Wiggin. In his address on the condition of the association, and its needs, the President stated that during the past year fourteen new component societies, or county organizations, had been added, making a total of thirty-five such societies now in the State association. During the same period 372 persons have been added to the active membership and 60 have been reinstated, while 23 have died, 15 have resigned, and 2 have removed out of the State. This gives a total membership of 1,757, and entitles the association to send four delegates to the American Medical Association. The President was of the opinion that the increase in membership was chiefly attributable to the inauguration of the system of defending the members in suits for alleged malpractice. It was suggested that the ratio of representation from the county associations should be 1 to 100, instead of 1 to 10, each county association being allowed at least one representative. It was also recommended that the initiation fee be restored, and that the collection of all dues be made by the State treasurer. The President also recommended that the committee on legislation should take steps to secure the passage of a law requiring those bringing suits for malpractice against physicians shall be bonded in evidence of good faith.

**Officers Elected.**—*President*, Dr. William H. Thornton of Buffalo; *Vice-President*, Dr. Charles S. Payne of Liberty; *Secretary*, Dr. Guy Davenport Lombard of New York; *Treasurer*, Dr. Frederick A. Baldwin of New York.

*Tuesday, October 20—Second Day.*

**Sea Bathing.**—Dr. R. ABRAHAMS of New York read a paper on this subject. He had found sea bathing particularly useful in pityriasis versicolor, chronic eczema and senile pruritus, whereas the same affections when treated by means of salt water in bathing establishments. The author suggested the following reasons for this difference: (1) The longer immersion in the sea; (2) the pounding action of the waves; (3) the exposure to the sun and the concentration of the water upon the cutaneous surface between the dips in the sea, and (4) the salutary effect upon the skin of rolling in the sand on the beach.

**Treatment of Compound Fractures.**—Dr. V. D. BOZOVSKY of Dunkirk read this paper. He said that if the wounds of the soft parts were in or near an infected region, it should be enlarged and drained. Rise of temperature and a dry, brown tongue pointed strongly to infection. Silver wire was the best material for suturing the bones; the next best was silkworm gut. Large fragments without periosteum would not unite, but small chips would do so, even when taken out, cleansed, and replaced.

**Stab Wounds of the Abdomen.**—Dr. F. J. DOUGLAS of Utica presented this paper. He said that no other class of cases had a more unreliable symptomatology than this. It was well not to rely upon any one symptom. As a rule, there would be quickening of the pulse, rapid and shallow breathing and an anxious countenance. The real conditions could be determined only by an exploratory laparotomy, and this should be done even in the presence of shock. Probing was unsatisfactory and dangerous, and could not be too strongly condemned. The omentum and gut should be carefully inspected, and any foreign matter present removed by irrigation with sterile water. After suturing any wounds of the viscera the peritoneal cavity should be flushed out, and if there were much shock the peritoneal cavity should be left filled with hot salt solution. Ordinarily, drainage was not required. The operation, if properly done, never killed, whereas neglect of its immediate performance often jeopardized life. Three illustrative cases were reported.

**The Relation of the Municipal Milk Supply to the Health of Children.**—Dr. GEORGE W. GOLER of Rochester was the author of this paper. He said the figures to be cited in the paper included every death under five years of age from any cause. From 1891 to 1896 there were 2,879 deaths under one year, and 1,496 under five years of age. From 1897 to 1902, inclusive, *i. e.* during the period when special care had been taken to improve the milk supply, there were 1,887 deaths under one year, and 876 deaths between one and five years of age. This diminution of mortality for the last period was 65 per cent. for children under one year, and 58 per cent. for children between one and five years of age. In the first period more than 28 per cent. of children died under five years of age; in the last period 19.5 per cent. died. No process of sterilization could clean milk after it had once become dirty. There should be a bacterial standard of cleanliness adhered to in order that the milkman might secure a license. An attempt had been made in the city of Rochester to maintain a standard of 100,000 bacteria per cubic centimeter for the past four years. At the beginning, 27 per cent. of the samples gave an average of 837,000 bacteria to the cubic centimeter. After the bacterial standard already mentioned had been established, 391 samples gave an average of 796,000 bacteria to the cubic centimeter, but 15 per cent. of the samples still contained over five million bacteria to the cubic centimeter. In 1901, 287 samples averaged 275,000 bacteria to the cubic centimeter, and 9 per cent. gave over five million. In 1902, 531 samples averaged 215,000 bacteria per cubic centimeter, 74 per cent. of the samples coming within the prescribed standard, and 6 per cent. still showed more than five million bacteria. So far, in the present year, 329 samples gave an average of 209,000 bacteria, 33 per cent. came within the standard, and 4 per cent. showed more than five million bacteria present to the cubic centimeter. In the summer of 1897 the Health Commission had been asked for an expenditure of $400 to provide milk stations for selling milk for nurslings at cost price. At a central station outside of the city the milk was received and prepared. The milk itself was neither sterilized nor pasteurized, but everything coming in contact with the milk was sterilized. Similar precautions were observed at the dairy. Last summer the daily samples of milk examined showed an average of 14,000 per cubic centimeter, while for the same days the ordinary city milk averaged 235,000 per cubic centimeter. Since the establishment of this system, there had been a

steady and decided diminution in the infantile mortality for the city of Rochester. The most important feature of the work was its educational aspect.

Dr. De Lancey Rochester of Buffalo detailed the unsuccessful attempts that had been made in his city to purify the milk supply. Sterilization and pasteurization of milk he characterized as a sop to those who desired to supply dirty milk.

Dr. James J. Walsh of New York remarked that there were 15,000 fewer little graves in Chicago than there would have been if the sanitary condition of that city in 1895 had not been improved

Dr. H. O. Marcy of Boston spoke of the efforts made to improve the milk of Boston, and then described a special process that had been carried on in New Hampshire for the past six years. The milk was taken from healthy cows and quickly transported to the receiving station, where it was refrigerated and made into a kind of sherbet. It was then put into a centrifugal machine and most of the water was driven out very quickly. The milk in this concentrated form did not undergo change nearly so quickly as ordinary milk. Such milk would keep sweet for about two weeks. The possibilities of this process were so great that he expected it would in time revolutionize the distribution of milk. This product was a pure milk from which very little of the albumin and salts had been abstracted.

**The Causes of Failure after Operation for Nephroptosis.**—Dr Augustin H. Goelet of New York presented this paper. The causes of failure, briefly stated, were said to be the following: (1) Delay in operating until the health of the patient had become seriously impaired; (2) delay in operating until the kidney had become greatly disabled, or incurable nephritis had developed; (3) the existence of irreparable ptosis of the abdominal organs as a complication of the nephroptosis; (4) the failure to prepare the patient properly for the operation, and thus avert severe retching and vomiting following the anæsthesia; (5) incomplete detachment of the colon from the kidney; (6) delay in anchoring the kidney by operation until this organ had become permanently attached; (7) penetration of the structure of the kidney by the sutures; (8) attachment of the kidney too low down in a position where it is exposed to irritation by the clothing or corset; (9) too early removal of the sustaining sutures; (10) delay in removing the gauze drain; (11) allowing the patient to turn upon the opposite side too soon; (12) allowing the patient to assume the erect position too soon, *i.e.* before the end of three weeks; (13) the neglect to adjust a proper support for the lax abdominal walls when the patient resumed the erect position; (14) too early resumption of the corset, or its improper adjustment; (15) permitting too soon such exertions as put a severe strain on the freshly attached kidney; and (16) the neglect to correct derangements of the digestive apparatus and other conditions caused originally by the prolapse of the kidney.

Dr. E. D. Ferguson of Troy preferred to decorticate thoroughly the kidney, and then insert a row of sutures from pole to pole, after which the remaining portion of the fatty capsule should be brought back, thus exposing a fresh surface for union.

Dr. Martin B. Tinker of Clifton Springs, said that his observations led him to believe that many failures after nephropexy were really due to an associated general enteroptosis.

Dr. R. H. Gibbons of Scranton, Pa., was of the opinion that the symptoms observed in cases of loose kidney were largely the result of interference, by reflex disturbance, with the functions of the small intestine through irritation of the large intestine.

**Results of Operative Treatment of Cancer of the Rectum.**—Dr. James P. Tuttle of New York read this paper. He said that it was very common to advise persons suffering from cancer of the rectum to have an inguinal colotomy done. The patient was then permitted to drag out a more or less miserable existence, until death closed the scene after an average interval of nine months. He wished, therefore, to present the results up to date obtained by him in forty-three excisions. The proportion of carcinoma of the intestinal tract was gradually increasing; formerly it was about 21 per cent., but more recent statistics had raised this figure to 23. On an average, life was prolonged about nine months after the discovery of the disease whether or not colotomy was done. The operation of excision was an exceedingly difficult procedure, and there was great liability to infection. The speaker asserted that no other method but extirpation had ever cured a single well-authenticated case of carcinoma of the rectum or sigmoid. The average prolongation of life was from six months to three years greater after extirpation than after colostomy. Colostomy was the only method that could be compared with excision. His own opinion was that patients without colostomy would live just as long as with it. Only in scirrhous growths with absolute occlusion of the gut, and in cases of the hemorrhagic type did he believe colostomy was indicated. For relief of pain the operation of extirpation was perfect, and, as regards restoration of strength and usefulness, it exceeded all other methods because it entirely did away with diarrhœa and disturbances of digestion. Recurrence of the disease rarely took place in the original site. The mental effect was not to be despised, for this operation alone could hold out any prospect of an ultimate cure. Of the forty-three cases, twelve were unsuccessful. Of the twenty-nine remaining only twenty-two had been traced and were found still living. Of these sixteen had survived the operation two years or, one of them for eleven years, one for ten, one for nine, one for seven years, and the others for varying periods of two years. The greatest of all the causes of death in this class of cases was a late diagnosis. Three out of the seven cases lost were really from this cause. Every case of diarrhœa, with or without blood, if lasting for over two weeks, required not only a digital, but an instrumental examination of the rectum or colon to decide what was the local condition responsible for this persistence of the affection. If such an examination were not made, and the patient later suffered from carcinoma, the physician could not morally avoid responsibility in the matter. With early diagnosis, the speaker said, he was confident that even the remote results from extirpation would be materially improved. Next to late diagnosis, infection was the chief cause of death. In four of the seven fatal cases the direct cause of death was infection; three patients died from what was generally called shock or exhaustion, but the high temperature that developed shortly before death made him believe that these also were instances of infection. In one case death was due to cutting the sigmoid artery with the production of gangrene of the upper segment of the bowel. With regard to what desperate cases it was justifiable to operate upon, Dr. Tuttle said that ordinarily it was stated that one should not operate if carcinoma of the rectum were not movable, but we should consider also the patient's rights in the premises. Of four such desperate cases, two had been saved, although in each instance he had only operated after repeated solicitation from the patient, and against his better judgment. It was true, by doing these operations he had spoiled his statistics but that was a small matter compared with the saving of these lives. One of these patients appeared to be almost moribund on leaving the operating table, though he survived, and now, after a period of three years and a half was alive and well, and only had to urinate through a fistula in the perineum. One of the cases reported was that of a person who had been operated upon by Dr. C. McBurney and had remained well for ten years, and then had a recurrence. Dr. Tuttle said he operated upon this recurrence, and the patient was again apparently well. The case was cited to show the great importance of keeping all these cases under prolonged observation, no matter whether or not they had gone without recurrence for a

period of four years. Eternal vigilance was the price of success in this field of surgery. Several of the patients were exhibited, and an opportunity was afforded for examining them.

Dr. E. D. FERGUSON suggested the performance of a preliminary or a coincident colostomy in cases in which it was possible to bring down the upper portion of the gut and attach it to the lower segment, the object being to avoid the danger of infection arising from evacuation of the bowel.

**One of the Dangers in the Surgery of the Biliary Passages.**—Dr. E. D. FERGUSON read this paper. He said that experience had taught him that preliminary operations, and especially severe manipulation in the deep biliary passages added greatly to the risk of the operation. His endeavor was to secure a symptomatic cure rather than to do an ideal operation in all cases. It should be an invariable rule to do that operation which would give the least shock. This was usually the establishment of a temporary biliary fistula after the removal of the gallstones.

**Extradural Abscess and Mastoid Disease.**—Dr. SEYMOUR OPPENHEIMER of New York read this paper. He said that quite often the channels of invasion were quite devious. Epidural abscess was the most frequent intracranial complication of mastoid disease. The abscess might vary in size from one containing a few drops of pus to one containing an ounce or more. The early symptoms of epidural abscess presented nothing to distinguish them from those of mastoid disease. If there was much increase in pressure an absolute recovery might be impossible. Usually there was a continuous headache over the affected area with a moderate elevation of temperature. Pain in the head was one of the most prominent and constant symptoms, and was usually present over the affected area. It was apt to occur in paroxysms, and the tissue over the painful area was sometimes exquisitely tender. If there was much meningeal irritation the pulse would become more rapid. If rigors were present, it was fairly certain that there was sinus involvement. If the differential diagnosis between abscess and meningitis could not be made by the symptoms, lumbar puncture should be resorted to. If, on opening the mastoid, the pus were seen to pulsate there was every reason to believe that it communicated with the cranial cavity.

Dr. FRANK W. HIGGINS of Cortland reported a case in which it was necessary to pass the aspirating needle down a distance of an inch and three-quarters into the brain before reaching pus. In cases of this kind, the operator desired very much to have some hint as to what was the best direction in which to pass the needle, and it occurred to him that as these abscesses were said to occur about three times as often in the middle as in the posterior fossa, this might serve as a guide to the operator.

**School Hygiene and the Great Need of Regular Medical Supervision.**—Dr. H. ERNST SCHMID of White Plains was the author of this paper. He said that the ideal classroom was oblong, measuring 10 feet wide by 25 feet long and 13 feet high, and having a seating capacity of forty pupils. Such a room gave 18½ square feet to each pupil, and 243½ cubic feet or air space. The light should always enter at the side, preferably the left, or at the side and back. Pupils in the primary department should not be kept seated more than one-third of the school time. There had been much discussion over the comparative merits of vertical and slanting writing. The former was the more natural. Statistics appeared to indicate that about 25 per cent. of the children were injured by being compelled against their natural bent to write a slanting hand. The glass space should be equal to one-fourth, or, better still, one-third of the floor space, and the shades should work from the bottom of the windows only. The walls of the school room should not be kalsomined but should be painted a greenish-gray color. The standard of teachers for the primary grades should be as high as for the highest classes, because their power over their little charges for good or evil was very great. The speaker urged that the medical profession should endeavor to secure a State law requiring all schools to be under constant medical inspection and supervision.

**The Influence of Oxygen Taken by Full Normal Respiration, When Chemically Pure, as a Means of Sustaining and Increasing Mental, Nervous, and Physical Energy.**—Dr. CORDELIA A. GREENE of Castile was the author of this paper, which was read by Dr. Walsh. She stated that she had been employing oxygen by inhalation for more than fifteen years, and had observed the most marked therapeutic effects from its use. There was no better aid to recovery from bronchial irritation. In all cases in which there was deficient vesicular respiration because of congestion, non-use or anything else, oxygen was valuable. As full nervous vigor depended so intimately upon effective oxygenation, it was easy to understand how this gas was useful in all cases in which there was nervous debility. The air should be fresh, and not over 65° F. in the inhaling room. After having taken a deep inhalation of the gas the breath should be held for a short time, and this should be followed by a deep inspiration of ordinary air. At one seance not more than ten or twelve oxygen inhalations should be taken. Such treatment always tended to make the patient feel quiet and restful.

Dr. DELANCEY ROCHESTER of Buffalo said that some years ago he had been an ardent believer in the efficacy of oxygen inhalations, but having observed two series of cases of young anæmic women, one treated by such inhalations and the other simply by fresh air and exercise, he found that, if anything, the results in the latter class were better than in those treated with oxygen.

Dr. C. E. QUIMBY of New York said that in pneumonia the trouble was not only that there was not enough oxygen, but the patient could not get rid of the carbon dioxide. It was, therefore, quite as dangerous to use too much oxygen as not to give any at all to the pneumonia, because an excess of oxygen led to the retention of the carbon dioxide in the system. He had seen serious results in actual practice from this very cause.

**Bacteriology and Pathology of Dysentery in Children.**—Dr. WILLIAM H. PARK of New York presented a communication on this subject. He said that in this locality amœbic dysentery in children was practically unknown, but cases were met with in the Southern States. Although the Shiga bacillus resembled the colon bacillus, it was as distinct from the latter as was the bacillus of typhoid. Shiga had found it in every case, and had produced dysentery artificially by means of it. Summer before last the discovery had been made that the bacillus was found in Baltimore in children suffering from summer diarrhœa, a fact which for a time caused considerable confusion. During the past summer a number of investigators had been engaged along this line of research in and about New York City. Investigation showed that the bacilli of diarrhœa which had been thought to be the same as the original Shiga bacillus were, indeed, present, but mixed in with these cases were atypical ones associated with bacilli of what was called the acid type. These latter resembled the Shiga only in certain respects. There were apparently several groups of cases, viz.: (*a*) Severe cases characterized by necrosis of the mucosa and the appearance of the formation of a pseudomembrane; (*b*) cases in which there was a hyperplasia of the lymph follicles, both agminated and solitary; (*c*) cases characterized by superficial necrosis and ulceration of the mucous membrane, not limited to the follicles and not accompanied by the formation of pseudomembrane, and (*d*) a large group of cases showing very few lesions under the microscope, and no lesions at all on gross examination. The cultures from all of these cases showed only a few bacilli of the acid type.

*Serum Therapy.*—Dr. PARK said that during the past summer the serum treatment had been tried in a number of cases. By injecting horses with the Shiga bacillus one obtained, after from four to six months, a bactericidal serum which would protect against a moderate number of fatal doses. Shiga had reported favorably on this serum treatment. The serum used by Dr. Park the past summer was not that prepared by the New York City department of health, but that produced under Dr. Flexner's supervision, because it was felt that in a scientific investigation of this nature one should exclude, so far as possible, all possible sources of error. Cases occurring in both children and adults, and in various localities were observed, and the acid type of bacillus was identified in them. As was well known, most of the cases in this climate were quite mild. About fifty cases had been under observation, and about one-half of these received the serum, the others being kept as controls. In some cases, on giving twenty to thirty cubic centimeters on three consecutive days, there was no evidence of improvement, but they were not made worse. Some of the cases of a severer type did seem to show more improvement than cases of the same class not receiving the serum. The improvement was usually noted after the second dose, but the results were not very marked. The speaker said that from this experience he would certainly advise the use of the serum. It was hoped better results would be obtained in the future, for it had not been known until this recent experience that the two classes of bacilli differed so much, and hence, they had proceeded on the assumption that the same serum would answer for both classes of cases. This addition to our knowledge would not, however, lead to so much confusion as one might at first suppose, for it was found that one horse could be injected with two or more kinds of bacilli, and that by this method a serum could be obtained which possessed a wider range of usefulness. Of course, such a method would not be applicable to the cases occurring in other climates. He hoped those practitioners throughout the State who met with much dysentery would avail themselves of the offer of the health department to supply the serum, and would in this way coöperate in this interesting and important investigation.

Dr. CHARLES G. KERLEY of New York said that he had used the serum in about twenty cases. In two or three of these such improvement had been noted as to suggest that the serum had caused it, but at the present time he was only willing to express the opinion that the serum treatment appeared to have a promising future, and that it certainly did not harm.

**Radium in Medicine.**—Dr. SAMUEL G. TRACY of New York presented this paper. He pointed out that pure radium salts evolved enough heat to melt more than their weight in ice every hour, and yet at the end of months the radium was as potent as before, and one could observe no change in its weight or by chemical, microscopical, or spectroscopic examination. This substance had thrown the first doubt upon the law of the conservation of energy. If a small glass tube containing radium were kept in the vest-pocket for several hours it would cause a severe burn, but the full physiological effect would not be noted for a week or ten days. Seeds exposed to radium for several hours lost their germinating power. As yet comparatively few physicians had reported upon the use of this wonderful substance in deeply seated cancer, yet there was reason to believe that it might prove very useful in such cases as well as in lupus, rodent ulcer, and superficial cancer. Radium was known to possess bactericidal power, and it had been inferred from this and its other properties that it should prove beneficial in pulmonary tuberculosis. Specimens of radium were exhibited, and the attention of those present called to the fact that pure radium did not fluoresce, but that fluorescence was observed when radium was more or less adulterated.

**Some Less Usual Causes of Post-operative Elevations of Temperature.**—Dr. MARTIN B. TINKER of Clifton Springs read a paper on this topic. He said that small pulmonary emboli, which were often overlooked, were the cause of post-operative fever in some cases which seemed puzzling because of the absence of any obvious cause for the fever. Some observers were inclined to believe at the present time that all postoperative pneumonia was embolic, and was not, as formerly believed, an aspiration pneumonia. Pericarditis was a very infrequent cause of fever after operation. Cerebral embolus occasionally acted as such a cause. In one case of this kind, although there was no fever prior to the cerebral embolism, it was quickly followed by a temperature of 104° F. Phlebitis and thrombosis of the femoral vessels were occasionally seen after abdominal operations. The speaker reported several cases in which the saphenous veins were so affected. It was not fair, he said, to ascribe a post-operative rise of temperature to malaria unless the parasite of malaria were found, but in these cases, it must be admitted, it was often very difficult to detect this organism, particularly as these cases were apt to be of the estivoautumnal type. Many of these patients had no fever before operation.

Dr. ELIAS LESTER of Seneca Falls remarked that he lived in a malarial region, and so commonly did a malarial element creep into various diseased states, notably in pneumonia and in the puerperium, that he found it desirable to give quinine as a prophylactic.

Dr. WILLIAM B. ULRICH of Chester, Pa., said that he did not believe malaria or intermittent fever was always produced by the bite of the mosquito. He had been in active practice for twenty years in Louisiana, and in the very years when mosquitos were most plentiful, *i.e.* in the years of overflow, intermittent fever was at a minimum. A malarial element entered and altered the clinical picture of almost all the acute diseases in that state. He had lived in Delaware County before intermittent fever was known there, and in Chester County this disease was unknown until a railroad was built in that region. The city of Chester was rapidly built up, but malaria did not make its appearance until later on, when the march of improvement led to extensive excavations of the earth. Nevertheless, during all this time there existed along the Delaware river the same marshes and lagoons.

*Wednesday, October 21—Third Day.*

**Ergot in Alcoholism and Morphinism, and the General Class of Drug Habit Cases.**—Dr. ALFRED T. LIVINGSTON of Jamestown was the author of this paper. He said that he was totally opposed to the theory that the drug habitué was the subject of a specific disease which impelled him to the special habituation. He denied *in toto* the existence of such specific disease, but, of course, he did not deny that diseased states resulted from the improper use of such drugs. On attempting to leave off a drug to which one had become addicted the resulting disturbance of the nervous system was proportionate to the daily dose of the drug that had been taken. It was the sense of restlessness within that suggested a renewed application of the drug. The speaker protested earnestly against the too common practice of many medical men of using too frequently, and generally absolutely unnecessarily, the whole class of narcotic stimulants. Sleeplessness, pain, and restlessness could be more surely relieved by ergot than by this class of narcotic drugs. He believed that the nervous disturbance depended upon the disturbance of the vascular system, hence, the indication was to bring about, as promptly as possible, an equilibrium of the circulation. There were several methods by which this could be done. One method was by cold to the spine, or hot sponging followed immediately by cold sponging of the spine. Another method was galvanism of the chain of sympathetic ganglia by the use of hand electrodes, stroking downward from the occiput to the sacrum with the electrodes held about four inches apart. A current of 10 to 15 milliamperes should be employed for this purpose, and the

application should be continued for ten or twenty minutes. This should be followed by a short application to the cervical ganglia. A prolonged application of the static wave current to the whole length of the spine was also exceedingly useful.

**The Ergot Treatment of Drug Habits.**—He considered the hypodermic injection of ergot the most certain of all the methods for restoring the equilibrium of the circulation. Ergot contracted the sort of muscular tissue of which the muscular coat of the blood vessels consisted, but its most pronounced action was upon those areas of such tissue as were weak and relaxed; hence, its action on ditated blood-vessels was peculiarly satisfactory. This method of administration placed the drug most surely and promptly where it would accomplish the desired purpose. It could, of course, be given by the mouth, but the only sure way was by putting it directly into the circulation. In the past few months several drug houses had removed the former objections to the hypodermic use of ergot, so that now this drug could be given subcutaneously with little or no inconvenience. In the treatment of these drug habits the first step was wholly to discontinue the use of the narcotic, and place around the patient such safeguards as would entirely prevent the taking of the special drug or of any substitute therefore. He began at once the administration of ergot, because he knew that in twenty-four to thirty-six hours there would be a violent reactionary stage characterized by marked circulatory disturbance. At the same time that he began the use of the ergot he gave a purgative. He made use of the fluid extract of rhamnus frangula, in doses of one or two drachms at bed-time, and sometimes also morning and afternoon, in order to keep the bowels open. In general, two or three doses of ergot of half a drachm each of his solution should be given *per diem*, but in extreme cases it might be necessary to employ this drug at intervals of two hours. The morphine habit was the most difficult of all to cure, yet the ergot method of treatment acted admirably even in such cases. He would not hesitate to treat such a case in any well-regulated hospital. In no case, after the first forty-eight hours, had he had a request from the patient for this drug or a substitute for it, nor had he seen in any such case, any evidence of such desire. It was desirable to avoid even the use of hypnotics, for sleep could be secured without these drugs, and, if necessary, he would make use of all the methods spoken of at the beginning of this paper. A modified plan, sometimes useful, was to give hypodermically one or two doses of ergot daily, combined with a fractional part of the former daily dose of the drug employed. The next day this small dose of the narcotic should be reduced one-half, and this method of gradual reduction should be continued until the eighth day, when the drug should be entirely discontinued. The fact of the administration of the morphine wit hthe ergot should be kept from the knowledge of the patient. This modified method was never required in any but the severe forms of morphine and opium habit. The thallate of morphia was the best preparation for such purpose. He had abundantly demonstrated the success of this method, which, he believed, had a thoroughly rational basis.

Dr. ALEXANDER LAMBERT of New York said that he had had a very large experience in Bellevue Hospital in the treatment of severe cases of confirmed alcoholism. For years each service of six weeks had yielded twenty-five or thirty deaths; but since he had made use of Dr. Livingston's method of using ergot, the six-weeks' service had given only six or seven deaths. Persons entering the hospital on the verge of delirium tremens were given a drachm of paraldehyde in some whiskey. This usually gave refreshing sleep for several hours. Very obstreperous patients were given a hypodermic injection of apomorphine and ergot. They would almost immediately become calm and limp, and if wrapped up in a warm blanket would sleep for several hours. The same thing happened with apomorphia alone, but if ergot were added, the patient would awaken in much better condition. He ordinarily administered 30 minims of a 12½ per cent. solution of ergot, repeating it in an hour and afterward at intervals of two hours. Perhaps the most extraordinary action of ergot was in what were known as "wet brain" cases. In past years Dr. Lambert said he had tried every known method of treatment that offered any chance of success, but the best he could do was to save three out of one hundred of these patients. To his utter astonishment he had been enabled by the ergot treatment to save all but two in about thirty cases, instead of losing all but three in one hundred. An autopsy on one case showed a remarkably dry brain, showing that the ergot had prevented the occurrence of serous exudation.

In treating the morphine habit in these wards unusual difficulties were encountered. He had, therefore, adopted the method of cutting off the morphine in the course of forty-eight hours, thus avoiding excitement and violent opposition.

Dr. FREDERICK HOLME WIGGIN of New York said that he had found the hypodermic use of ergot useful both in delirium tremens and in insomnia, but he had not obtained good results with less than 50 or 60 minims at a dose.

**Laboratory Aids to Diagnosis for the General Practitioner.**—Dr. V. A. ROBERTSON of Brooklyn was the author of this paper. He said that a laboratory could be fitted up at slight cost, the chief expense being the microscope. The latter should be provided with ⅔-inch and ⅙-inch dry objectives and a $\frac{1}{12}$ oil immersion lens. Examination of the sputa for tubercle bacilli should certainly be made by the physician himself. In recent years so much aid had been derived from blood examinations that the up-to-date physician felt the necessity for adding these to his resources. The occurrence of leucocytosis was of great diagnostic value. Its absence in certain affections in which it would be naturally expected to occur afforded a useful hint. Leucocytosis was absent in malaria, most cases of influenza and measles. If found during the course of typhoid fever, it might point to impending perforation of the bowel. The number of leucocytes in any acute infection was said to be directly proportionate to the intensity of that infection. The diagnosis of malaria should never be based upon the clinical symptoms alone. The Widal reaction could not readily be made by the general practitioner unless he could obtain a fresh culture of the typhoid bacillus. Ehrlich's diazo reaction was within the reach of the general physician, and although present in other diseases, it was of considerable value in the diagnosis of typhoid fever. The diagnostic value of the pneumococcus was undisputed, and this organism could often be recovered from the sputum before the physical signs warranted a diagnosis of croupous pneumonia. The examination of the gastric contents was of great diagnostic value, and should be more commonly employed in general practice. In case of dysentery the fæces should be examined for the amœba coli.

Dr. DE LANCEY ROCHESTER cited some cases to illustrate the practical value to the physician of resort to laboratory methods. He also recalled the fact that recent investigation showed that if the small fibrinous plates found in pleuritic exudates were partially digested, tubercle bacilli would almost invariably be found.

**Treatment of Puerperal Sepsis.**—Dr. JAMES HAWLEY BURTENSHAW of New York presented this paper. He said that the treatment should aim to remove the source of infection, and neutralize the effects of the septic germs or of their toxins and support the patient's vitality. He believed curettage of the septic uterus with a sharp instrument to be unjustifiable, but recommended the removal of retained secundines by means of a finger or a dull wire curette. Lacerations of the cervix and vagina should be cauterized, and the cavity of the uterus

should be irrigated with two gallons or more of warm salt solution, or 1-per-cent. lysol solution. Both cavities should then be packed with 10-per-cent. iodoform gauze. He has never obtained as satisfactory results from the use of vaginal or uterine tampons soaked in formalin or alcohol, and did not favor continuous irrigation of the uterine cavity in cases of infection, as the pathogenic organisms were lodged beyond the granulation wall. In sapræmia, however, such irrigation might be of benefit. The treatment of puerperal sepsis by hysterectomy had not met with general approval. To neutralize the effects of the germ invasion he believes the functions of the kindey and bowel should be promoted. The administration of antistreptococcic serum had been disappointing, as had the intravenous use of formalin solution. Opening and packing of the posterior cul-de-sac with iodoform gauze was to be commended. Considerable stress was laid on the good effects obtained from the use of normal salt solution. It was still a mooted question as to the manner in which the solution exerted a favorable influence, but the term *lavage du sang* would appear to be particularly significant in this connection.

To support the patient's vitality it was advised that the diet be nutritious to the last degree, and easily digestible. He believed strongly in the administration of brandy or whiskey in liberal doses, not only for their stimulating effects, but as a food. Ergot, strychnine, and quinine were always indicated. The temperature should always be controlled by means of cold sponging; never by antipyretic drugs.

Dr. Joseph B. Cooke of New York spoke of prophylaxis, and stated that there would be less liability to puerperal sepsis if the physician would make it a routine practice to hold the uterus for an hour after delivery, thus securing firm uterine contraction and avoiding the lodgment of clots in the uterus.

Dr. E. V. Delphey of New York advised washing out the uterus postpartum with very hot water containing enough tincture of iron to impart to it a port-wine color. For a number of years he had used digitalis with much satisfaction, not only to contract the uterus, but to strengthen the heart.

Dr. De Lancey Rochester said that in modern obstetric practice puerperal septicæmia was chiefly seen in connection with gonorrhœal infection. When such infection was known to exist, a douche of hot iodine water, of the strength of a tablespoonful of the tincture of iodine to the quart, should be given after labor, and whenever practicable iodine should be used locally for a month or two prior to labor.

**When and How to Operate for Gallstones.**—Dr. Irving S. Haynes of New York read this paper. He said that only about 5 per cent. of cases of cholelithiasis became active, but evidence of activity might arise at any time without warning. Late operations were usually complicated ones, and carried with them a death rate of 40 per cent.; on the other hand, early operations were usually successful. The symptoms which would most constantly lead to a correct diagnosis were not biliary colic and jaundice, but digestive disturbance, a feeling of weight or burning in the vicinity of the stomach after eating, gaseous distention of the abdomen, a dull pain around the right side of the abdomen at the level of the gall-bladder, and a point of tenderness in this region. There might also be a history of one or more attacks of supposed appendicitis or of typhoid fever. Sometimes there was a barely perceptible yellow tinge of the skin, not amounting to jaundice, noticeable at the time the patient was feeling badly. The area of liver dulness was usually increased. According to Ochsner's experience, jaundice was absent in 75 per cent. of the cases, the pain was usually in the pit of the stomach, and there was often a tender point situated an inch and a half to the right and above the umbilicus. The search for calculi in the fæces was often disappointing, and even if calculi were found, this was no proof that others had not been left behind, which might eventually cause a return of the trouble. Attacks of colic or of severe abdominal pain were absent in nearly half of the cases. When there was obstruction, there was apt to be sudden and irregular exacerbations of fever. When reasonably certain of the existence of cholelithiasis an operation should be undertaken. The mortality in early and uncomplicated cases was 2 or 3 per cent. An operation done at the time of election, or in an interval of colic, was usually fairly easy. In considering the choice of operation, it should be remembered that the gall-bladder, when once diseased, was useless as a receptacle for bile, and that a fair percentage of such cases terminated in carcinomatous degeneration. As ideal conditions were often absent, one should, in most instances, resort to simple incision and drainage. Even after excision of the gall-bladder stones might form in the ducts themselves. If calculi were discovered in the ducts, they should be removed if possible.

**The Typhoid Epidemic in Ithaca, with Special Reference to Causation, Prevention, and Treatment.**—Dr. Chauncey P. Biggs of Ithaca read a paper with this title. He said that the specific source of infection could be more easily traced when it occurred in the milk, than in the water supply. The exact source of infection of the water of Ithaca had not yet been satisfactorily demonstrated. The epidemic had presented many points of resemblance to the epidemic at Plymouth. It was estimated that about one thousand cases developed during the first six weeks of the epidemic. There were probably very few of the citizens who did not, at some time or other, drink some of the infected water, and yet the number of isolated cases outside of the infected district was quite small.

**President's Address: The Past and Present Needs of the Medical Profession.**—Dr. Frederick Holme Wiggin delivered this address. He said that the development of medical organization was largely limited to State and county bodies until 1847, when many of the existing societies organized a national organization, the American Medical Association. The present condition of the medical profession was well shown by the frequency of malpractice suits, the flagrant abuse of medical charity and the extent to which contract practice is carried. A recent speaker had aptly remarked that "a physician may be prime minister of France; he may be governor of Cuba, but he cannot become president of the New York City Board of Health." Victor Horseley, in a recent article, recognized the importance of medical societies taking part in both social and scientific work. He advocated united effort to protect the rights of the physician and defend him from unjust attacks. The requirements of medical education were becoming more and more exacting, resulting in great good to all concerned. It would be fortunate if our medical schools would give some instruction in the history of medicine. If our profession was to be organized into a body of sufficient strength to accomplish what was needed, the fundamental idea of organization must be better understood by all, and the plan of organization must be such as to secure control by the majority, and not by the minority. The local association should be made the door of entrance to and exit from the larger societies. Such organization must be powerful enough to prevent further demoralization of the public by an extension of the abuse of medical charity. It must discountenance contract practice in lodges and societies at ruinous rates, and must defend its members against unjust attacks upon their professional honor and standing. It must establish medical libraries and bureaus of information in the large medical centers for the benefit of its members, and should provide a death benefit fund. Such organization should have separate meetings for political and for scientific discussion, and means should be provided for the proper

publication of its scientific proceedings. In order that the association might carry on its work properly there should be an assured and ample income. The national organization should hold a charter of incorporation from the national government, not only to secure the requisite dignity and importance, but to facilitate the transaction of business in any State of the Union. The national association should from time to time publish a national medical directory, the data for which should be furnished without expense to it by the component societies. The officers of our associations should be medical statesmen, and the members should be taught a greater individual responsibility. The evils from which our profession was acutely suffering were the result of the mistakes of our predecessors. A long advance step had been taken by the agreement of the two State organizations of New York to form one society which would be worthy of the Empire State.

**Sewage Disposal as a Means of Purifying the Water Supply of the Cities and Towns of the State.**—Dr. CHARLES B. KEPT of Utica read this paper. He said that if the native purity of the Adirondacks were to be preserved the pollution of its waters must cease. The utility of intermittent sand infiltration for the sterilization of sewage had been fully demonstrated, and this method should be generally adopted; it was practicable on the farm, in the town and in the city. A filter that would meet all the requirements of the farm could be cheaply constructed. It should measure 15 by 20 by 5 feet and be divided in its long diameter by a partition through which sewage could not pass. On the bottom should be laid tiles graded to a common center. Over this, five feet of clean sand of suitable quality should be placed and given a proper slope. Only one of the two beds should be in operation at a time. The sewage should be well mixed before placing it on the filter, and each bed should be used alternately for periods of three days. Such beds had been in continuous operation for fourteen years at the experimental station at Lawrence, Mass. The cost of construction was nominal.

**A Man from Whom the Superior Maxilla on the Left Side was Removed in 1870.**—Dr. DAVID P. AUSTIN of New York presented the patient and reported the case for the first time. When first seen, there was a fistula beneath the left eye which was constantly discharging pus. The man had worked in a match factory for nearly sixteen years, and was suffering from necrosis of the maxilla as a result of the exposure to the fumes of phosphorus. The operation of removal of the maxilla was performed on May 4, 1870. Very free hemorrhage was encountered, but finally the whole bone was disarticulated and brought away in one mass. The case healed kindly and left almost no scar.

**The Treatment of Pneumonia.**—Dr. DELANCEY ROCHESTER of Buffalo read this paper. He said that the chief cause of death in pneumonia was failure of the circulation through degeneration of the myocardium. This degeneration was due to toxæmia and to morbid changes in the lung, causing obstruction of the circulation in the right heart. Sometimes uræmia was added to the toxæmia of the invading organism. The most common complications of pneumonia were meningitis, pericarditis, endocarditis, nephritis, and empyema. The indications for treatment were: (1) The relief of the toxæmia; (2) prevention of heart failure, and (3) meeting the complications as they arose. The use of stimulating diuretics was positively contraindicated. The first indication for treatment, *i. e.* the relief of toxæmia, should be met by inducing diaphoresis and mild catharsis. The sweating was most easily induced by hot mustard foot-baths given in bed, without disturbing the patient. The patient, nude, lay between blankets with the knees flexed, and the feet in a tub containing hot water and a heaping teaspoonful of mustard. From two to five blankets and a rubber sheet were placed over the patient, and the bath was kept up for thirty to forty-five minutes, according to the effect produced. Meanwhile cloths wrung out of ice water were kept constantly on the head. This sweating was one of the most important therapeutic measures. Catharsis should be induced by calomel, and maintained moderately by a daily dose of a saturated solution of Epsom salts. Frequent cleansing of the mouth with a mild antiseptic solution seemed to him a measure of considerable importance. The diet should be fluid and, so far as possible, sterile. Plenty of pure or alkaline water should be given in small quantities at short intervals. The sick room must have sunlight and plenty of fresh air. A physical examination of the chest should be made at every visit, and as soon as there was evidence of congestion in any portion of the lung, vigorous measures should be taken, such as the application of leeches, wet cups or dry cups. In this way the congestion would be prevented from spreading. His preference was for the first two. The cups should be left on for half an hour, and should be reapplied every four to six hours. He had observed post-mortem, the direct anatomical evidence of the value of this procedure. A light woolen jacket should be worn by the patient; the poultice jacket should be relegated to the dark ages. If there were evidence of obstruction of the right heart, from eight to twelve ounces of blood should be taken from the median vein of the forearm, a procedure which could be repeated, if need be, several times during the course of the disease. A little digitalis might be given at this time. After venesection, if heart-failure threatened, and there was no distention of the right heart, saline infusion or hypodermoclysis was useful. If more than one lobe of the lung were involved, oxygen gas should be inhaled at regular intervals. Direct stimulation of the heart should be begun just as soon as the diagnosis of pneumonia was made. Strychnine should be given hypodermically at intervals of four or six hours. Alcohol was the next best stimulant. In alcoholic subjects it sometimes caused cerebral excitement, and if so, ammonia should be substituted. If the bowels and skin were kept active it was seldom that resort to hypnotics became necessary. He desired to protest against the treatment of pneumonia by the use of large doses of digitalis in the early stage of the disease. His own record, with this plan of treatment, was 210 cases of pneumonia with 23 deaths.

Dr. A. ALEXANDER SMITH of New York said that the abstraction of blood in pneumonia was sometimes very useful, but he greatly preferred venesection to the use of cups, because the latter disturbed the patient too much. He did not believe it was possible to abort a pneumonia, although willing to admit that the disease sometimes aborted itself for some unknown reason. He had observed from the salicylate treatment of pneumonia, and believed it had not been generally accepted by the profession. He had used the creosote treatment in all classes of cases, and had never seen a lobar pneumonia, not complicated by general bronchitis, benefited thereby, but this treatment was beneficial when there was a general bronchitis in addition to the pneumonia. He was of the opinion that the tendency to heart failure in pneumonia was chiefly due to the action of the toxins on the nervous system, and in this way he explained the action of strychnine in improving the circulation. He was opposed to the plunge bath in pneumonia, and preferred a wet pack at 80 or 90° F. to sponging. Such a pack often slowed and strengthened the pulse. The application of either heat or cold seemed to act as a respiratory stimulant, and it apparently made no difference whether the application was made over the affected area or elsewhere. He held oxygen in high esteem as a therapeutic agent in pneumonia. When there was a tendency to cyanosis the vasodilators, such as nitroglycerin, were exceedingly useful. He had discarded ammonium chloride and carbonate in favor of the aromatic spirits of ammonia.

Dr. WILLIAM P. NORTHRUP of New York said that it was always very painful to him to see a child with a temperature of 105° F. tightly swathed in a poultice. He had

found the plunge bath exceedingly beneficial and quieting to those suffering with alcoholic pneumonia. Flatulent distention of the abdomen should be avoided, and the pneumonia patient should be given fresh air without stint.

**Arteriosclerosis and Its Bearing on Certain Lesions of the Retina and Optic Nerves.**—Dr. CHARLES STEDMAN BULL of New York presented this paper. He said that he regarded many cases of so-called chronic glaucoma as the result of atrophy of the nerve from retrobulbar arteriosclerosis. A pressure atrophy of the optic nerve within the cranial cavity might be caused by pressure of diseased and rigid vessels in crossing each other's course. The resulting atrophy of the nerve was at first a pure pressure atrophy; later on there was probably added a secondary proliferation of connective tissue, which caused more extensive atrophy and, perhaps, the formation of new vessels. The therapy of arteriosclerosis was still in its infancy. When the stage was reached at which the evidence could be recognized by the ophthalmoscope, the process must be far advanced. All that could be done was to arrest the progress of the disease and limit its extension. In the long-continued use of iodide of potassium we had an excellent means of arresting or retarding the extension of the process. When the underlying toxic influences were known they should, of course, receive special attention.

**Dysmenorrhœa.**—Dr. CHARLES BONIFIELD of Cincinnati, Ohio, was the author of this paper. He said that probably the commonest cause of dysmenorrhœa was lack of development of the uterus. Other causes were adhesions of the uterus, exfoliative endometritis, stricture of the cervical canal from the use of caustics, disease of the tubes, and deficient development, adhesions or prolapse of the ovary. Anæmia was, perhaps, the most important of the constitutional causes of dysmenorrhœa. Pain referred to the hypogastric region pointed to a uterine origin; if the pain were greater during the flow, and was not apparently associated with uterine contractions, a constitutional cause might be suspected. Pain in the iliac region pointed to disease of the appendages. If the pain were not very severe, rest in bed and hot drinks and hot baths might be sufficient. In severer cases, drugs would be required. Opium and alcohol should be avoided, because of the danger of establishing a habit. The coal-tar products answered very well as substitutes, and, in his hands, a combination of atropine and sodium bromide had proved very useful. Viburnum prunifolium sometimes acted satisfactorily, but was uncertain. The salicylates were useful in rheumatic individuals. In cases of defective development, thorough dilatation of the cervical canal and curettage should be done, and in addition, the uterus should be packed with gauze, thus producing a miniature labor. Sometimes two or three such curettements would be required at intervals of a few months or a year or two. Malpositions should be attended to.

**Properties of the Blood Serum as Illuminated by Ehrlich's Researches.**—Dr. RICHARD C. CABOT of Boston gave a most interesting and instructive exposition of this highly intricate subject. He expressed the opinion that there had been no single medical discovery since the promulgation of Virchow's cell doctrine, as important as that comprising the facts and theories springing out of Ehrlich's researches. Until very recent years the blood serum had been looked upon as one of the most uninteresting of tissues. The discovery of Nuttall that the blood serum possessed bactericidal power attracted very little attention until the antitoxic studies of Roux and others. It should be recalled that a toxin was the filtered sterile product of a culture of some pathogenic organism. When such a toxin was injected into the blood, the toxin left the blood, often in a very few minutes. Ehrlich proved that it attached itself to certain body cells, exhibiting in this a selective action. A toxin never poisoned, as strychnine did, while circulating in the blood; its action was made manifest only when it combined with certain cells. The production of antitoxin in an animal was out of all proportion to the amount of toxin introduced. Ehrlich's ingenious and somewhat fanciful "side-chain" theory was really a metaphor, and was derived from chemical symbols. He conceived that the toxin molecule fitted what he called the receptor, as a key fitted a lock. The organs capable of being poisoned were those having receptors fitted for the reception of the toxins. The receptors were supposed to break off and swim freely in the serum. These receptors were the antitoxin. The ordinary function of the receptor was supposed to be to secure food for the cell. Dr. Cabot then went on to explain in detail the many fascinating features and ramifications of this theory, pointing out some of the medical and medicolegal possibilities resulting from the study of hæmolysis.

At the conclusion of the address, the association extended him a vote of thanks.

**Minus Cylinders; Those Who Prescribe Them, and Those Who Wear Them.**—Dr. FRANK W. HIGGINS of Cortland read a paper with this title. In it he reported a number of cases of eye-strain that had done very well under the use of minus cylinders. Incidentally, he paid his respects to the peripatetic opticians and "refractionists," who did so much harm, even when they were honest in their efforts, which was certainly not always the case.

(To be continued.)

## Medical Items.

**Health Report.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended October 17, 1903:

SMALLPOX—UNITED STATES.

| | | CASES. | DEATHS. |
|---|---|---|---|
| Alabama, Mobile | Oct. 4–10 | 4 | .. |
| California, Los Angeles | Sept. 27–Oct. 3 | 6 | .. |
| San Francisco | Sept. 28–Oct. 4 | 1 | .. |
| Illinois, Chicago | Oct. 4–10 | 3 | .. |
| Danville | Oct. 4–10 | 2 | .. |
| Maryland, Baltimore | Oct. 4–10 | .. | .. |
| Michigan, Detroit | Oct. 4–10 | 1 | .. |
| New York, New York City | Oct. 4–10 | 4 | .. |
| Niagara Falls | Oct. 4–10 | 2 | .. |
| Ohio, Cincinnati | Oct. 3–9 | 1 | .. |
| Pennsylvania, Altoona | Oct. 4–10 | 1 | .. |
| Carbondale | Oct. 8–14 | 2 | .. |
| Philadelphia | Oct. 4–10 | 11 | 3 |
| Tennessee, Memphis | Oct. 4–10 | 2 | .. |
| Texas, San Antonio | Sept. 1–30 | 12 | 1 |
| Utah, Salt Lake City | Sept. 27–Oct. 10 | 8 | .. |
| Wisconsin, Milwaukee | Oct. 4–10 | 7 | .. |

SMALLPOX—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Manila | Aug. 22–29 | 3 | 1 |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Austria-Hungary, Prague | Sept. 20–26 | 4 | .. |
| France, Paris | Sept. 20–26 | .. | 1 |
| Great Britain, Bradford | Sept. 20–26 | 3 | .. |
| New Castle-on-Tyne | Sept. 20–26 | 5 | .. |
| Italy, Catania | Sept. 25–Oct. 1 | .. | 1 |
| Russia, Moscow | Sept. 13–19 | 1 | 1 |
| Odessa | Sept. 20–26 | 1 | .. |
| St. Petersburg | Sept. 13–19 | 42 | .. |
| Spain, Barcelona | Sept. 13–26 | 4 | .. |

YELLOW FEVER—UNITED STATES.

| | | | |
|---|---|---|---|
| Texas, Laredo | Oct. 7–15 | 180 | 10 |
| Minera | Oct. 3–12 | 56 | .. |

YELLOW FEVER—FOREIGN.

| | | | |
|---|---|---|---|
| Costa Rica, Limon | Sept. 25–Oct. 1 | 2 | 1 |
| Mexico, Linares | Sept. 6–26 | 446 | 202 |
| Merida | Sept. 6–26 | 18 | 4 |
| Nuevo Laredo | Oct. 5–13 | 18 | 4 |
| Quintana Roo | Sept. 20–26 | 1 | 1 |
| Tampico | Sept. 27–Oct. 3 | .. | 5 |
| Tehuantepec | Sept. 6–26 | .. | 6 |
| Salina Cruz | Sept. 6–26 | 4 | 1 |
| Valladolid | Sept. 13–26 | 1 | .. |
| Vera Cruz | Sept. 27–Oct. 3 | 45 | 8 |
| Venezuela, Caracas | Sept. 15 | .. | 1 |

CHOLERA—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Manila | Aug. 22–29 | 19 | 10 |
| Provinces | Aug. 22–29 | 1,503 | 1,262 |

CHOLERA—FOREIGN.

| | | | |
|---|---|---|---|
| China, Shanghai | Aug. 22–29 | 0 | .. |
| India, Calcutta | Sept. 6–12 | .. | 4 |
| Madras | Sept. 5–11 | .. | 2 |
| Turkey, Syria | Sept. 1–14 | 473 | 317 |
| Straits Settlements, Singapore | Aug. 23–29 | .. | 7 |

PLAGUE—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Manila | Aug. 22–29 | 2 | 1 |

PLAGUE—FOREIGN.

| | | | |
|---|---|---|---|
| Egypt, Alexandria | Sept. 5–11 | 10 | 5 |
| Damiette | Sept. 5–11 | 1 | 1 |
| France, Marseilles | To Sept. 15 | 0 | 1 |
| India, Bombay | Sept. 2–15 | . | 142 |
| Calcutta | Sept. 6–12 | .. | 13 |
| Japan, Yokohama | Aug. 22–Sept. 12 | 4 | 3 |

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## Original Articles.

### HIGH-FREQUENCY CURRENTS.*

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If an electric current alternates or oscillates at a rate of a million times or more per second, it may with propriety be termed a "high-frequency" current. Such a current was introduced into practical medicine by Dr. William J. Morton in 1881.† It enjoyed a certain measure of vogue among those who employed static electricity in the treatment of disease but its use was somewhat curtailed by the subsequent introduction by Dr. Morton of what is known as the "wave" current. This appeared to possess a wider field of usefulness than the earlier current to which the name Static or Franklinic induced current had been applied.

The brilliant experiments of Tesla with high power, high-frequency currents, induced D'Arsonval of Paris to study them carefully with a view to their utilization for therapeutic purposes. The result was the introduction of his high-frequency apparatus, the currents from which have been shown to produce very remarkable and very desirable results. It is to the currents from this apparatus with its various subsidiary appliances that the term "High-frequency" should be confined and is confined by all European authors.

I urge this, as high-frequency currents can be produced in various ways, but the currents themselves differ materially in character and can hardly be expected to produce exactly the same effects.

Three years ago I introduced still another high-frequency current, to which I gave the name "hyperstatic," in order to indicate its origin, and also to prevent its being confounded with the high-frequency current of D'Arsonval.‡

In order to make the matter clear I will indicate the manner in which these several currents are produced. To obtain the Morton "Static-induced" current you attach the leyden jars in the usual manner to a static machine. Then connect the patient to the outer armatures of the jars. Bring the sliding poles into contact and start the machine. Then separate the poles a short distance (say an eighth of an inch). The patient will now experience a slight sensation. If the spark-gap between the poles be increased to a quarter of an inch, distinct muscular contractions will take place, and if the gap be further increased the limit of the patient's endurance will soon be reached.

The D'Arsonval apparatus consists essentially of the following parts: (1) A good high-tension spark coil rated at eight or ten inches; (2) an efficient interrupter in the primary circuit; (3) Leyden jars or some other form of condenser of suitable capacity and (4) a solenoid. In other words, the simple addition of a solenoid to any *x*-ray outfit.

If the reader wishes to understand fully the D'Arsonval current let him connect the Leyden jars or other condenser to a static machine or coil. If now he takes a piece of wire and coils it helically so as to convert it into a solenoid, and attaches it to the outer coats of the jars with the electrodes attached to the same points and holds one in each hand, he will experience no sensation, but he must not deceive himself with the idea that there is "nothing doing," for if he will bring his hands close together, say within a quarter of an inch of each other, he will be promptly convinced to the contrary. This current which traverses the patient without giving rise to any special sensation is D'Arsonval's high-frequency current, and the only current to which, under this name, the European literature of the last ten years applies. It is only obtained when the patient is in a circuit *in shunt* to a suitable conductor connecting the external armatures of the condensers. It will be noted that there is *no spark gap* in the circuit of which the patient forms a part. The fact that a strong current passes through the body when in shunt to the solenoid may at first appear a matter of surprise, but it is due to the heavy impedance developed in the solenoid by the self-induction of the several coils of the solenoid on each other. In France an induction coil is universally employed in generating the D'Arsonval high-frequency current, probably because they have excellent coils in France, while their static machines are mere toys compared with those commonly used in this country. There is, however, a distinct difference between the high-frequency current from a coil and one from a good (American) static machine. The latter gives a current of higher voltage, but lower amperage.

D'Arsonval uses his high-frequency current direct from the solenoid, or in connection with two important subsidiary appliances. One of these is his condenser couch,§ which appears to me to be of but limited usefulness as compared with his large solenoid. This latter is about thirty inches in diameter and five or six feet high, large enough, in fact, to surround the patient without being in contact with him at any point. The terminals of the large solenoid are connected to those of the small solenoid,

*Read at a meeting of the Medical Society of the County of New York, September 28, 1903.

†Recent experiments by Dr. Manders (*Medical Electrology and Radiology*, July, 1903) appear to throw some doubt on this statement. According to this writer, the Morton arrangement gives rise to an interrupted, unidirectional current, and not to an alternating or oscillating one.

‡My hyperstatic transformer was at first made with the coarse wire inside the fine or secondary winding, the two being separated by modified form of the Tesla insulation. It was soon found better to reverse the arrangement, and to place the coarse winding outside the finer and using glass for dielectric. D'Arsonval also, in 1900, introduced his "Nouvelle bobine bipolaire," which involves a similar arrangement except that he depends on air instead of glass as the dielectric.

§A condenser couch can be readily arranged by taking a cheap examining table and laying a sheet of metal or wire gauze on the middle part. On this is spread two or three layers of cotton felt, over this again the thin mattresses or cushions that come with the table. The total expense need not exceed twenty-five dollars. Mr. Chisholm Williams has used the condenser couch with apparent benefit in the treatment of pulmonary tuberculosis.

and the passing current induces a corresponding current in the body of the patient within the coil. Physiological experiments by D'Arsonval and others have shown that the current induced by the large solenoid notably increases the respiratory exchanges, the excretion of the urinary solids (including urea, uric, and phosphoric acids), the toxicity of the urine, and the radiation of heat from the body. In other words, there is a decided increase in the general metabolism, or as a French writer expresses it: "*Une suractivité plus grande des combustions organiques.*"

FIG. 1.—Spiral.

When we consider the large number of affections now recognized as depending on or accompanied by defective or retarded catabolism, the physiological data above given will readily indicate the therapeutic measures that may with confidence be pursued.

In 1893 Oudin of Paris connected his "resonator" to the D'Arsonval small solenoid, and in this way materially increased the potential of the current. Its chief use is in the local treatment of diseases of the skin.

My own hyperstatic transformer (MEDICAL RECORD, October 20, 1900) gives a high-frequency current, but it differs from the D'Arsonval current by its higher voltage. I have used this current only for the local modification of lesions and for its derivative effects. Whether it possesses any constitutional action or is capable of in any way modifying metabolism, I do not know. When I have desired to influence nutrition or to stimulate metabolism by means of high-tension currents I have availed myself either of static electricity pure and simple, or have used the D'Arsonval current.

The fact that an insensible current (*i.e.* one that cannot be felt) produces such sensible effects has as yet received no adequate explanation. The fact, however, remains, and a very ready and convenient means of demonstrating it, is to put an ordinary 16 c. p. 110 volt lamp in series with the

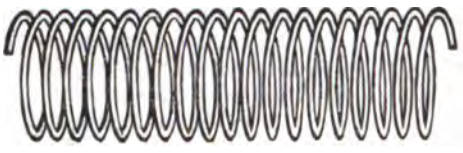

FIG. 2.—Solenoid.

human body, and passing the current derived from the small D'Arsonval solenoid. With a current of, say, six amperes traversing the primary of an eight-inch coil, the filament of the lamp will immediately become of a bright cherry red, and without causing the slightest sensation in the person through whom the current is passing. This means a current of between two or three hundred miliamperes. If a direct current of equal strength were passing, the electrodes would cause an unbearable burning pain, while if an alternating current of low frequency (a few hundred alternations per second) were used, there would be intense tetanization of the muscles.*

*The remarkable difference between the effects of low tension direct, and high-tension high-frequency alternating currents is well exemplified in the transmission of ocean messages. If a low-tension current is used, as from a large battery or dynamo, a metallic conductor traversing the sea must be employed. A high-frequency current, however, will flash the message over the ocean without the need of intermediate wires.

Having used the D'Arsonval methods to a considerable extent, and having become thoroughly satisfied as to their potency in local lesions and their great value in improving the general metabolism, it yet seemed that some slight improvement might be made in the electrical technique, still preserving the essential D'Arsonval feature—that is, placing the patient in shunt to the current passing through the small solenoid. To this end I substituted a spiral† for a helix, and after many experiments with spirals of copper, brass, aluminum, iron, and steel finally found one that gave me results superior to those obtained with the D'Arsonval helix—the superiority being due to the fact that the self-induction and impedance was greater with the spiral than with the helix, and the shunt current consequently stronger.

The spiral that I have found most satisfactory is seven inches in diameter and nine inches and a half in height, including the base. When used with the static machine, place the largest jars in position and connect the terminals of the spiral with the outer coatings of the jars, with the electrode cord connected to the same points. The subsequent technique is that of D'Arsonval, which, briefly stated, consists in (1) applying both electrodes (metallic preferred) to the patient: (2) connecting one in-

FIG. 3.—The author's high-frequency spiral for use with an *x*-ray coil.

different electrode (metallic) to the patient and bring a vacuum tube‡ near or in contact with the part that we desire to modify locally; (3) connecting one pole to D'Arsonval condenser-couch, the other pole being brought into contact with some part of the patient's body; (4) connecting the two poles with the terminals of D'Arsonval large solenoid or cage.

If the spiral is to be used in connection with an *x*-ray coil *medium-sized* jars are mounted on the same base with the spiral, the terminals of which are already connected with the outer coatings of the jars. (Fig. 3.) The inner coatings of the jars are then connected to the terminals of the secondary coil, and the apparatus is brought into action with such spark-gap between the secondaries as may be found

†A spiral is defined by the Standard Dictionary as follows: "Any plane curve formed by a point that moves around a fixed center and continually increases its distance from it." This is shown in Fig. 1. The solenoid or helicoidal employed by D'Arsonval is of the form shown in Fig. 2.

‡The use of vacuum tubes in connection with the therapeutic application of high-frequency currents is a purely American development, and the credit for their introduction belongs, I believe, to Dr. F. F. Strong of Boston. They are but little used or known in France or Germany, but have gained some favor in England.

necessary. If two identical spirals are used one with a coil and the other with a static machine, the resulting shunt currents will not be identical—the former having the higher amperage and lower voltage.

The large solenoid of D'Arsonval is open at the top, but in the one I have had made for my own use the wire is continued in the form of a horizontal spiral, forming in this way a top to the cage. (Fig. 4.) It increases the auto-induction and adds to the efficiency of the apparatus. If a current of six or eight amperes be passed through the primary of the *x*-ray coil, the patient within the cage will experience but little sensation, although a powerful current is circulating through him. This will be readily demonstrated if he will hold the outer terminal of an Edison 16 c.p. 110 volt lamp between his finger and thumb, and touch the inner or central terminal to one of the upper wires of the cage. The carbon filament immediately becomes

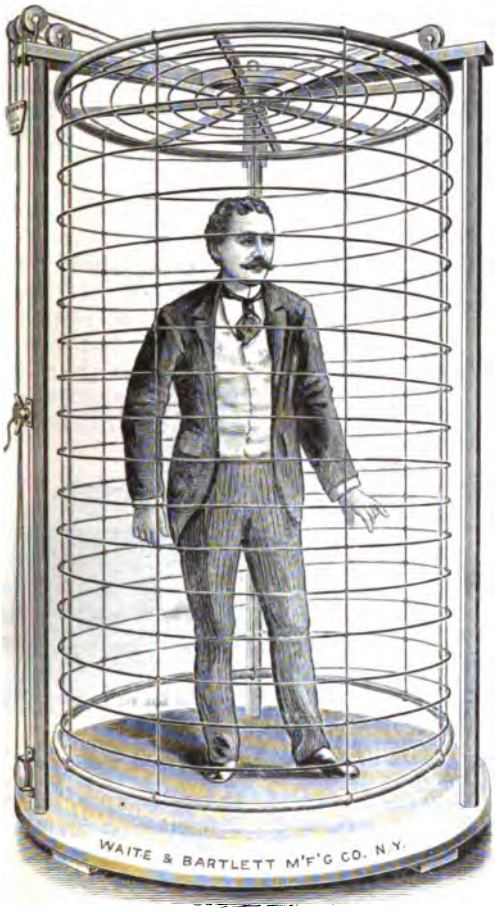


FIG. 4.—The author's resonator or combined spiral and solenoid.

of a bright red. The spark-gap between the terminals of secondary of the coil need not exceed one-half of an inch. If longer than this the lamp will short circuit inside, or, as sometimes happens, the lamp filament will instantly flash to a full brilliance and then break.

If, instead of connecting as above, one pole of the small solenoid or the author's small spiral be connected with the central terminal of the large flat spiral forming the roof of the cage, and the other pole to the point where the spiral joins the large solenoid, the induction effects are intensified as the arrangement now constitutes a large Resonator with the patient inside of it, instead of outside as with the Oudin. A still more intense effect is obtained if the small solenoid or spiral be omitted, and the outer and inner ends of the top spiral be connected directly to the outer armatures of the condenser (leyden jars). With the latter arrangement a longer spark-gap can be used. If connecting cords and electrodes are connected with any of the turns of the large coil, a regular D'Arsonval current with its secondary applications may be administered to one or more patients outside the solenoid. whether there is one within it or not: and this with but little apparent diminution of the intensity of the induced current within the cage.

I have not clinically used the large D'Arsonval solenoid in connection with a high-frequency current derived from a static machine, as my office arrangements will not conveniently permit of this combination. Experimentally it works in a satisfactory manner.

The very manifest difference between the wave-current of Morton and the high-frequency current of D'Arsonval immediately suggests the query as to the relative merits of the two in respect to their influence on metabolism. Clinical experience abundantly establishes the fact that both currents administered with care and judgment are capable of improving the various functional activities, including the respiratory, the thermogenic, and those relating to the conversion of ingesta into ejecta, be the same solid, fluid, or gaseous. The results of physiological experiment have shown the same in respect to the D'Arsonval currents, but I do not find that static electricity has been subjected to the same careful tests. Quite recently, however, some very careful and painstaking experiments with static electricity by MM. Maitre and Florence of Montpellier (*Archives d'Électricité Médicale*, April, 1903) have demonstrated that so far as the urinary secretion is concerned, the effects are similar in character but less in degree than those observed by D'Arsonval and others in connection with high-frequency currents. The machine employed consisted of two plates, capable of giving a spark of ten inches. It is to be regretted that the experimenters did not employ a more efficient apparatus. If this had been done it is quite possible that the metabolic results would have equalled, and perhaps surpassed, those obtained with the D'Arsonval system.*

It is now three years since I introduced the Hyperstatic Transformer for the local treatment of certain cutaneous lesions, and so far as I can learn the apparatus has given satisfaction to those who have used it. Some, however, I find do not appear to understand fully its capabilities or how to use it to

*One of the earliest static machines constructed in America for therapeutic purposes was copied, I believe, from one imported from France, and it is not a little surprising that the French have been so backward in the further development of this apparatus. The current advertisement of a somewhat prominent French manufacturer offers a "*Machine Statique a Grand Débit*," which consists of two pairs of plates twenty-two inches in diameter! A toy like this would not be seen in an American office, where it would be difficult to find a static machine with fewer than eight pairs of plates of thirty inches diameter. Static machines of the Wimshurst type are the ones commonly used in Europe, and in this type each pair of plates requires a separate belt. If a large number of plates are mounted it is almost impossible to secure uniform rapidity of rotation, which greatly impairs the efficiency of the machine. In this country the Wimshurst is not manufactured for therapeutic purposes, but the prevailing types are the Holtz and the Toepler-Holtz. The latter is self-exciting and proves attractive to some, on that account, as well as by reason of the lower price at which it can be manufactured, but the writer's experience with it is far from being as satisfactory as with the Holtz machine, which requires an independent exciter. If a Holtz and a Toepler-Holtz have equal areas of revolving surface, the output of current will be greater from the Holtz; when in action the Holtz machine will not change polarity, which the Toepler-Holtz is liable to do, especially when under a heavy load, when using the wave current or a high-resistance *x*-ray tube.

the best advantage. To these I offer the following suggestions:

Having connected the transformer to the static machine (with poles in contact), turn on the power, and when the plates are revolving at about 300 or 350 times a minute, separate the poles about an inch. If the hand be brought near one of the terminals of the transformer, it will be met by a diffuse electric spray (*effluve* of the French). The same will occur when the hand approaches the other terminal, but it will be noticed that the spray is more intense at one of the terminals than at the other, and it will be found that the stronger spray will be opposite the positive pole of the static machine. I usually connect the electrode with this terminal. If a very mild effect is desired the other terminal of the transformer is left free. If a stronger effect is desired the inactive terminal is grounded, and if still more action is required this terminal is connected with some part of the patient's person. The strength of the current may be further modified by using a longer or shorter spark-gap. After studying the effect of the spray the electrode should be brought nearer the skin, and when sufficiently near, bright sparks will shoot forth to be replaced by a multitude of fine sparks when the electrode is brought in direct contact with the skin. The best spray effect and also the strongest sparks are obtained when using an electrode with a metal point. The most generally useful electrodes, however, are glass vacuum tubes. I use a dozen or more of these, of shapes adapted to the particular requirements of the case. Some are of low and others are of comparatively high vacuum.

The transformer may be used with an *x*-ray coil by connecting it to the terminals of the secondary wire of the coil and adjusting the spark-gap of the coil so that the length of the spark shall be one-half inch or less. As the current delivered by the coil differs from that of the static machine (being of higher amperage and lower voltage), the current from the transformer will be somewhat modified. The spray will be shorter, more compact, and finer; while from the vacuum tubes the sparks are much finer and more numerous. On the whole, I find the current from the transformer connected with the static machine more effective than when connected with the coil. If the experiments are conducted in a darkened room the luminous effects are very striking.

As I have endeavored to make clear, the functions of the hyperstatic and the D'Arsonval currents are quite different and distinct—the former being chiefly useful for local applications while the latter is capable of distinctly influencing the general system.

Nearly thirty years ago the writer became fully satisfied that in the majority of cases of chronic eczema there co-existed a condition of the system characterized by defective elimination of catabolic products, and he so expressed himself as fully as the facts then appeared to warrant.*

From that time to the present I have found no good reason to question soundness of the views then put forth, although they have not been generally accepted by dermatologists, many of whom are inclined to attribute the phenomena that accompany eczema to a local pathogeny.

If we rely on drugs to facilitate the elimination of these "*materies morbi*," or elements of autointoxication, we have at command diuretics, cathartics, diaphoretics, alkalies, and substances belonging to the salicylic group, but none of these has in my hands yielded results as satisfactory as may be obtained from high tension electricity, whether through the Morton wave or the D'Arsonval high-frequency currents.

When I have desired to obtain both the constitutional and local effects of high-tension electricity, I have until recently employed the wave or the D'Arsonval followed or preceded by the hyperstatic. This in many instances was tedious and time-consuming.

It then occurred to me to put binding-posts on the outside of the hyperstatic case and connect them with the terminals of the primary coil, leaving all other connections as before. If a patient be now introduced into this primary circuit he will receive the pure D'Arsonval current, and a 16 c. p. lamp placed in series will become incandescent. I could not obtain any evidence that the primary circuit was modified by the presence of the secondary winding, and what was still more important the hyperstatic current did not appear to be at all impaired by the simultaneous passage of the primary current through the body. Thus one is enabled to use both currents at the same time on the same subject, or the D'Arsonval on one and the hyperstatic on another, resulting in a considerable saving of time. (Fig. 5.)

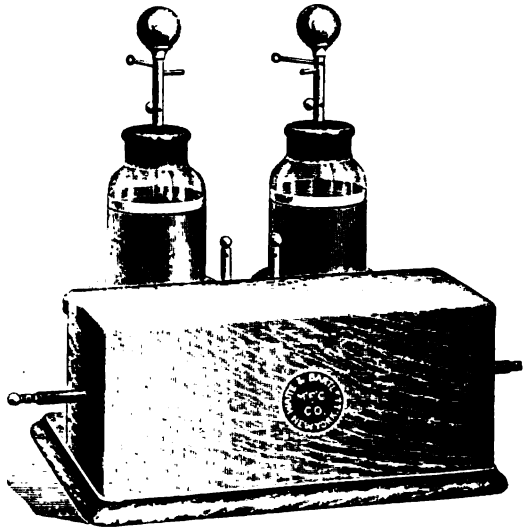

FIG. 5.—The author's improved hyperstatic transformer.

Although both the D'Arsonval and the wave currents exert a powerful influence on metabolism, the *modus operandi* of the two can hardly be the same. The first is a high-frequency current, the second is not. In the first the spark-gap will rarely exceed an inch, and in the second a gap of eight or ten inches is frequently employed. In the first there may be absolutely no sensation while the current is passing—in the second there is a vibratory sensation and the hair stands out from the scalp. After the passage of the D'Arsonval current for ten or fifteen minutes there may be but little change in the feelings of the patient—after the wave current there is generally a feeling of exhilaration and an apparent increase of energy. What changes then occur in the body during the passages of these currents, and in what way are their beneficial effects brought about? To these questions no certain answer can be given. In default of such, it seems reasonable to suppose that the wave current acts through a sort of molecular vibration or cellular massage, while the D'Arsonval may act through the development of heat in the tissues. A current that is capable of bringing the lamp filament to incandescence must of necessity develop more or

*"An Elementary Treatise on Diseases of the Skin," Macmillan & Co., London and New York, 1876.

less heat when traversing bodies that offer a similar high resistance to its passage.

The hasty sketch I have here given of the high-frequency currents is intended simply to attract attention to therapeutic agencies that I consider of high importance, and to encourage further research as to their general utility. The reader who desires to obtain a thorough working knowledge of the D'Arsonval current is earnestly advised to read Denoyés' "Les Courants de Haute Frequence," Paris, 1902; the chapter on "Hochfrequenzströme" (70 pages) contained in Freund's "Grundriss der gesammten Radiotherapie," Berlin, 1903; or Chisholm Williams' "High-frequency Currents in the Treatment of Some Diseases," London, 1903.

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## TWO NEW METHODS OF DETERMINING THE DIGESTIVE ACTIVITY OF GASTRIC JUICE.*

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AND
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Up to within recent years little attention was paid by clinicians to the digestive activity of gastric juice. During the past decade, however, a number of articles have appeared dealing with this subject. This increase of interest is due to two causes: First, several new methods have been devised which are seemingly simple and accurate enough for clinical purposes; second, it has been discovered that the digestive activity of gastric juice does not always run parallel with the secretion of HCl; or, in other words, that the quantity of pepsin secreted is often independent of the quantity of HCl, and is subject to independent fluctuations.

Some of the older methods of estimating pepsin are accurate, but all are too complicated for clinical purposes.† Only two methods have been used extensively for clinical purposes, those of Mette and Hammerschlag, and all recent work has been done with one of these methods.

The method of Mette, as originally published, is as follows:‡ "Fluid eggwhite is sucked up into a fine glass tube of 1 to 2 mm. lumen, and coagulated therein at a definite temperature (95° C.). The tube is then cut into small pieces, which are placed in 1 or 2 c.c. of the fluid to be investigated. The whole is kept in the thermostat at 37° C. to 38° C., and requires no further watching. Solution of the proteid occurs at the ends of the small glass tubes. After the termination of a certain period the length of the pieces of tube and that of the undigested remains of the proteid columns are measured off with the aid of a mm. scale and a microscope of low magnifying power. The difference gives the length of the digested proteid cylinders in mms. and fractions of a mm. This method leaves nothing to be desired so far as convenience of application and clearness with exactness of results are concerned. Test experiments specially carried out (Dr. Ssamojloff) have convinced us that the digestion of the proteid columns—at least within the first ten hours (employing the fluids which we have to deal with)—is directly proportionate to the length of the period. This was the case even when the fluid possessed its highest digesting power. These experiments did away with the very natural mistrust that the solution of the proteids may proceed at varying rates at different depths of the tubes, dependent on more or less stagnation of the digestive products within the lumen. It may, therefore be accepted that the length in mm. of eggwhite dissolved by the several juices in a certain time gives us an exact relative measure of the digestive power of the fluid. In the researches of Borissow. carried out upon this question in the laboratory of Professor Tarchanoff, the relation which lies at the basis of the connection between the length of the digested column of eggwhite and the pepsin contents of the fluid under investigation came out with perfect clearness. The following is the rule which expresses it, viz., *The quantity of pepsin in the compared fluids is proportionate to the square of the rapidity of digestion, i. e.* to the square of the column (expressed in mm.) which the juices are capable of digesting in the same period of time. An example in figures will make this clear. If one of the fluids digests a column of 2 mm. of proteid, and the other a column of 3 mm., the relative quantity of pepsin in each is not expressed by the figures 2 and 3 respectively, but by the squares of these numbers, *i. e.* by 4 and 9. This rule has, of course, been deduced from comparisons made with numerous artificial solutions of pepsin exactly prepared. Moreover, the result which Dr. Borissow arrived at independently had already been discovered before him by Schütz from polarimetric observation of the amounts of peptone formed during the digestion of eggwhite. This correspondence in the data furnished by different methods affords strong assurance of the correctness of the rule. . . .

"We have still to add that the diameter of the tubes even within wide limits is without importance, and that the white of the hen's egg is of sufficiently constant composition to be employed as a test object for the purpose."

The method of Hammerschlag is carried out as follows: A c. 1 per cent. solution of egg albumen is prepared in the following way: 3.0 g. of albumen ovi sicc. is rubbed up with lukewarm water in a mortar, and then water is added to make the total quantity 150 to 180 c.c. This solution is filtered and officinal HCl is added until the solution contains 3 to 4 per cent. *free* HCl (as tested by titrating with $\frac{n}{10}$ KOH with dimethylamidoazobenzol as indicator). Ten c.c. of this acidified solution is now mixed with 5 c.c. of the gastric juice to be tested and another 10 c.c. is mixed with 5 c.c. of distilled water to serve as a control test. These mixtures are placed in two Esbach tubes, which they exactly fill up to the mark U, and are placed in the thermostat at body temperature for one hour. After one hour they are removed, and Esbach reagent is poured into the tubes up to the mark R. The tubes are inverted several times and then let stand twenty-four hours at ordinary room temperature. The sediment shows the amount of albumen present; in the control tube the original amount of albumen is shown. in the other tube the albumen which has escaped digestion is shown. Thus the proportion of albumen digestion is easily estimated. Hammerschlag says that normal gastric juice digests 80 to 95 per cent. of the albumen in one hour.

Both methods have been used by a number of observers during the past ten years. The necessity for further and more critical work is shown by the variety of the conclusions reached. It is generally conceded that, for clinical purposes,

*Paper read at the sixth annual meeting of the American Gastroenterological Society at Washington.

†A history of these methods is given by Schorlemmer and by Van Valzah-Nisbet.

‡This description is copied verbatim from Thompson's translation from Pawlow, "The Work of the Digestive Glands."

the method of Hammerschlag gives useful though only approximate results. There is no doubt that by this method we are able to determine if a given specimen of gastric juice digests strongly or weakly. Fine discriminations are impossible. According to different authors, the average amount of albumen digested in one hour by normal gastric juices ranges from 50 to 95 per cent. Different averages are given—thus, Schiff 64.6 per cent.; Schüle, 74 per cent.; Kovesi, 50 to 60 per cent.; Hammerschlag, 80 to 95 per cent. A good survey of the literature up to 1902 is found in Schorlemmer. Hammerschlag's method cannot be used for *exact* work for a variety of reasons. In the first place the Esbach tube itself is not an accurate instrument. Two control tubes set up side by side will not always give identical results, even if the tubes have been specially made to order. (The ordinary Esbach tubes on the market show glaring inequalities.) After precipitation the sedimentation of the precipitate is subject to uncontrollable variation. Furthermore, the Esbach reagent precipitates not only the albumen present in the original solution, but also most of the albumoses, and even peptone itself. This reaction necessarily tends to obscure the result.

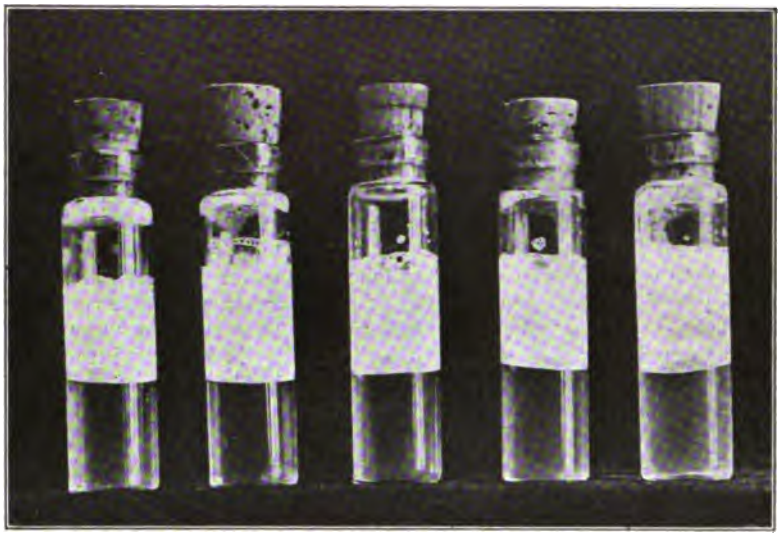


FIG. 1.—Testing Human Gastric Juice for Digestive Power. From left to right: original strength; dilution ½; dilution ¼; dilution 1-16; dilution 1-64. Showing column of foam; the beginning.

We do not believe that the amount of albumen present in the gastric juice after a test breakfast can exercise any appreciable disturbing influence. What effect the difference of free HCl acidity in the different juices has on the results is a problem which has not been worked out conclusively up to the present time. After all of these objections have been weighed it is seen that the Hammerschlag method is useful only until a better method can supplant it. Besides requiring twenty-four hours for its completion, its range of error is from 5 to 20 per cent. or thereabouts. It can be used for clinical estimations, but not for scientific work. As a matter of fact, although nearly ten years have elapsed since its introduction by Hammerschlag, it has never been extensively adopted.

The method of Mette has as yet been little used for clinical purposes. It has been extensively employed in Pawlow's laboratory in his studies of the gastric juice of dogs. It has been thoroughly tested as to its accuracy in determining the pepsin contents of solutions of artificial gastric juice. Roth, working in Ewald's clinic, came to the conclusion that the Mette method is the best and easiest one so far devised for clinical purposes. Schorlemmer, as the result of most painstaking study and experiment, came to the same conclusion. In addition he inferred that there is no parallelism between HCl and pepsin secretion, a conclusion previously arrived at by other observers. The method has also been recommended as the best by Kuttner. The only American author who has used the method of Mette is Jung, and in three-fourths of his cases it gave him results approximately the same as by the Hammerschlag method.

A very recent article by Nirenstein and Schiff has shown that all the work done so far with human gastric juice by the Mette method is unreliable for clinical purposes. These authors have shown that the gastric juice obtained one hour after a test-breakfast contains certain substances which *inhibit* the digestion of the albumen contained in the capillary tubes. They have shown conclusively that by diluting the gastric juice with an equal volume of water or dilute HCl, or even in some cases with four to seven times the volume of water or acid, the digestive activity of the juice is actually increased. The chief inhibiting substances are NaCl and the soluble carbohydrates. It is evident that all previous observations which did not take into account the existence of these inhibiting substances are entirely misleading. Schiff and Nirenstein found that by diluting the gastric juice with fifteen times its volume of a .2-per-cent. solution of HCl the effect of the inhibiting substances is always done away with. They therefore suggest that, in all cases, the test be made with the sixteenth dilution of the gastric juice to be examined.

We have done considerable work with the Mette method, both with gastric juice and with artificial preparations of pepsin and acid. The statements of Schiff and Nirenstein regarding the effect of inhibiting substances are unquestionably correct, and we have repeatedly verified them; and the Mette method, in the form as modified by them, would be admirably adapted for clinical purposes were it not for certain serious objections. The preparation of the tubes of coagulated eggwhite is not easy. Vacuoles appear in many places along the tubes and necessitate the rejection of many pieces. There is at no time a guarantee that the tubes of eggwhite used to test a given gastric juice have just the same resistance to digestion that were possessed by former tubes. Nirenstein and Schiff say that fresh tubes digest too rapidly, and advise waiting until the tubes are three days old. After two weeks they are usually useless. Roth seems to use fresh tubes. Jung found that tubes seven days old were better than those only two days old. Nirenstein and Schiff insist on mixing the thin and thick portions of eggwhite, and using the filtered mixture. Jung advises either the thick or the thin portion, but on no account a mixture. Thus the question of securing uniformity of the albumen column is a problem not yet solved. Reading off or measuring the quantity of albumen which has been digested is usually easy. In strongly digesting gastric juices the line of demarcation between the digested and the undigested portions of the albumen-column is well marked. In weak juices, however, this line becomes less and less well marked, and the

difficulty of reading accurately becomes insurmountable. This is a serious objection to the modification suggested by Nirenstein and Schiff, because the sixteenth dilution of gastric juice digests weakly, the line of demarcation is not always sharp, and a slight unavoidable error in reading must be multiplied by sixteen in order to express the number of pepsin-units according to these authors.

As a result of experimental work done during the past eight months we are able to offer two new methods of determining the digestive activity of gastric juice. These methods differ essentially from each other. One can be performed in a very brief time, and practically without apparatus. It gives results which are accurate, and which fulfil all clinical requirements. The other method requires several hours' time and complicated apparatus, but on the other hand is far more accurate, and, in our estimation, the best method yet devised for very exact clinical or scientific work with human gastric juice.

1. *The Method with Albumen-foam.*—The principles upon which this method rests are as follows: A solution of albumen if shaken will foam. This foam consists of little air bubbles surrounded by thin pellicles or walls of albumen. If a digestive ferment is mixed with the foam the albumen will be digested and the foam will disappear. *Other things being equal, the rapidity with which the foam disappears is proportionate to the amount of digestive ferment added.* This simple principle gives us a ready method of determining the digestive activity of any fluid, *e. g.* gastric or pancreatic juice.

For testing the peptic activity of gastric juice we use an acidified solution of albumen, which is prepared according to a method given in detail below: The solution contains about 1 per cent. of albumen ovi sicc. and .2 per cent. free HCl in water. The only apparatus required is one or more 2-drachm bottles known commercially as "homeopathic vials." Two c.c. of the albumen solution is placed in such a vial, and to it is added 1 c.c. of the fluid containing pepsin (or the gastric juice). The bottle is corked and then thoroughly agitated. For the sake of uniformity we give fifty violent shakes, which gives a column of foam about as high as the fluid on which it rests. In testing solutions rich in pepsin more shaking is required to produce a column of foam of that height.

The bottle is then placed in an incubator at 37° to 40° C. (preferably an incubator with a glass door, if such be available), or placed in a glass of warm water, or simply held in the hand. We have found it convenient to place the bottle inside a test tube filled with warm water, and to stand the latter in a glass of warm water. We have made many experiments with normal and abnormal gastric juices, and with artificial gastric juice containing .4 per cent. pepsin in .2 per cent. free HCl. As a result of these observations, we can state with assurance that *the time required for the foam to disappear is an accurate test of the amount of pepsin present in the solution.*

With the above artificial gastric juice the foam disappears in eight minutes. In normal gastric juice the time is ten minutes. Regarding the disappearance of the foam, for practical purposes it is convenient to call the foam dissolved when the upper surface of the albumen solution is clear of foam and only a slight rim of foam adheres to the sides of the bottle. The law of Borissow and Schütz fortunately gives us a ready means of testing the accuracy of any method for the determination of peptic activity. According to this law (discovered by these observers independently of each other, and by different methods), the rapidity of digestion is as the square root of the pepsin concentration, *e. g.* four times the pepsin strength will give twice the digestive activity; nine times the pepsin strength will give three times the digestive activity.

We have made repeated tests with artificial and human gastric juice, and their second, fourth, eighth, sixteenth, thirty-second, and sixty-fourth dilutions, and have found, with the exception mentioned below, that the time of the disappearance of the foam is in conformity with the law of Borissow and Schütz. A table is appended giving the result of these observations. We believe that this table demonstrates the practical value of the method, and shows that it is sufficiently accurate to meet all clinical requirements. We have, moreover, compared the results obtained by this method and by our more accurate method given below, and found that the results approximate each other closely.

FIG. 2.—Showing the test-vials of figure 1 after ten minutes' digestion. Foam of test with original gastric juice has just disappeared (10 minutes). Dilution ½ and ¼ are following. Dilution 1-16 and 1-64 unchanged.

TABLE I.

The foam method conforms to the law of Borissow and Shütz with artificial gastric juice.

THE FIGURES REPRESENT THE TIME IN MINUTES REQUIRED FOR THE DISAPPEARANCE OF THE FOAM.

| CONCENTRATION | EXPERIMENT I | EXPERIMENT II | EXPERIMENT III | EXPERIMENT IV | THEORETICAL FIGURE |
|---|---|---|---|---|---|
| 1 | 8 | 8 | 9 | 8 | 8 |
| ½ | 12 | 11 | 12 | 11 | 11.2 |
| ¼ | 16 | 15 | 19 | 17 | 16 |
| 1/16 | 33 | 30 | 36 | 32 | 32 |
| 1/32 | 42 | 42 | 42 | 42 | 44.8 |
| 1/64 | 60 | 60 | 60 | 62 | 64 |

We have found that many human gastric juices, by virtue of some physical property not yet discovered, cause in their original strength a too rapid breaking down of the foam out of proportion to their pepsin strength. In order to eliminate any error which might arise from this source, we advise diluting the gastric juice before testing it. As a diluting fluid we use three times the volume of a .2-per-cent. solution of HCl. This dilution does away with another source of error, viz., different acidity of different gastric juices. By diluting any

gastric juice, whatever its HCl content, with three times its volume of a .2-per-cent. solution of HCl, we, in all cases, bring its acidity within the normal range. The dilution has an additional virtue that it enables us to make the test with very minute quantities of gastric juice; ½ c.c. is a sufficient quantity to determine accurately the pepsin contents of a given gastric juice.

We may now describe the test as follows: A small quantity of the gastric juice is diluted with three times its volume of a .2-per-cent. solution of HCl; 1 c.c. of the diluted gastric juice is placed in a homœopathic vial, and to it is added 2 c.c. of a 1 per cent. solution of egg-albumen containing .2 per cent. free HCl. The vial is thoroughly agitated (fifty violent shakes usually suffice) until a column of foam about 2 cm. high is formed. The vial is now placed in the incubator at 37° C.—40° C., or in water kept at that temperature, and the time required to clear the surface of foam is noted. In the one-fourth dilution of a normal case the foam will disappear in twenty minutes. If this time is divided by two it will represent the time required by the original undiluted gastric juice, and from this time the actual pepsin strength of the gastric juice can be calculated. For example: if a juice which we are testing when properly diluted requires forty minutes for the disappearance of the foam, we may say that the undiluted juice would dissolve the foam in twenty minutes, *i. e.* that it has one-half the digested activity of normal gastric juice, or contains one-fourth as much pepsin. A diluted juice which requires eighty minutes has one-fourth the digestive activity of human gastric juice, and contains one-sixteenth of the normal pepsin. In all cases requiring one hour or more we advise repeating the test with the undiluted gastric juice (whose acidity can be modified if required by adding one drop of a proper strength HCl), and the peptic activity can be estimated directly by comparison with the time for undiluted gastric juice, ten minutes.

In order to save time and reduce the test to its simplest, the tests can be made as a routine procedure with undiluted gastric juice of proper acidity. In case the juice shows unusually rapid digestion (four to six minutes), it is well to repeat the test with the one-fourth dilution as above described.

This test is a very useful qualitative test for pepsin in gastric juice, and in many respects is superior to the fibrin method ordinarily used.

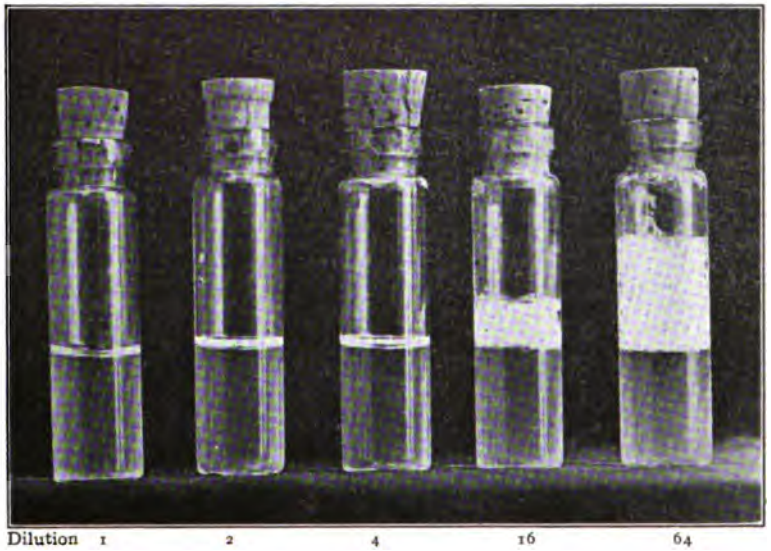


FIG. 3.—Showing the same vials after twenty-one minutes' digestion. Foam with original gastric juice disappeared in 10 minutes; dilution ½ in 15 minutes; dilution ¼ in 21 minutes. Dilution 1-16 shows disintegration and should disappear in 40 minutes, and dilution 1-64 in 80 minutes

The accompanying illustrations illustrate the foam-method graphically and also prove its practical accuracy. (See accompanying photographs.)

*The Centrifugal Method.*—The inaccuracies of the Hammerschlag method led us to seek for a new method which, in the first place, would prove really accurate, both for scientific and for clinical work; and which, in the second place, could be carried out in a shorter time. The principle underlying Hammerschlag's method we accepted as correct. In order to hasten the process and render its results more accurate, we called to our aid the centrifugal machine. Instead of waiting twenty-four hours for a precipitate to settle more or less accurately, by means of the centrifugal machine we were enabled to get accurate results in two hours. The centrifugal process of testing with accuracy the albumen contents of any fluid presents many problems which it required months of experiment to solve. The requirements of the method are these: (1) An albumen solution which will keep, and which will give uniform reactions (precipitates). (2) A precipitant which will precipitate all the albumen but none of the peptone. (3) A centrifugal machine uniform enough in its workings to give equal sediment under similar conditions. (4) Centrifugal tubes graduated accurately and finely enough to allow accurate readings.

1. An albumen solution which meets all requirements can be made as follows: 1.0 g. of albumen ovi sicc. is placed in a mortar and 2 c.c. of distilled water is added under constant trituration until the albumen is apparently dissolved. To this solution HCl (U. S. P.) is added drop by drop, with constant stirring until, with dimethylamidoazobenzol as an indicator, the HCl appears free in the solution. Water is now added to bring the volume up to 100 c.c. The amount of free HCl is determined by titration with $\frac{n}{10}$ KOH and sufficient HCl is added to make the amount of free HCl 0.2 per cent. This solution is now placed in the incubator at 37° C. over night, to swell. This "ripening" of the solution is exceedingly important. After removal from the incubator a drop of chloroform is added to preserve the solution* (this is not essential), and the solution is let stand in order to settle. The solution thus prepared undergoes no alteration and gives uniform results for many weeks.

In seeking a suitable precipitant, we experimented with a number of reagents. One of the objections to the Esbach reagent is that it precipitates peptone. We hunted for a reagent which would precipitate albumen and all the products of imperfect digestion (albumoses) but which would have no effect on peptone. With such a precipitant the end figure represents *the percentage of albumen which has been completely digested*, and there can be no confusion in interpreting the results. After many experiments we selected a 10 per cent. aqueous solution of trichloracetic acid as the most suitable precipitant. This solution precipitates albumen, the globulins, and both

*The small amount of chloroform does not in any way interfere with the action of pepsin. If desired it can easily be driven off by mildly heating the albumen solution.

the primary and secondary albumoses, but it has no effect on peptone. Moreover, the precipitate obtained with this reagent is not spongy. It packs easily, and in the centrifugal machine gives an upper level which can easily be read off. Heat, nitric acid, potassium ferrocyanide, and picric acid, all have shortcomings which render them either inapplicable or undesirable for centrifugal work.

Regarding the centrifugal apparatus itself, we found that either a high grade electrical centrifuge or one of the modern water-power centrifugal machines gives highly satisfactory results. The water-power centrifuge used by us makes 1,200–1,500 revolutions per minute, according to the varying water pressure. We have found by comparing sediments that it gives as reliable results as the more expensive electrical machines.

In our earlier work we made the mistake of not allowing enough time to the actual process of centrifugalization. We soon discovered, however, that the smaller the precipitate the sooner did the packing become complete, and unless sufficient time were allowed for the larger precipitate (that in the control tube) to become densely packed the results were misleading. After many trials we found out that two hours sufficed in all cases (with our machine) to give thoroughly packed sediments.

The centrifugal tubes were especially prepared for us by Mr. Emil Greiner, New York. The ordinary "Purdy tubes" on the market are not accurate enough for scientific purposes, and work done with them may result in errors up to 10 per cent., or in some cases even more. Mr. Greiner, upon our suggestion, selected "Purdy tubes" which were uniform as to their shape, and subdivided the lower centimeter into tenths, and these again into fifths, so that the lower cubic centimeter was subdivided into fifty equal parts.

We have given the above description in detail, because all centrifugal work, in order to give accurate and uniform results, must be invariably done in a uniform way, and with carefully prepared and tested apparatus.

To those who have ever worked with albumen solutions, one question will present itself at the outset, viz., *Is the method of estimating albumen by the volume of centrifugalized sediment an accurate method?*

Purdy has answered the question in the affirmative for albumen in urine, and we can answer in the affirmative for our solution of eggwhite. We present the following table to illustrate the very great accuracy of the centrifugal method, the largest error in any experiment being 3 per cent.:

TABLE II.

Illustrating the accuracy of the centrifugal method with carefully measured albumen solutions.

| SEDIMENT IN CONTROL TUBE IN ⅕ CMM. | STRENGTH OF SOLUTION | SEDIMENT IN TESTING TUBE | INDICATING AN ALBUMEN SOLUTION OF |
|---|---|---|---|
| | Original solution | | 100 per cent. |
| 25 | 10 per cent. | 3 | 12 " |
| 25 | 20 " | 5 | 20 " |
| 25 | 30 " | 7.5 | 30 " |
| 24 | 40 " | 9.6 | 40 " |
| 25 | 50 " | 13 | 52 " |
| 25 | 60 " | 15 | 60 " |
| 20 | 70 " | 14 | 70 " |
| 24 | 80 " | 18.5 | 77 " |
| 24 | 90 " | 21.5 | 89.5 " |

In every instance the control tube was filled with 10 c.c. of our original albumen solution, and 5 c.c. of trichloracetic acid was added. The variation of the sediment between 20 and 25 cubic millimeter-fifths was due to the centrifugalization being performed at different times of day and night when the water pressure in the mains varied greatly. Experiment 8 was done late at night when the water pressure was unusually great. In the second tube were placed consecutively 10, 20, 30, 40, 50, 60, 70, 80, 90 per cent. dilutions of the original solution, and the same precipitant was used. The table shows that the precipitate in the diluted solutions in every instance gives an accurate index of the strength of the solution.

The accurate results shown in Table II taken in conjunction with experiments reported above enable us now to say definitely: If two tubes containing the same quantity of a uniform albumen solution are placed in an incubator at 37° C. to 40° C., and if to one tube 5 c.c. of gastric juice is added, and to the other (the control tube) 5 c.c. of a 0.2-per-cent. solution HCl; and if digestion is allowed to continue a certain length of time, and if at the end of this time the solutions are precipitated with a 10-per-cent. solution of trichloracetic acid and centrifugalized—then *the difference in the volume of the two precipitates represents the quantity of albumen which has been changed into peptone*, and this can be expressed in percentage. The sediment in the control tube is an index of the original quantity of albumen used.

As stated above, the law of Borissow and Schütz gives us an ever-ready means of testing the accuracy of any method of estimating albumen, and we have on numerous occasions subjected our method to that test, both with artificial and with human gastric juice. It is important to recognize at the outset, however, that *the law of Borissow and Schütz is not applicable to concentrated solutions of pepsin, but only to solutions of moderate strength.* Julius Schütz estimated that the law is applicable only when not more than one-half of the original albumen is digested. Borissow tested the correctness of the law by the Mette method, and found it to be applicable only to dilute solutions of pepsin. Samojloff examined dogs' gastric juice, and found that it would have to be diluted at least four times to come within the workings of the law. Nirenstein and Schiff discovered that the law of Borissow and Schütz applies to pure pepsin solutions used in the Mette method only when the original solution is not strong enough to digest more than 3.9 mm. of albumen. This limitation of the law is a serious obstacle to any method yet devised for estimating pepsin in human gastric juice, except the foam-method above described. *Normal gastric juice obtained one hour after a test-breakfast is too strong to come within the workings of the law, i.e.* we are not able to estimate the exact pepsin content of normal human gastric juice by testing its digestive activity. This will be made clear by the following tables, which illustrate experiments made to test Borissow's law with artificial and human gastric juice. (See Tables Nos. III and IV.) Examined by the centrifugal method:

TABLE III.

Showing results usually obtained with artificial gastric juice. Peps. 0.4 per cent., HCl. 0.2 per cent.

TRICHLORACETIC ACID METHOD (70 MIN. DIG.).

| STRENGTH OF SOLUTION | EXPERIMENT I PER CENT. DIGESTED | EXPERIMENT II PER CENT. DIGESTED | EXPERIMENT III PER CENT. DIGESTED | EXPERIMENT IV PER CENT. DIGESTED |
|---|---|---|---|---|
| Full strength | 81.25 | 82.50 | 82.35 | 82.35 |
| Dilution ½ | 70.55 | 75 | 73.52 | 70.59 |
| Dilution ¼ | 55.88 | 60 | 52.95 | 52.94 |
| Dilution 1/16 | 29.41 | 30 | 26.47 | 23.53 |

TABLE IV.

Showing results obtained with human gastric juice.

TRICHLORACETIC ACID METHOD (70 MIN. DIG.).

| STRENGTH OF GASTRIC JUICE | CASE I PER CENT. DIGEST'D | CASE II PER CENT. DIGEST'D | CASE III PER CENT. DIGEST'D | CASE IV PER CENT. DIGEST'D | CASE V PER CENT. DIGEST'D | CASE VI PER CENT. DIGEST'D |
|---|---|---|---|---|---|---|
| Full Strength | 73.33 | 76 | 50 | 30 | 76 | 73.33 |
| Dilution ½ | 56.66 | 56 | 25 | 15 | 56 | 50 |
| Dilution 1/16 | 22.5 | not tried | not tried | not tried | 28 | not tried |

Showing the limits of Borissow and Schütz Law.

We can avoid the confusion which thus arises by again resorting to the expedient of working with diluted gastric juice.

A one-fourth dilution of artificial gastric juice will digest 50 per cent. to 60 per cent. of the albumen in the test solution in seventy minutes.

A one-fourth dilution of normal gastric juice will also digest between 50 and 60 per cent. of the albumen in seventy minutes.

With these norms or standards in view we can best test the pepsin strength of gastric juice by using the one-fourth dilution.

The steps of the process may now be briefly recapitulated as follows: The gastric juice to be tested is diluted with three times its volume of a .2 per cent. solution of HCl. This diluted juice and the standard albumen solution are placed in the incubator about fifteen minutes in order to be warmed to body temperature. In each of two test tubes are placed 10 c.c. of the standard acidified albumen solution. To one tube 5 c.c. of the diluted gastric juice is added, to the other (the control tube) 5 c.c. of a .2 per cent. solution of HCl. These tubes are then placed in the incubator at 37° to 40° C. for exactly seventy minutes. At the end of that time they are removed, and 10 c.c. are taken from each tube and placed in the centrifugal tubes graduated to .02 c.c. To each tube is added 5 c.c. of a 10-per-cent. solution of trichloracetic acid, and after inverting the tubes several times they are placed in a high-speed centrifugal machine and centrifugalized two hours. At the end of this time the tubes are removed, and the volume of sediment measured. The sediment in the control tube will be an index of the original albumen strength of the standard solution. The sediment in the second tube will be less, if digestion has taken place, the difference in the two sediments representing the proportion of albumen which has been transformed into peptone.†

## A CASE OF NEUROFIBROMA OF THE SKIN AND LARGE NERVE TRUNKS IN WHICH THERE DEVELOPED A LARGE SPINDLE-CELLED SARCOMA BENEATH THE BODY OF THE SCAPULA.*

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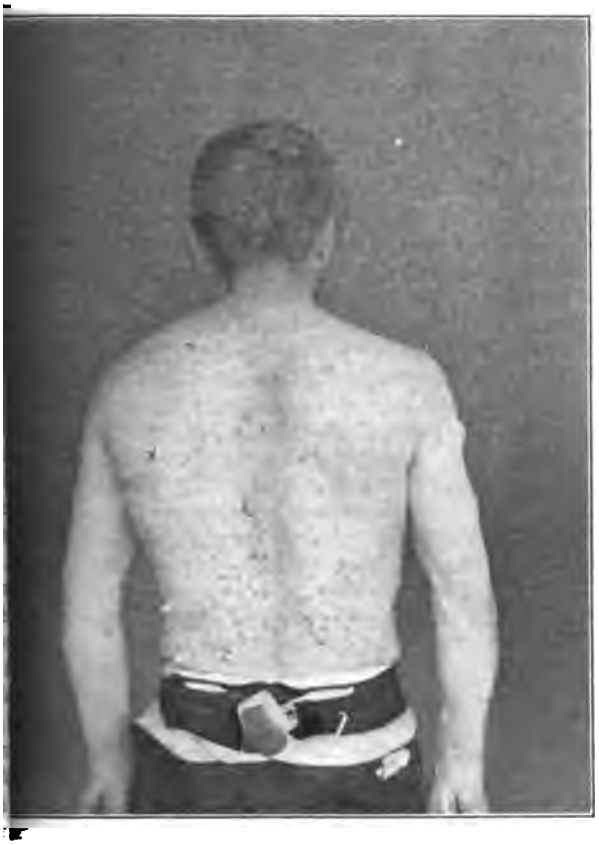
I have to report a case of multiple fibroids of the skin (molluscum fibrosum), of multiple fibroids of the large nerve trunks from the brachial plexus of the left side, and of a large spindle-celled sarcoma, arising from beneath the body of the left scapula, all developing at the same time in one person.

A typical case of molluscum fibrosum is rarely seen, and such a case having also multiple fibroids of the nerves and sarcomata is, so far as I am able to determine from the literature of this disease, unique. The question of interest which engages the mind of the surgeon is this: is there a causal relation between the fibroids of the skin, and nerves, and of the fibrosarcoma: or is their occurrence at the same time simply accidental? The case which I have to report was shown at a general meeting of the Wayne County Medical Society several months ago, on the day when the patient was first seen by the writer, but at that time nothing was known of the sarcoma, and the nature of the tumor upon the arm had not been determined, although it was thought to be a fibroid of the musculospiral nerve, which proved to be correct. The patient, Chas. A., a fully developed man of medium intelligence, aged forty-six years, nativity Portland, Me., was admitted to the U. S. Marine Hospital, Detroit, December 16, 1902, with a diagnosis of molluscum fibrosum. The following history was recorded: He has been a sailor all his life, and has sailed around the world twice, stopping in China, India, Japan, and Australia. During the past five years he has been a "sailor man" upon the steamers of the great lakes. With the exception of an attack of rheumatism about four years ago, his general health has been good. He arrived at the port of New York from London in 1893, and was vaccinated at quarantine, which vaccination was followed by a slight eruption, probably vaccinal, which disappeared in a few days. Soon after this eruption he noticed small nodular growths of the skin of the body and extremities. They have been slowly increasing in size since that time, and are present are seen on every part of the body, but are larger and more numerous upon the trunk, especially upon the back and abdomen. They range in size from a pea to a large English walnut, and number several hundred. On palpation they do not feel unlike soft lipomata, and resemble somewhat tumors of this character within or beneath the skin. These skin tumors have never given him pain, although some of the larger ones have caused him some inconvenience and annoyance in dressing. His application for hospital relief was on account of a tumor located just above the external condyle of the left humerus. This tumor, which is a deep-seated tumor, about the size of a pullet's egg, was first observed by the patient about four years ago, but caused him no trouble until a few months prior to his application for relief at the hospital. During his last two months' service on the vessel, he had suffered much pain from this tumor, which was increasing in size, and anodynes were required to afford relief. There was slight paralysis of the left hand, it being much weaker than formerly. Quinine, arsenic, and one of the synthetic analgesics were given, and application of the *x*-ray made over the nerve tumor and over certain regions of the skin, where the skin tumors were numerous, but no benefit was derived from the treatment. The pain in the tumor of the left arm increased, and pain in and around the left shoulder became very severe. An examination revealed considerable enlargement about the shoulder-joint, in the scapular region, and on the chest wall near the shoulder-joint. On December 22, 1902, the pain in the arm having become unendurable, I performed an operation for the removal of the tumor of the arm. Ether was administered, and an incision about three inches in length was made along the course of the musculospiral nerve just above the elbow. A tumor of this nerve, about the size of an egg, was found. A longitudinal incision into the tumor was made, but it was found impossible to differentiate or separate the nerve fibers from the growth. The nerve was stretched, the tumor removed, and the divided ends of the nerve brought together and carefully sutured, and the wound closed. The wound healed without suppuration, and the pain in the arm ceased. Pain continued in and about the shoulder however, and the swelling increased rapidly. I became suspicious that a malignant growth had appeared beneath the body of the scapula, and finding a small tumor on the chest wall which could be felt by pushing the hand well up in the axilla, and beneath the pectoral muscle, I decided to remove and examine it. The patient was given ether, and the tumor removed, which proved to be a fibrous tumor of the anterior

*Read before the Surgical Section of the Wayne County Medical Society, Detroit, Mich.

†Complete literary references are found in the later articles published in the current numbers of the *Archiv für Verdanngskrankheiten*. See especially Vol. VIII, parts 3 to 6.

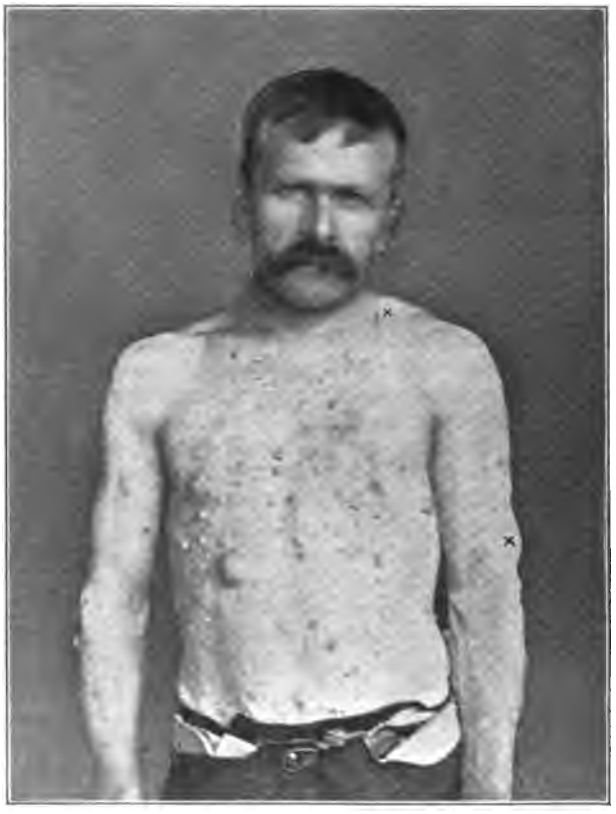
thoracic nerve, resembling the one removed from the musculospiral. The tumor was about the size of an English walnut. I examined both nerve tumors under the microscope, and thought them to be fibroids; they were then sent to the Service Laboratory at Washington, where they were



examined and pronounced fibroids. The specimens are well mounted and show the character of the tumors beautifully. The following description of the specimens was made by the Director of the Laboratory, Dr. Rosenau: "The specimens were imbedded in paraffin, sectioned and stained with hæmalin and eosin and with Mallory's connective tissue stain. The sections show many spindle-shaped nuclei, surrounded by fibrillating protoplasm. Beneath the fibers in some places is seen a homogeneous myxomatous-like substance, with round nuclear-like bodies. In some portions the tissue is more dense than in others, and seems to be distinctly collected into lobular-like masses. Newly-formed blood vessels, with distinct walls apart from the tumor mass, are seen in the section. Each specimen seemed to have a distinct capsule. Diagnosis: Soft fibromata, or molluscum fibrosum."

As neither of the nerve tumors appeared to be malignant in character, it was thought that the tumor developing beneath the scapula might be benign, although its rapid development was evidence to the contrary. The *x*-ray had been tried without effect, and the patient was again suffering intense pain in the scapular region, and also in the left arm from the hand to the shoulder. An operation for removal was decided upon, and the patient was informed of the risk of the operation, and of the possible return of the disease. He insisted upon an operation, saying that it was impossible for him to endure the pain longer. On January 29, 1903, the patient was prepared for an operation. An anæsthetic was given, and with the assistance of Drs. Mathewson and Granbery, I operated for the removal of the tumor. An incision was made along the superior border of the scapula, and an attempt made to remove the tumor through this incision, which was but partially successful, as the tumor extended beneath the entire body, and into the axilla. A second incision was made along the inner or vertebral border of the scapula, a part of the rhomboideus minor being preserved. After control of the hemorrhage, the tumor was dissected out, principally with the hand and handle of the scalpel. The immense cavity left by its removal, extending from the corocoid process to the inferior angle ot the scapula was packed firmly with sterile gauze, the wound dressed and a firm bandage applied. The tumor which appeared fibrous, but rather easily torn, was of a yellowish color, containing few blood vessels and a cyst holding about two ounces of an amber-colored fluid. The tumor seemed to be divided near the center of the scapula transversely, although it is probable that the division was not complete. The lower part of the tumor weighed one pound and the upper part with the cyst about eight ounces. Specimens of this tumor were also examined at the laboratory of the service at Washington, stained and mounted. The following is the description of the microscopical examination of the tumor:

"Specimens of the tumor were imbedded, and after being sectioned, stained in various ways. The section shows a mass of spindle-shaped cells with long nuclei. Small blood vessels are seen, the walls of which are composed simply of an endothelial lining of the tumor mass,there being practically no independent vessel wall. The diagnosis of small spindle-cell sarcoma was readily made. There are two specimens, one stained with eosin and hæmalum, and the other stained by Mallory's connective tissue stain. By using oil immersion with the latter specimen you will observe, where the section was at right angle to the direction of the



fibers, that the connective tissue fibers and the intracellular substance penetrates between the individual cells." It was thought that the tumor originated in the periosteum of the under surface of the scapula, near the suprascapula notch, as the bone was there denuded of periosteum and necrosed

for some distance along its under surface. The patient, although suffering considerably from shock due to extensive mutilation, rallied quickly, and in a few days the upper wound closed, the lower wound only partially.

The patient suffered less pain for a week or two, but the tumor soon appeared again, and grew with wonderful rapidity. Daily application of the *x*-ray seemed to have no influence upon the growth nor upon the pain. The erysipelas toxin treatment was considered, but it was believed to be impracticable, owing to the weakened condition of the patient. The patient rapidly grew weaker as the tumor increased in size, and died March 20, 1903, fifty-one days after the removal of the sarcomatous tumor.

At the necropsy it was found that the musculospiral nerve, which had been resected and stitched, had united, but another tumor, fusiform and about two inches long and five-eights of an inch in diameter, had formed. A tumor, about the size of an orange, was found on the long thoracic nerve, and several small nerves from the brachial plexus had small bulbs in their course. A large, soft fibrous tumor, weighing about three pounds, extending from the under surface of the body of the scapula, through the axilla of the left side to the clavicle in front, involving in its mass the brachial plexus of nerves, was found. A cyst, containing 200 c.c. of yellowish translucent fiuid, was situated in the supra-scapula region. Metastasis had taken place, and large nodules, resembling the tumor, were found at the base of the right lung, and in the diaphragm, just beneath the right lung, and just above the liver, which organ was not involved. One small nodule, about the size of a chestnut, was attached to the sixth rib outside of the pleura upon the left side. The lymphatic glands appeared to be normal.

It is not my intention to discuss the various theories of the pathogenesis of neoplasms, or to explain or support any one of the many theories of the method of extension of malignant tumors, or of the conversion of benign tumors into malignant tumors, but simply to invite attention to the possible relation which may exist between the skin, the nerve, and the sarcomatous tumor of the scapula.

Kaposi refers to certain rare cases which might be classed as molluscum fibrosum, sac-like humid thickings of the skin which have resulted from congenital connective tissue or vascular moles which, in some instances, owing to their anatomical relations with the neurilemma of the large and the smaller nerve trunks and branches in the skin, and to the presence of plexiform neuromata that might be interpreted as fibromata of the nerves. These sometimes give rise to the most violent neuralgic pains. In the case presented, is there reason to believe that the genesis of the fibroids of the skin, and of the fibroids of the nerves is the same, and is there a causal relation between the fibroids of the nerves and the fibrous sarcoma lying in close proximity? The microscope showed the character of the tumors to be distinct; one a pure fibroid, and the other a spindle-celled sarcoma, yet the nerve tumors and the sarcoma developed in close proximity—in fact, in juxtaposition. Soft warts, pigmented patches upon the skin, moles, nævi, and other congenital defects of the skin are frequently seen formed among these fibrous tumors upon the body. This has been remarked by many observers. Bowen and Besnier claim that soft warts and nævi are closely related to molluscum fibrosum, and it may be difficult to distinguish molluscum from soft warts. That the analogy between the two affections is so close that differentiation is not a matter of great importance. The frequent development of sarcomatous tumors from such congenital defects of the skin is well known. Goldman and Garrá state that multiple sarcomata of the nerves arise from defective development of the nerve sheath. Williams, in giving the histogenesis of fibrous sarcoma, says that many chronic forms of fibrosarcoma contain so much fibrous tissue as to obscure their sarcomatous elements. According to Virchow and Kaposi, molluscum fibrosum starts from the connective tissue layer around the fat lobules, but, according to von Recklinghausen, these growths are neurofibroma, that they start from the perineurium of the subcutaneous nerve branches, and grow upward into the skin. This latter view has the support of Unna and Garrá. He claims that the neurofibrous connective tissue in the larger nodules is sharply bounded from the surrounding skin. That the neoplasm contains a conspicuous number of mast cells which are regularly distributed throughout its area. Unna claims there is a widely distributed myxomatous change in the connective tissue cells, peculiar to these neurofibroma. Hebra and Virchow believe the disease to be hereditary in some cases.

The claim of Recklinghausen that these fibrous skin tumors, moluscum fibrosum, are neurofibromata is, I believe, true, and the occurrence of multiple fibroids of the large nerves in this case of molluscum fibrosum shows the same pathological tendency in the nerve trunks and in the nerve periphera. The rapid growing malignant tumor may have originated in a neurofibroma of the upper subscapular nerve—that is, a small neurofibroma may have assumed a malignant form or undergone sarcomatous degeneration.

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## SOME NOTES ON A DIET OF BREAD AND FRUIT, AND ITS EFFECTS ON HIGH BLOOD-PRESSURE, DROPSY, AND OBESITY.

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It may be said roughly that those who live on bread and fruit alone require to eat each day about 2 ounces of bread for each 10 pounds in their body weight. This is as near as one can get with a rough statement, and if a considerable proportion of the bread so used is either toasted bread or biscuit, which are 10 per cent. foods, and if, further, the weight which is calculated is not all muscle, which has to be nourished, but is partly fat, this calculation will often not be very far from the mark. On this allowance a person who weighs 140 pounds will require to eat 28 ounces of breadstuffs a day, and of this we may say that 21 ounces may be taken as breadstuffs and 7 ounces may be taken as dried fruits, even though these latter are not of the same nourishment value as bread. Any loss over the dried fruits will probably be made up in the small quantity of milk which is taken with the breadstuffs when they are made into puddings. Such a day's food would divide into three meals as follows: Seven ounces of breadstuffs a meal and 2 to 3 ounces of dried fruit per meal. To this may be added, if desired, a small quantity of potatoe or other vegetable, or of any fresh fruit that is in season. A meal of this kind would be in detail 2 ounces of toasted bread, 2 ounces of biscuit, 3 ounces of pudding, 2 to 3 ounces of dried fruit, and a little vegetable and fresh fruit as before mentioned. Those who desire to have an almost uncooked diet can take these things exactly as they are here stated. There is in this diet very little cooking, except the vegetables

and the pudding, which last, by the way, should be firm and solid, more like cake than pudding, and be of such substance that it almost requires a knife to cut it; but those who wish for more employment for their cooks can modify this diet so as to give them almost any required amount of work, and they can also, if they like, spend almost any amount of money on the elaboration of such a diet. The first course of such a meal may then be a vegetable soup made with milk. A little only of this would be taken, and it would be used as the sauce to some part of the toasted bread and biscuit. Next course, a savory dish of some kind made with vegetables along with rice, maccaroni, cheese, and other substances used as flavorings. This, or some part of this, might be taken along with a little vegetable as a sauce to the remainder of the toasted bread and biscuits. Next course—sweets, tarts, and cooked fruits—may be elaborated to almost any extent, but these again should be used only in small quantity and as sauces to the breadstuff pudding, which is the main staple of the next course. After this there may follow a more or less elaborate savory cheese dish, with which again should be eaten further quantities of breadstuffs, the cheese dish being the sauce to these meals. The dried fruits also may be eaten along with the pudding course, and last we come to the dried fruits or preserved fruits, and various elaborations of fruits and sweets, which can, if necessary, be worked up to any extent. It seems to me that it is one of the great advantages of this diet that it lends itself so splendidly to the use of those who on the one hand, might wish for an absolutely simply, and to a large extent, uncooked diet, to be obtained, carried and eaten elsewhere, and, on the other, almost equally well to the use of those who wish for a great amount of cooking and the elaborate work of highly-trained modern artists.

The chief advantage of a bread and fruit diet is seen in the collæmic or high-blood-pressure group of uric-acid food poisonings. Such used to be called diseases, and were reckoned under the names of headache, epilepsy, depression, neuralgia, asthma, Bright's disease, cerebral hemorrhage, cardiac failure, angina, dropsy, and obesity. The great point in the relief of these troubles is the lowering of the blood-pressure, which it is obviously impossible to bring about on a diet of milk, which contains much fluid. By cutting down the fluids to the smallest amount compatible with comfort, and feeding on breadstuffs, dried fruit and fresh fruit, or, as a modification in certain cases, on dried fruits, nuts and fresh fruit, a blood-pressure of 150–160 mm. of mercury can be reduced in a week or two to 120 mm. of mercury, with a correspondingly large improvement in all the forms of food poisoning above mentioned. Thus headaches may be diminished to one-half of their previous frequency and severity, fits similarly diminish to one-half, depression, neuralgia and asthma diminish, or even more or less completely disappear, and in Bright's disease dropsy is removed and the heart has a chance of recovering, while obesity slowly and steadily diminishes as the diet is continued; then as cerebral hemorrhage is due to high blood-pressure, to lower it as quickly as possible is the most obvious indication for treatment. This is, of course, the mere mechanical result of the diminution of fluid, and with every diminution of fluid there must of necessity follow a diminution of the blood-pressure. Later on freedom from uric-acid poisoning, which this diet also brings about, has its effect, and the improved condition increases still further and becomes permanent. We have heard a great deal about the washing-out plan by copious drinking of fluid, which does great harm in all the above conditions of raised blood-pressure, and does not increase the excretion of uric acid in the least, as I have pointed out in "Uric Acid," sixth edition, page 885. But the almost marvelous results that can be produced by a dry diet in all these troubles associated with slow capillary reflux and high blood-pressure and more or less dropsy, seem to be known by few or none. Nothing, in my opinion, really cures these conditions but the removal of the uric-acid-containing foods to which they are due, but while pure diet is slowly bringing the body and its circulation to more natural conditions and to freedom from food poisoning, the diminution of the fluids to the lowest level compatible with life, which is possible on this bread and fruit form of the uric-acid-free diet will produce an improvement almost at once, which is often well on to half way to cure. I make bold to say that there is no case of headache or epilepsy associated with high blood-pressure (and the vast majority of idiopathic headaches and epilepsies are met with in this association) which would not yield very markedly to such a fall of blood-pressure as is produced, for instance, by the Tufnell diet in the treatment of aneurysm, and a very similar fall of blood-pressure can be produced by the dry diet of which I am speaking. Indeed, a bread and fruit diet will lower blood-pressure more than the Tufnell diet, and might often, with advantage, be substituted for it. The Tufnell diet lowers blood-pressure entirely mechanically, but bread and fruit diet does this, and in addition also lowers blood-pressure by shutting out unnecessary uric acid. The 'washing-out' plan in such conditions is almost the height of folly, and only those will believe in the improvement that can be made by the dry diet who have witnessed its results in some of these cases. As it is the mechanical result of diminished fluids, it can be produced, as in the Tufnell treatment, by a diet which is not free from uric acid; but, when the trouble, as in the cases above-mentioned, is originally due to uric-acid poisoning further obvious advantage can be obtained by leaving the poison out.

In many of these high blood-pressure troubles much good may also be done by a temporary, but complete abstention, from both food and fluid, as this will produce, in from twelve to twenty-four hours (varying with the amount of fluid in the body to begin with), a fall of from 20 to 40 mm. of mercury in the blood-pressure; and this will make the difference in many cases between a severe headache and a slight one, or between a slight headache and none, or again between a series of severe fits and one or two slight ones; and if such patients have been constantly kept on a small allowance of fluids a correspondingly greater and more prompt effect can be produced by this complete abstention from food and fluid.

Certainly in no case with a blood-pressure of 180–200 mm. of mercury will the patient incur the least danger if both food and fluid are withheld for from twelve to twenty-four or thirty-six hours; but the blood-pressure can be watched and a little food and fluid given (best in the form of toast or biscuit with a little fresh fruit) so soon as the pressure has fallen nearly to normal, say 120 mm. of mercury.

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**A Prize for Dr. Roux.**—The French Academy of Medicine has awarded the prize of 100,000 francs ($20,000) for the most remarkable scientific work to Dr. Roux of the Pasteur Institute. Dr. Roux accepted the prize, but requested that he be allowed to devote the amount to investigations at the Pasteur Institute.

# HALLUX VALGUS.

By JOHN G. SHELDON, M.D.,
TELLURIDE, COLO.

It has been suggested that the term Hallex Valgus be used instead of Hallux Valgus. Of course, Hallex is Latin and will stand criticism; but Hallux is a good word and has served a good purpose. The term Hallux Valgus is short and definite, and has been in use for a considerable period of time. I cannot see that much is to be gained by using Hallex instead of Hallux. It makes little difference which term is used if the importance of the condition is recognized.

I have reason to believe—from reading and from observing cases—that hallux valgus has not received the consideration from surgeons that it deserves. I find that the condition is quite common; that many times it is very annoying; that sometimes it completely disables the patient and that comparatively few cases have been subjected to surgical treatment. To me, hallux valgus has become at once an interesting and a valuable subject. A few cases came to me desiring surgical relief for the condition; many patients, suffering from hallux valgus, came to be operated for other conditions. These cases almost invariably submitted to the operation for hallux valgus at the time of undergoing operation for other conditions. By using these methods I have operated a number of cases. The results have been satisfactory both to the patients and to myself.

Very little has been written on the etiology of hallux valgus. It is generally stated that the condition is due to the wearing of improperly fitting shoes which turn the great toes outward. As the deformity increases, secondary changes occur. Dawbarn says that a subluxation of the joint exists and that changes in the head of the metatarsal bone rarely occur. Most writers, however, agree that in some cases distinct bony changes are found. A painful, tender, and sometimes inflamed and suppurating bursa, over the head of the first metatarsal bone, not uncommonly complicates the condition.

I believe: (*a*) that an improperly fitting shoe is never the sole cause of hallux valgus; (*b*) that hallux valgus, in the great majority of cases, occurs in feet so formed as to predispose to the condition; (*c*) that the extensor proprius hallucis muscle plays a most important rôle in causing and aggravating the condition, and (*d*) that osseous changes, in the inner side of the distal end of the first metatarsal bone, are commonly found in severe cases.

It is impossible to determine the exact relation of the shoe to hallux valgus, or to prove that the shoe does or does not cause the condition. I firmly believe that a pointed shoe will aggravate a case of hallux valgus, or even make manifest the condition in a foot of a certain shape; but I am just as firm in the belief that there are certain feet in which a hallux valgus could not be developed no matter what sort of shoe should be worn. In my opinion, the shoe bears the same relation to hallux valgus as does the corset to nephroptosis. In support of my statement, I wish to say that I have seen people wear pointed and tightly fitting shoes for three or four years without developing hallux valgus, and that I have seen some of the worst cases of hallux valgus in persons who have worn only wooden shoes.

All of the cases of hallux valgus, that I have seen, have occurred in patients whose feet were of one type: instep high; arch of the foot well formed; the extensor tendons of the great toes prominent at the metatarsophalangeal joint; the first phalanx of the toes extended and the distal phalanges flexed. I have never seen a case of hallux valgus occurring in a patient afflicted with flat-foot.

I believe that the extensor proprius hallucis muscle is a structure that is prominent in producing and in aggravating the disease. The following facts support this statement: (1) The muscle is stronger than the muscles that antagonize it. (2) It is always found tense in cases of hallux valgus. (3) Its insertion is so situated that it abducts the great toe. (4) Slight abduction of the great toe places the tendon in such a position that the abducting power of the muscle is increased. (5) I have had six cases that presented the symptoms of beginning hallux valgus, in which I lengthened the extensor tendons of the great toe, and the condition did not develop. (6) The deformity does not tend to recur after the tendons have been lengthened or divided.

I have operated on at least thirty cases of hallux valgus. In all of these there was a subluxation of the first metatarsophalangeal joint as observed by Dawbarn, and also some change on the inner side of the distal end of the first metatarsal bone. In some of the cases there was marked bony hypertrophy. I have never seen any changes present in the phalanx, neither have I seen abnormal conditions present in the outer side of the distal end of the first metatarsal bone.

*Treatment.*—Mechanical appliances have been devised and recommended in the treatment of hallux valgus. I have seen them tried in three cases without success. I believe they are practically useless in advanced cases.

Retaining the toe in proper position with plaster of Paris has been recommended; and, in some cases, the insertion of the tendon of the extensor proprius hallucis has been transplanted to the inner side of the great toe to aid in preventing abduction. I have had no experience with these methods, but should think them to be inadvisable in cases with subluxation or with osseous deformity.

Resection of the metatarsophalangeal joint is unnecessary and will be dismissed without discussion.

Barker and Reverdin recommended osteotomy of the metatarsal. I have had no experience with this operation.

Weir advises incision of the inner part of the capsule of the joint, with resection of the inner part of the head of the metatarsal. Good results are reported from this procedure.

R. H. M. Dawbarn operates as follows: A constrictor is applied to the extremity. The joint is exposed by making a flap, the convexity being upward and outward. The head of the metatarsal bone is resected with a Gigli saw without injuring the tendons or sesamoid bones. The space occupied by the resected bone fills with blood and heals by the blood-clot process. The toe is held in proper position with a planter splint, and with plaster of Paris, which is applied to the knee. The constrictor is not removed until the dressing is completed. The cast is removed in four weeks. Dr. Dawbarn reports excellent results from this operation in over fifty cases. A painless, not tender and movable joint is obtained. He ignores the bursa unless it is suppurating. Then he excises it and does not perform the radical operation till healing is complete.

In six cases of beginning hallux valgus, I made an incision over the tendon of the extensor proprius hallucis; split the tendons of the extensor proprius hallucis and extensor brevis digitorum muscles a distance of one inch; divided one portion of each tendon at the upper end of the split and the re-

maining portion at the opposite end, thus dividing he tendons in such a manner that they could be engthened two inches without complete separation f their fibers. No attempt was made to suture he divided tendons. The toe was held in proper osition with a planter splint and adhesive plaster. fter about ten days the dressings were removed. he toe remained in proper position and the power f extension was present. The results in these cases ere satisfactory. The first case operated was xamined thirty-two weeks after the operation. t this time the patient had complete control of he toe and there was no tendency toward develop- ent of hallux valgus. I should recommend this rocedure only in mild cases.

I have operated on twelve cases according to the ethod recommended by Dr. Dawbarn. The esults were quite satisfactory in ten of them. n one infection occurred. The joint was stiff but as not painful or tender. In another patient, the ound healing was perfect, but the joint remained ender and was painful at times. In all of these ases the toe was somewhat shortened.

The procedure that I recommend in all well- narked cases of hallux valgus is as follows: If an nfected bursa is present, it requires removal and omplete healing of the wound before performing he radical operation.

*Radical Operation.*—The skin incision is made, ac- ording to Dawbarn, except in cases with a tender ursa. In these cases, excise the bursa and as uch of the overlying skin as is compatible with omplete closure of the wound. The next step is to free the inner portion of the distal end of the first metatarsal with a chisel or periosteotome. The inner one-half or two-thirds of the head of the bone is then removed with bone forceps. The outer one-third or one-half of the articular surface of the metatarsal, and the phalanx, are not dis- turbed. The extensor tendons of the great toe are then divided in the manner described in the foregoing. The fascia and ligaments are then drawn together with catgut and the skin approxi- mated with silkworm gut. The toe is held in proper position with a planter splint and adhesive plaster. I usually apply a constrictor before operating; but without constriction the hemorrhage is slight.

I have operated upon twelve cases by this method and in all of them the result has been perfect in three or four weeks—the toe being in proper position and not shortened; the joint freely movable and not painful or tender. One toe became infected, but this produced no bad effects.

The advantages of this method are:

A movable joint is assured.

There is no shortening of the great toe.

The deformity is completely corrected.

If the bone is affected, the abnormal part is removed.

The space resulting from the removal of the bone heals by the blood-clot process.

The extensor tendons are so lengthened that they do not tend to reproduce the deformity.

Moderate infection would doubtless not prevent the obtaining of a good result.

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**Education in Great Britain.**—Mr. Balfour, in a speech delivered a short time ago in Manchester, drew the follow- ing disheartening picture of the state of education in Great Britain: "The existing educational system of this country is chaotic, is ineffectual, is utterly behind the age, makes us the laughing stock of every advanced nation in Europe and America, puts us behind, not only our American cousins, but the German and the Frenchman and the Italian.

**The Rôle of the "Ball-Valve" in the Etiology of Appendicitis.**—C. Van Zwalenburg considers that in many cases there is, preceding obstruction to the exit of secretions and inflammatory products from the appendix, an increased nitra-clonic pressure which overdistends the appendix, and by its recoil closes the valve. The presence of a concretion is not essential. Any firm mass behind any narrowing of the lumen or sharp bend in the same way may act as a ball-valve. The mucous membrane resting upon the hard, resisting, fibromuscular wall is easily compressed and its blood vessels and those ramifying in the submucosa are thus compressed or obliterated by the hydraulic pressure within the appendix. The ever-present pathogenic bacteria are quick to take advantage of any diminution of the fighting forces of the tissues, and immediately plant their colonies upon them, thus producing infection and inflammation. If it is true then that in many cases appendicitis is in the beginning a simple mechanical derangement, often a strangulation, the importance of immediate operation can hardly be overestimated.—*Southern California Practitioner.*

**Report of a Case of Decapsulation of the Kidney (Edebohls' Operation) for Chronic Parenchymatous Nephritis.**—James Tyson and Charles H. Frazier report the case of a girl of nine years suffering with chronic parenchymatous nephritis. At the first operation the right kidney was decapsulated. The child was œdematous from head to foot and the peritoneal cavity was distended to its utmost with ascitic fluid. One week after the operation the anasarca had disappeared. In six days a total of 362 ounces of urine were voided. The maximum was reached on the fourth day. From this time the daily quantity decreased to an amount varying from thirty-five to forty ounces. Casts and albumin never entirely disappeared in the six weeks following operation. Two months after the first operation the left kidney was decapsulated. Two weeks later there was just a trace of albumin and a few hyaline casts, but when the patient was allowed to get up, they again appeared. Both operations were borne unusually well. Although the writer had been skeptical about this operation, he believes from his experience with this case, that one cannot justifiably disregard such results obtained in a patient so desperately sick and without the slightest prospects of recovery. He declares that in the future he shall not hesitate to perform this operation in a patient in whom all attempts at alleviating the condition by every means other than operation had failed, and in which the patient was daily losing ground and death was imminent, provided it was reasonable to assume that the patient would survive the immediate effects of the operation.—*University of Pennsylvania Medical Bulletin.*

**Report on Treatment of Plague by Large Doses of Carbolic Acid.**—J. C. Thomson used carbolic acid in a series of over 200 cases of plague in Kennedy Town Hospital. He gave 144 grains of carbolic acid daily, divided into two hourly doses of 12 grains each, and administered in a mixture flavored with syrup of orange and chloroform water, in some cases over long periods. One patient took over 2,500 grains of pure carbolic acid before his blood was free from plague bacilli. Although carbolic acid poisoning was expected to appear often, it was practically unknown. In a few cases carboluria developed, but the omission of one or two doses was generally sufficient to clear the urine and permit resumption of the remedy in full doses. In certain cases dyspeptic symptoms occurred, but in these greater dilution of the mixture with water overcame this obstacle. The writer considers carbolic acid in large doses the most hopeful means of treating plague thus far at their disposal in Hongkong. Bell's method for the diagnosis of plague is most valuable. Although of great service in the treatment of plague, carbolic acid is by no means a specific remedy. The writer hopes for the next epidemic season to have the production locally of a curative serum for the treatment of plague.—*The Journal of Tropical Medicine.*

# MEDICAL RECORD:

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## THE STATUS OF THE NAVY SURGEON.

A CONSIDERABLE amount of dissatisfaction exists—and has existed for a long time—among the medical officers of the navy with regard to the manner in which their brother officers of the line arrogate to themselves all authority. The captain of a man-of-war is an autocrat. Officers of an inferior rank have their well-defined duties, and exercise a certain amount of authority, while the navy surgeon, whose position is one of great responsibility, possesses no power whatever, not even over his own patients. The captain of a war vessel can, if he so wills, take the surgeon's patients off the "sick list" and compel them to do the regular work of the ship. This action may be taken in direct opposition to the advice of the medical man. That is to say, the captain, who presumably knows nothing of medicine or surgery, is allowed, by virtue of his office, to override the opinion of a legally qualified medical practitioner.

This state of affairs, anomalous and absurd as it may seem at first thought, is doubtless justified to a great extent by the circumstances of the case. A battleship is first, and last a fighting machine, and her officers and crew are trained and placed in her for the purpose of carrying out this intention in the most effective manner possible. In time of war all else must be subordinated to the exigencies of the situation. The captain's duty is to destroy or cripple the enemy in any way open to him—in fact, to win at any cost. No humanitarian scruples must be allowed to imperil the successful accomplishment of this object, and although it may seem brutal, the wounded and sick must, if necessary, be sacrificed to the honor of the country and flag. In time of peace discipline has to be maintained at a very high level, and it has been decided that this result can best be reached by investing all authority in the captain. His word is law, and if he be determined to carry out his will or caprice in face of the advice of a man whose trained knowledge qualifies him in this particular matter to speak with more authority, he can do so, and no one may say him nay. As to whether a navy surgeon, although on board ship, should not be allowed to use his own judgment, and to have more or less free action in his own especial province, is a question which cannot be settled offhand.

Doubtless, as a rule, the captain of a ship does not interfere with the surgeon, but the fact remains that he can if he desires. Time has cast its halo of sanctity over the present mode of procedure, and it has become crystallized by custom. It is not only at sea, however, that the line officer shows himself, sensitively jealous of his rights and privileges.

A case described in the *Army and Navy Journal* of June 27 exhibits this disposition to resent the very slightest attempted infringement thereof, in a striking manner. The acting chief of the Bureau of Medicine and Surgery, in an official communication referred to the senior officer at a naval hospital as "in command." Captain Thomas of the *Franklin* immediately took umbrage at this expression, and inquired of the Navy Department if there had been any recent change in the naval regulations, as he was of the opinion that both the law and the regulations prohibited officers of the naval staff corps from exercising "command," and that the senior medical officer at a hospital is "in charge."

Surgeon-General Rixey was appealed to for his opinion upon the matter, and concluded from a consideration of 1 Section 7, Chapter 413, Statutes at Large, Fifty-fifth Congress, of the Act of March 3, 1899, entitled "An Act to Reorganize and Increase the Efficiency of the Personnel of the Navy and Marine Corps of the United States," and from other apparently cogent facts which point the same way, that there seems to be no reason why the term "command" should be denied to naval medical officers any more than any other word which means control. Judge-Advocate General Lemly, on the other hand, held that the senior medical officer had not the right to the term "in command," and the Secretary of the Navy, who was of the same opinion, expressed himself upon the matter as follows: "The question raised herein seems to be one of form and not of substance. The powers of a medical officer in charge of a hospital are neither increased by describing him as 'in command,' nor diminished by describing him as 'in charge.' Both expressions signify effective control, and the powers and duties of a medical officer are to be ascertained otherwise than by examining the description of his authority. The Judge-Advocate General points out that in Articles 1135 to 1155, Navy Regulations, dealing with the duty of medical officers at hospitals, the expression used is 'in charge' and not 'in command.' This is notably the case in Article 1137, which describes the responsibility, duty, and authority of the senior medical officer. No reason is perceived for changing the designation used in the regulations and sanctioned by long-established practice. The opinion of the Judge-Advocate General is approved, and the bureau will inform the Bureau of Medicine and Surgery and the commanding officer of the *Franklin* of the department's decision in this matter."

The whole dispute as to the right of a senior medical officer of a hospital to term himself as "in command" might seem to a layman a somewhat trivial matter. Upon the question, however, hinges an important point of principle, the status of the naval surgeon ashore. At sea he has no authority, but that is no sufficient reason, that when at the head of a hospital on land he should not be permitted to use the term "in command," even if it does not add an iota to his authority. It would seem, as matters now stand, that a physician in the navy is to use a homely phrase, "neither fish, fowl, nor good red herring." He is an officer who has to obey but cannot command, and even in his sphere of work is subject to the caprices of a commanding officer. His status should be more accurately defined than it is at present, or it might be well if he were made entirely independent of military organization.

## CONCERNING CANCER.

THE *London Hospital* for October 3 contains a long article by Mr. D'Arcy Power, F.R.C.S., on cancer. The writer considers the disease from several aspects. He refers to that period when little was known of medical science as it is now understood, and when what would at the present time be denominated as crude ideas regarding the origin of cancer were prevalent. He terms this period the pre-scientific era. Mr. Power next treats of the scientific era of investigation, and draws attention to the fact that the late Sir James Paget was the first to suggest that if a microorganism of cancer existed, it might rather be of an animal than of a vegetable type—a protozoon and not a protophyte. The infective theory of its origin is briefly dealt with, and it is stated that the infective hypothesis is valuable as a stimulus to original work, but it has rather drawn away the thoughts from other fields which may prove even more fruitful, for as yet, except in Jensen's experiments, no results of any permanent value appear to have been ascertained.

With regard to the distribution of cancer, Dr. Lloyd Jones is quoted as follows: "These are the points upon which, in each case, several of the most trustworthy authors are agreed: (1) That cancer picks out certain districts, and that there are areas of immunity and cancerous areas; (2) that immune areas may be close beside cancerous areas; (3) that malignant disease is most common along the banks of rivers or streams; (4) that elevated districts or plateaus are more free from cancer, while low-lying districts carry more liability to its inroads; (5) that isolated cancer houses often occur near to woods, orchards, or forests of firs; (6) that people living upon flooded and clay districts and retentive soils are especially liable to its ravages; (7) that limestone districts are comparatively free from cancer, but do not confer absolute immunity; (8) that cancer may be disseminated by means of water, that it depends upon the presence of decaying animal or vegetable matter or upon sewage; (9) lastly the suggestion is thrown out by some observers that insects may play a part in the dissemination of malignant disease.

The research work on cancer of nowadays is aptly termed by Mr. Power the era of coöperation. As he truly remarks, it is only recently that there has arisen a decided tendency to work in association and under the guidance of some central authority. The initiative in organized work was taken by Germany, where a representative commission was formed by the selection of members from different countries to inquire into the cause of cancer. A similar commission was formed in the United States under the title of "The Cancer Commission of the Surgical Department of the Harvard Medical School." Dr. Power pays a high compliment to this school for the manner in which it has conducted and is conducting this work. The MEDICAL RECORD has on more than one occasion commented editorially upon the work of the Harvard Medical School as regards its investigations into the cause of cancer, and the results arising therefrom. In England a cancer research fund was formed in 1902, and by the first year's report just issued, it is shown that the investigations are to be carried on upon thoroughly scientific lines, and that some good work has been already accomplished.

Dr. Bashford, the General Superintendent of the British Cancer Research Fund, has recently published a short contribution to the literature of the disease entitled "The Problems of Cancer." The gist of the argument in this work is that much may be effected in the way of solving the problem of the origin of cancer by studying more closely the occurrence of malignant disease in animals. "Indeed," says Dr. Bashford, "an examination of malignant disease in animals may prove to be of the greatest value, for the length of the human life-cycle has been a great impediment to the solution of many problems which can be easily investigated in short-lived animals." Further, he says, "Old age in the domestic animals is attained at fourteen to twenty years or less, it is obvious, therefore, that identical manifestations first presenting themselves in any number in mankind after forty years of age, and in the common domestic animals at fourteen to twenty years, must pass through the latent non-manifest stages in a much shorter period in the latter. It may be that this latent period will be found to be in strict proportion to the duration of life, and in this case it will be different and definite for each species in the same way as in the period of gestation."

Dr. Power concludes his able dissertation upon cancer by saying "that although the only treatment at the present time which holds out any prospect of cure of cancer is a radical operation, yet we are slowly accumulating evidence to show that other methods of treatment will be as available and may be even more effective in the near future. It has been known for a long time that undoubted cancers sometimes dwindle instead of growing. The removal of the ovaries in women has undoubtedly in some cases an influence in arresting the growth of cancer of the breast. The injection of an appropriate serum, there is reason to believe, has actually cured cases of fungating cancer which were thought to be beyond the reach of surgical interference. In each the rationale of the cure has been the same—cessation of the growth in the epithelial cells with increased formation of fibrous tissue. These are the lines of treatment which must be followed in the future and which will probably lead us to an explanation of the cause of cancer, and may, at the same time, afford a rational cure. But at present all treatment except that by direct removal is in an experimental stage; the other methods are only tried in desperate cases, their results at present are too uncertain to allow of the formulation of rules, and their use is consequently purely empirical."

The MEDICAL RECORD, some time ago, strongly urged the advisability of coöperation between scientific men of different countries engaged in cancer research. The great difficulty in the way of successfully carrying out this plan is the personal one. Few men are so altruistic as to deny themselves the fame and glory arising from a great scientific discovery. Emulation, too, acts as a spur to most workers, but at the same time coöperation might be so arranged that the honor of an important discovery might be placed where it is justly due. In the solving of the problem of the origin of cancer, there would be honor enough to be divided amongst many.

### Syphilis in Its Ethical Relations.

In the first instance, it must be granted that while there is prostitution, venereal diseases will exist, and, secondly, that, as it is impossible to do away with prostitution, so must venereal diseases continue. The aim, then, of all rational social reformers is to devise a system whereby the spread of syphilis and gonorrhœa shall be checked—in a word, to endeavor to keep prostitutes as free from disease as possible. The schemes conceived and set on foot to attain this object have been multifarious, but success has not been nearly reached. The system in force on the European continent of licensing houses of prostitution, and of placing them under police and medical supervision, has been tested for a considerable period, but apparently has been found wanting. The *American Medical Review of Reviews*, September 25, contains an article on the subject contributed by the late Dr. S. Seabury Jones. The writer reviews the methods in vogue on the European Continent for checking venereal diseases, and showed that, on the whole, failure has been the outcome. Numerous statistics are given in support of this contention. For instance, in 1843, there were 235 licensed houses in Paris; in 1888 only 67; in 1887, 927 licensed prostitutes and 3,755 unlicensed. In St. Petersburg, in 1872, there were 220 licensed houses. In 1890 only 67. In 1891 there were in St. Petersburg 608 licensed prostitutes, and 2,319 others. The percentage of prostitutes suffering from venereal disease was, in Paris, from 1878 to 1887, in licensed houses 25 per cent., 12 per cent. of whom was suffering from syphilis. In other houses, 15 per cent. and 7 per cent.

In Brussels, 1887 to 1889, 50 per cent. were suffering from venereal disease; 25 per cent. from syphilis, against 33 per cent. and 9 per cent. In St. Petersburg, 56 per cent. suffering from venereal disease; 33 per cent. from syphilis as against 19 per cent. and 12 per cent. Lyons, 85 per cent. suffering from venereal disease, 4 per cent. in ordinary houses. Rotterdam, 25 per cent. against 10 per cent., "So that," said Dr. Jones, "in houses under observation, the percentage of syphilis under regulation was larger than in other houses." He further said: "It has been found from statistics that those living in controlled houses are oftener in the hospitals, 90 per cent. of them have entered in the hospitals as against 22.4 per cent. of outside prostitutes. Bergh of Copenhagen has remarked "that the prostitutes who live in controlled houses are less careful of their bodies, as they feel less personal responsibility." The saying of Le Bert, in 1876, to the effect "that the controlled houses are, will, and must be, in spite of all man can do, even daily examinations, probable centers of venereal infection as well as the high schools of vice."

Dr. Jones, after having pointed out the inherent and radical defects of all other measures which have been initiated to lessen the prevalence of venereal diseases, gave his opinion as to the best means of reaching this end, as follows: First and foremost, the education of the public as to the nature of the disease, the method of its communication, and the symptoms which indicate its existence and its onset. If the prostitutes themselves shall be thoroughly instructed in the symptoms of the disease, so that they may be able by inspection to detect the disease in themselves or in those who visit them, a great deal will have been done to prevent its spread. If those indulging in impure intercourse shall be thoroughly instructed in the proper antiseptic measures to be undertaken on such occasions when they have rendered themselves liable to contamination, a great deal more will have been done, and when, finally, hospitals and clinics shall be established in which those suffering from venereal disease —especially women— will receive careful and humane treatment, so that, instead of being repelled by harshness they will be drawn to seek help and curative treatment without fear of punishment, a great deal more will have been done in this direction.

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### Statistics of London.

The report of the London County Council during the year 1902-1903 has just been published, and supplies much useful information. The population of the administrative county of London is stated to be 4,536,541 persons, an increase of 308,224 persons in ten years. What is called "Greater London" covers a larger area than the administrative county, and contains a population of 6,581,402 persons, showing an increase of 947,596 persons in the same period. Of the total population, the females exceeded the males by 252,371, showing the presence of 1,118 females to every thousand males, as against 1,116 females to every 1,000 at the census of 1891. Of the total population 135,377 persons are of foreign birth. Of these, 38,117 are Russians, and Germans come next, with 27,427; Poland is responsible for 15,420, France for 11,224, and Italy for 10,889, with the difference that Italian women over twenty greatly outnumbered the men—a condition which does not obtain to so great an extent with other nationalities. Holland, Austria, and Hungary, and Switzerland also send contingents, but in comparatively small numbers.

The health of London—according to the report—is eminently satisfactory, the death rate for 1901 having been only 17.1 per 1,000 as compared with 18.6 in the preceding year; and as is well known, there has since been a further diminution. The number of deaths said to have been hastened by privation was 35 in 1901, against 53 in 1900; and the deaths from accidents in the London streets were 49 against 56 in 1900. The statistics of habitual drunkenness present some really peculiar features, as out of 99 cases known to the police, one man and 89 women were apprehended. The fact, whatever may be the explanation, is extraordinary, and may, perhaps, be attributed to the well-known misleading nature of figures.

The *London Times* commenting editorially upon the council's report, gives some interesting statistics with regard to the tenement question in London. On March 31, 1902, the Council had completed 2,950 tenements, accommodating 15,060 persons, and had in progress further tenements to accommodate 66,432 persons. The total number completed or planned, amounted to 15,198 tenements, for the accommodation of 89,054 persons. Besides these dwellings, there are in addition, those erected by the Peabody Fund, the Guinness Trust, and other associations or companies for the attainment of similar objects; and it appears that the work of these associations is collectively greater than that of the Council, the associations having completed 19,899 tenements containing 50,155 rooms and accommodating 100,310 persons.

The baths and wash-houses provided for the benefit of the tenement dwellers do not seem to have met with much favor at their hands. In almost every district where these conveniences have been erected they have failed of being self-supporting, in some instances the deficit on them being considerable. The poor of London manifestly do not believe in John Wesley's dictum that "Cleanliness is next to godliness."

A perusal of the above figures must convince all that London is making strenuous efforts to care for the physical and moral well-being of her poor. New York is as yet far behind London as regards good tenements for her working population, and model lodging houses. There is ample scope for the labors of philanthropists in the down-town districts of New York, in these respects, and the rebuilding of certain sections would be a service of the greatest possible value not only to the inhabitants thereof but to the population of the entire city. The force of the statement that insanitary dwellings are a menace to the whole community cannot be too strongly insisted upon.

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### The British Commission on the War in South Africa.

With remarkable unanimity British journals of whatever shade of politics, and lay and medical alike, unite in severely scoring the War Office for the lethargy it displayed in preparing for war. The army seems to have been unready for a campaign in nearly every particular, the medical department not excepted. From a consideration of the matter it would appear that red tape and a steadfast adherence to antiquated methods were the chief reasons for the state of chaos that ensued upon the declaration of war. The medical department did as well as could be expected under the adverse circumstances, but as in all other branches of the service, it was so hampered by the lack of men and equipment that it was doomed to at least partial failure. The *Lancet* of September 26 concludes a review of the commissioners' report, and makes some pungent criticisms on the careless unpreparedness of the British Government revealed therein. Referring to the medical department, the writer in the *Lancet* says: "As to the skill of the army surgeons and the quality of the equipment, the views expressed by the witnesses were somewhat divergent, but the testimony to the personal zeal and devotion of the medical officers was practically unanimous. The want of sufficient training in military surgery and medicine was pointed out, and the situation in respect to this was compared unfavorably with the methods employed in some other European countries—notably in Germany. . . . There is one fundamental difficulty in the professional training of our medical officers which has been largely overcome by an essentially military power like that of Germany. It is to make such training, as far as possible, of a practical character. Actual experience in the application of medical and surgical methods, such as falls to the lot of members of the medical and surgical staffs and to the resident surgeons and physicians of civil hospitals, has, it is needless to say, a value of its own, compared with which other acquisitions of knowledge are of relatively insignificant importance to the individual or to the State. Medical officers should unquestionably be encouraged to make themselves asquainted with the methods of army medical administration, hygiene, and equipment of other countries, and we look forward to the time when leave will be granted to them for this purpose and for taking out special courses of instruction both in this country and on the continent." There can be no doubt that it is an error of the first magnitude, not to keep an army medical department in the best of working order, both as regards men and equipment. Whatever the size of an army may be it should have its full compliment of surgeons. These men should have every advantage afforded them to learn their duties thoroughly, and should not be compelled to train themselves in time of war. It is a trite but true remark that being prepared for war is a long step toward victory. Few nations will attack another nation which is well prepared for war, and it must be borne in mind that the medical department is an essential part of a military organization, and one which for humane reasons alone should be kept up to the highest standard.

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### The Immunization of Animals to the Bacillus Typhosus.

The efforts which have been put forth of late to produce a reliable anti-typhoid serum cannot be said to have been crowned with success. There is no agreement as to the efficacy of Professor Wright's method of anti-typhoid inoculation, although the weight of evidence would appear to warrant the belief that this mode of protection against an attack of typhoid fever is not to be depended upon. With regard to the surpassing importance of discovering some prophylactic agent which would prevent—if only to a limited extent—the prevalence of this disease, there is no need to insist. In time of war the death rate would be immensely decreased if it were not for the occurrence of typhoid fever. In almost every war which has taken place within the past fifty years this malady has been the cause of the greatest mortality.

Dr. W. Vernon Shaw, Wellcome Physiological Research Laboratories, writing in the *Lancet*, October 3, points out that in the case of typhoid fever it is especially difficult to produce an effective anti-serum, for the reasons that the organism is attacked as a whole, though the brunt of the attack falls on the tissues first invaded—*i.e.* the lymph follicles of the intestine, and further the reactions of the organism invaded by the bacillus typhosus are not well defined.

Another practical difficulty in the production of active immunity to the typhoid bacillus is the separation or production of a soluble toxin. Rowland and MacFadyen claim to have proved the presence of intercellular toxins in the bacillus typhosus. Their method was to grind up agar cultures of the bacillus, and so obtain a soluble toxin. With this view Professor Welsh agrees. Mallory goes further, and is of the opinion that the proliferation of the lymphoid tissues of the intestine, the mesenteric glands, and the spleen pulp is caused by the specific action of the typhoid toxin. Welsh —according to Dr. Shaw—is in accord with this idea, and thinks that the proliferation of these cells is partly compensatory and partly defensive.

Dr. Shaw's experiments were undertaken to show: (1) the virulence of the particular bacillus used; (2) the effect of normal horse plasma on bouillon cultures; (3) the immunization of a horse to the bacillus typhosus; (4) the value of the serum from such a horse; (5) the bactericidal power of normal blood compared with that from an immunized horse on the bacillus typhosus.

The conclusions reached as the result of these experiments were as follows: (1) The best method of obtaining a toxin is by the digestion of the bacilli. (2) This product is toxic. (3) This product can excite a reaction in susceptible animals, during which they develop immunity to the injection of living typhoid bacilli, and the serum from such an animal can protect another animal against typhoid infection. (4) The injection intravenously of living typhoid bacilli may result in the production of a "negative phase" of resistance.

### The Artificial Feeding of Children.

In the *Lancet* of September 19 is published an address by Dr. Robert Hutchison, dealing with this perennially interesting subject. So great is the concern manifested in the matter—and rightly so—that the literature bearing upon the best methods of bringing up infants by means of artificial food is voluminous to a degree. The writer of the article referred to, doubts the soundness of the prevailing belief that the artificial feeding of the very young is attended with almost insuperable difficulties. Of course he does not deny that there are babies, the artificial feeding of whom taxes the ingenuity of the most experienced practitioner, but at the same time contends that the majority of infants can be nourished in most satisfactory manner upon artificial food.

The fault, in his opinion, of the frequent cases of non-success in this endeavor almost invariably lies in the lack of a definite plan of campaign. Dr. Hutchison says, "in order to succeed it is necessary to follow definite lines, beginning with a mixture selected on rational grounds as suited to the digestive powers of the particular child with whom we have to deal, and if that fails after a proper trial—and the balance is the only arbiter of success—passing on to a mixture which we know to be more easily digested, and from that, if need be, to one which is more easily digested still."

It goes without saying that cow's milk is regarded by the writer as the sheet-anchor in the artificial feeding of children. But raw cow's milk not being suitable on account of the indigestibility of its casein, such milk must be diluted so as to provide a nourishing pabulum for the infant.

Dr. Hutchison holds that diluted cow's milk, condensed milk, and peptonized milk are the most suitable artificial foods for children, and their respective value is represented by the order in which they are here placed. He recapitulates his arguments as follows: "(1) The first essential in the artificial feeding of infants is to have a definite plan upon which to go, and to avoid haphazard procedures. (2) Diluted cow's milk, condensed milk, and peptonized milk may be regarded as the positive, comparative and superlative of digestibility, respectively, and should be tried in that order until the digestive power of the child is suited, due regard being paid to details of administration. (3) Periodic weighing of the child is the only test of the success or failure of the food selected. (4) In cases in which even peptonised milk fails to give good results, great benefit often follows the administration of gray powder, even in cases in which there is no reason to suspect a syphilitic taint. (5) In spite of all care in the use of the above methods, there remains a residuum of cases in which progressive wasting persists, many of these seem to be babies who are unable to digest the casein of cow's milk in any form. (6) In such a case one should try to procure a wet-nurse for the child, and failing that, one must eliminate casein from the diet by making whey the basis of the feeding mixture. (7) The use of a patent food as the sole article of diet for a baby is rarely, if ever, necessary, so long as cow's milk can be obtained either fresh or condensed. (8) If a child is unable to digest cow's milk, it is often worth while to try the effect of adding a little starchy food to the diet, even at an early age, for inability to digest milk appears to be sometimes accompanied by an unusual capacity for the conversion of starch."

The views of Dr. Hutchison are well expressed and distinguished throughout by sound, common sense, but they are, in the main, those of the majority of pediatrists. His opinions, however, with regard to the efficacy of gray powder administered to certain children who are unable even to digest peptonized milk, are somewhat novel and worthy of notice. He declares that he has treated children who were not able to assimilate food of any description, but who, when given gray powder, quickly improved and absolutely seemed to fatten on it, nor were these children necessarily the victims of congenital syphilis.

## News of the Week.

**Vital Statistics of Philadelphia.**—For the week ended October 24 there were reported to the Philadelphia Bureau of Health 390 deaths from all causes, as compared with 387 for the previous week, and 416 for the corresponding week of the preceding year. There were reported also 80 cases of typhoid fever, with 5 deaths; 59 cases of scarlet fever, with 2 deaths; 56 cases of diphtheria, with 9 deaths; and 9 cases of smallpox, with 8 deaths.

**The Enno Sander Prize.**—Two prizes will be awarded at the meeting of the Association of Military Surgeons of the United States for the best essay on "The Relation of the Medical Department to the Health of Armies." The first prize is a gold medal of the value of one hundred dollars; the second, a life membership in the association, of the value of fifty dollars. Competition is open to all persons eligible to Active or Associate Membership in the Association of Military Surgeons of the United States. The prize will be awarded upon the recommendation of a board of award selected by the Executive Committee. In fixing the precedence of the essays submitted, the Board will take into consideration—primarily—originality, comprehensiveness, and the practicability and utility of the opinions advanced; and — secondarily — literary character. Essays should be between ten thousand and twelve thousand words in length, exclusive of tables. Each competitor should send three typewritten copies of his essay in a sealed envelope to the secretary of the association, so as to reach that officer at least one month before the next ensuing annual meeting, in the present case on or before September 10, 1904. The essay must contain nothing to indicate the identity of the author. Each one, however, will be authenticated by a nom de plume, a copy of which shall at the same time as the essay, be transmitted to the secretary in a sealed envelope, together with the author's name, rank, and address. The award will be made at the next succeeding annual meeting of the association. The successful essay becomes the property of the Association of Military Surgeons of the United States, and will appear in its publications. The Board of Award for 1904 consists of Lieutenant-Colonel John Shaw Billings, U. S. Army; Brevet Brigadier-General George Ryerson Fowler, New York; Surgeon Henry Gustav Beyer, U. S. Navy.

**Erie Railroad Surgeon's Association.**—A meeting of this society was held at Hotel Rider, Cambridge Springs, Pa., October 13 and 14, under the presidency of Dr. C. L. Stiles of Owego, N. Y. The following officers were elected for the ensuing year: *President*, Dr. S. B. Hiner of Lima, Ohio; *Vice-President*, Dr. F. A. Goodwin of Susquehanna, Pa.; *Secretary* and *Treasurer*, Dr. J. A. Allis of Montclair, N. J. Drs. J. MacDonald, Jr., and E. Franklin Smith of New York were elected honorary members. The next place of meeting will be Chicago, Ill.

**For the Prevention of Tetanus.**—At the Twenty-ninth annual session of the Mississippi Valley Medical Association held at Memphis, October 7-9, resolutions were adopted deploring the fact that

more than 400 deaths from tetanus occurred following the 4th of July celebration of 1903, as shown by the statistical report elaborated by Dr. S. C. Stanton of Chicago. The great majority of these, it was believed, might have been prevented had proper precautions been taken. The conclusions which follow, as offered by Dr. Stanton in a paper presented before the association, were endorsed as the sense of the association: (1) Enforcement of existing laws regarding the sale of toy pistols and other dangerous toys. (2) Enactment of laws by the Nation, States and municipalities prohibiting the manufacture and sale of toy pistols, blank cartridges, dynamite canes, and caps, cannon crackers, etc. (3) Open treatment of all wounds, however insignificant, in which from the nature or environment there is any risk of tetanus. (4) Immediate use of tetanus antitoxin in all cases of Fourth-of July wounds, or wounds received in barnyards, gardens, or other places where tetanus infection is likely to occur. (5) As a forlorn hope, the jection of tetanus antitoxin after tetanus symptoms have appeared."

**The National Association for the Study of Epilepsy** will hold its third annual meeting in the Hall of the College of Physicians in Philadelphia on the afternoon and evening of November 5 next, under the presidency of Dr. Wharton Sinkler. The program includes the titles of a number of interesting papers. The association extends a cordial invitation to all persons interested in charity, and especially in the care and treatment of epileptics, to attend its annual meetings. Applications for membership may be made to the president or to Dr. Wm. P. Spratling, Sonyea, N. Y., secretary.

**Hospital for Consumptive Children.**—At the recent annual meeting of the New York Association for Improving the Condition of the Poor, John Seely Ward, Jr., presented an informal report upon an investigation he had made regarding hospital for tuberculous children, public baths, and forms of popular amusement in England and on the continent. At the close of the report he recommended that the association undertake the construction and maintenance of a hospital in or near New York to be especially devoted to the treatment of poor children suffering from tuberculosis. His recommendation was received with approval and was referred to the department of fresh-air work, with instructions to report to the trustees at the November meeting.

**Bureau of Vital Statistics Needed in Mississippi.**—Dr. H. A. Gant, President of the Mississippi State Board of Health, will, it is announced, present an appeal to the Legislature at its next session to establish a State bureau of vital statistics. He may also renew a former recommendation for the establishment of a State bacteriological laboratory.

**Smoking Forbidden at Syracuse University.**—A report from Syracuse announces that the Dean of the Medical Faculty of Syracuse University has posted a notice forbidding the smoking of cigars, pipes, or cigarettes in the college buildings. The Chancellor of the University was recently quoted as sanctioning the use only of fifty-cent cigars by the students.

**Dr. Frank W. Robertson,** superintendent of Elmira Reformatory, has resigned his position to take effect December 1. Joseph T. Scott, general superintendent of the Massachusetts State Reformatory, has been appointed to succeed him. Dr. Robertson went to Elmira about eight years ago as resident physician under Supt. Z. R. Brockway. He served about three years, and was made general superintendent to succeed Superintendent Brockway when the latter was removed.

**Spread of Smallpox in Philadelphia.**—Despite the active efforts of the health authorities smallpox continues to increase in Philadelphia, the number of new cases for the week ending October 17 being 54, as compared with 11 during the week before.

**Bequests to Boston Medical Institutions.**—Two medical institutions are the public beneficiaries under the will of Dr. George Haven of Boston, which was filed for probate on Monday of this week. The Harvard Medical School receives $25,000 outright and a share in a residue, and the Boston Lying-In Hospital received the doctor's books and instruments, a gift of $20,000, and shares equally with the Harvard Medical School in a residue.

**Philadelphia County Medical Society.**—At a stated meeting, held October 14, Dr. E. S. Bullock of Silver City, New Mexico, read a paper entitled "Six Years' Experience with Tuberculosis in the West." He pointed out that climate is by no means the most important therapeutic factor and that much could be accomplished in other ways, as by a life in the open air, a generous diet, and a proper adjustment between rest and exercise. Drs. Lawrence F. Flick S. Solis-Cohen, J. Madison Taylor, and Judson Daland took part in the discussion.

**Pathological Society of Philadelphia.**—At a stated meeting, held October 22, Dr. R. F. Stahl reported a case of hemorrhagic pancreatitis. The patient was a man, forty-two years old, who exhibited jaundice, with enlargement of the liver and finally fatal hemorrhage from the bowel. On post-mortem examination a large collection of partly organized and laminated blood-clot was found in the situation of the head of the pancreas. The gall-bladder was greatly distended and the liver was enlarged and its biliary passages filled with fluid. Dr. R. M. Randolph reported a case of probable coccidia of the kidney. The patient had had typhoid fever, in the course of which intestinal perforation had occurred. Operation was undertaken and two perforations sutured, but a fatal issue resulted. On making routine examination of the structure of the kidney, bodies were found that corresponded in their characters most closely with coccidia. Drs. J. H. Musser and J. D. Steele reported a case of amœbic abscess of the liver. The patient had suffered from dysentery, and a tumefaction appeared in the region of the liver. The abdomen was opened and fluid removed from an adventitious cavity. On examination the fluid was found sterile, and to contain a small number of leucocytes and red blood corpuscles, a certain amount of detritus and a number of bodies that for want of other identification were thought to be amœbæ. The fresh stools had been examined and no amœbæ were found in them. Dr. Joseph McFarland reported a case of pseudo-parasitism caused by the meal-worm. The specimens exhibited were obtained from the urine of a child who had presented no symptoms of illness, and it was suspected that the worms were passed by the bowel, having obtained entrance into the intestinal canal with farinaceous food, which the child was accustomed to take. Dr. McFarland exhibited also a parasite hitherto undescribed, that he had found accidentally in the body of a mouse inoculated with pneumococci. The organism appeared to be a sporozoon, but there had been no opportunity for further study. Dr. W. W. Hawke exhibited a specimen of hemorrhagic pachymeningitis from a case of paretic dementia in which the effusion of blood had taken place on both sides of the brain. The newly formed membrane was perfectly color-

less and entirely detached from the overlying dura. Dr. A. O. J. Kelly exhibited a specimen of indurative mediastinopericarditis obtained from the body of a girl whose principal symptom was anasarca, beginning in the lower extremities. The pericardium was greatly thickened and in places of almost cartilaginous density. The condition corresponded with one form of what has been designated multiple serositis. Dr. C. Y. White exhibited a specimen of abscess of the wall of the left ventricle and perforation of a mitral leaflet. The case has been one of general pyæmia following an abscess of the foot.

**Death at a Football Game.**—Robert E. Lewin of Plainfield, N. J., right guard of the Baltimore Medical College football team, dropped dead on October 21, at Annapolis, while engaged in the match against the Naval Academy eleven. He was seized with an attack of cardiac syncope just before the close of the first half, and died shortly after being carried from the field.

**A Chair of Orthopedic Surgery at Omaha.**—It is announced that Mr. J. Ogden Armour will found a professorship of orthopedic surgery at the Omaha Medical College, the endowment being sufficient to provide a salary of $5,000 for the incumbent of the chair.

**A New Harlem Hospital.**—Ground was broken last week for the new Harlem Hospital on Lenox Avenue, between One hundred and thirty-sixth and One hundred and thirty-seventh streets. Dr. John W. Brannan, president of Bellevue and Allied Hospitals, was present, but there were no formal exercises. The hospital will be eighteen months in building and will cost upward of $400,000.

**Bethlehem Free from Cholera.**—The outbreak of cholera reported last week at Bethlehem was of very brief duration, announcement being now made that it has been stamped out and that the cordon of troops has been removed.

**Plays for the Orange Ambulances.**—Arrangements are being completed for the annual series of dramatic performances this coming winter in Orange Music Hall, Orange, N. J., for the benefit of the Orange "Record" Ambulance Fund. These performances have been given for many years, the ambulance service for all the Oranges being entirely maintained thereby. Four subscription performances are usually given.

**An Attack on Basket Ball.**—At a recent meeting of the New England Association of Colleges and Preparatory Schools, Miss Lucille Eaton, a member of the Boston Physical Education Society, read a paper denouncing the game of basket ball as played by college women and school girls. Basket ball, she said, should be absolutely forbidden so far as girls under the college age is concerned, and it should be admitted only tentatively, and under medical supervision to a place among the sports open to women of more mature age. Among the objections which she urged against the game were the physical effects upon young girls at the beginning of menstrual life, the chances of permanent injury to beauty and health, the evil influence of such excitement upon the emotional and nervous feminine nature, and the tendency to unsex the player, for she declared that the competitive game with its traveling about, its exhibitions before mixed audiences, and its cultivation of the will to win at any cost spirit was not womanly and made [illegible]

**Award of the Nobel Prizes.** [illegible]

**Lectures on Tuberculosis at the Phipps Institute.**—The first of the series of lectures on tuberculosis to be delivered during the coming winter under the auspices of the Phipps Institute in Philadelphia was delivered on October 24 by Dr. E. L. Trudeau. His subject was "History of the Tuberculosis Work at Saranac Lake." A reception was tendered Dr. Trudeau at the close of the address.

**Obituary Notes.**—Dr. MAURICE FIESCHOR PILGRIM of this city died on October 18 of pneumonia. He was born in New Jersey. He obtained his medical degree in 1884 and for two years engaged in medical practice in this city. He then went to Europe and took up the study of diseases of the nose, throat, and ear, and at the end of a year returned to this country and began the practice of his specialty in Boston. He later became an earnest advocate of mechanical therapeutics and electrotherapy. He was a member and ex-vice-president of the American Electrotherapeutic Association, and at the time of his death was chairman of the executive council of that society.

Dr. JOHN L. WALDIE of this city died at his home in Brooklyn on October 18, after an illness of two weeks, at the age of thirty-two years. He was born in Brooklyn and was graduated from the Long Island College Hospital in the class of 1895. He was assistant attending neurologist to St. Mark's Hospital and was a member of the Kings County Medical Society.

Dr. LUDWIG SPANG FILBERT died in Philadelphia on October 19 at the age of seventy-eight years. He was a graduate of the medical department of the University of Pennsylvania in 1847. He was Quarantine Physician at the Port of Philadelphia from 1857 to 1860. Later he invented a patent pavement, and his subsequent career was devoted to mercantile pursuits.

Dr. JOHN K. LINEAWEAVER died at Columbia, Pa., on October 18. He was a graduate of the Jefferson Medical College in the class of 1861, and for twelve years was president of the Columbia Board of Health.

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**Medical Gymnastics and Massage in the Treatment of Sprains.**—Carl Kellberg states that Beighman treated 145 cases of sprain with massage and gymnastics. All were completely restored. Thirty-five out of thirty-eight additional patients who came from nine days to three months after receiving the injury, were also cured. Treatment should commence as soon after injury as possible, or as soon as the swelling has ceased to increase, and should continue until complete restitution is accomplished, preferably two treatments a day, each of about twenty minutes' duration. Usually the tenderness is at first too great to allow any manipulation of the swelling itself, in which case the treatment may begin with effleurage or strokings above and below the inflammatory area in the direction of the vein and lymph stream. As tenderness diminishes the strokings may increase in strength. When resorption is fully established and the tension of the tissues becomes less, friction is added consisting of circular manipulations, either with the thumb or the tips of the fingers, at first lightly but later with considerable pressure. Special attention should then be paid to the grooves and depressions between the bones and other places which have not been accessible to effleurage. Exercises are now added, beginning with light passive movements in all directions in which the joint is capable of moving. As the power of the joint improves active movements are added, at first with, later without, the resistance of the operator. If pain is returned or if there be hemorrhage into the joint the movements should be postponed.—*The Chicago*

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

REVERENCE AND HOPEFULNESS IN MEDICINE—LONDON'S DEBT TO MEDICINE—AMERICA TO BE APPEALED TO BY A BONE-SETTER—CANCER—SATURDAY AND SUNDAY FUNDS—THE KING'S SANATORIUM—THE LATE MR. WALSHAM.

LONDON, October 9, 1903.

THE London schools are now at work and the provincial Scots and Irish will follow a little later. Some of them began on the traditional 1st. The new University of Liverpool on that day opened its first public work. The Faculty of Medicine it was that was thus first in the field and the inaugural address was delivered by Sir Dyce Duckworth. As a Liverpudleian, born and partly educated in the city, he confessed that his retrospect was amazing and his wildest anticipations never projected such a future as the medical school has attained in this new university. Then he mentioned some of the names who are not to be forgotten in connection with the movement for establishing the university, and traced the development of the city and this seat of learning. Among the names recalled were: Drs. Currie, Dobson, Shepherd, Trall, Yates, Brandreth, Boston, and other lights of literature, science, and medicine who were natives of Liverpool, including W. E. Gladstone and Bishops Carpenter and Lightfoot, as well as Dean Stanley. In more recent times a number of workers were also mentioned, and now that the university is founded on a firm basis Sir Dyce insisted that the passport to a degree in any faculty should be the completion of the full curriculum in arts. He also urged that the hospital schools should henceforth be devoted entirely to the study of disease and its treatment and that none of the energy of these should be expended on teaching ancillary subjects. This plan has been wisely adopted here, and he looked for the same provision elsewhere in the near future.

From this point Sir Dyce Duckworth proceeded to discourse on "Reverence and Hopefulness in Medicine." He remarked that the habit of reverence was always becoming, but he feared it was not so commonly met with as formerly. The spread of democracy need not entail bad manners. But of late he has observed a laxity of manners and conduct compared with former years. Such conduct, if not immoral, was certainly a sign of bad breeding.

In the second part of his lecture he said hopefulness in medicine was in these days prominent—little or nothing appeared to darken it. If they were not now inspired by hope they never would be. It is a gift to be cherished now and always. He had to admit that there had always been optimists and pessimists among practitioners. It was very damaging to make a fatal prognosis and for it to be proved false. It is as bad to raise false hopes which are not fulfilled. Yet there is a measure of hopefulness to be carried to the bedside and it helped remedial agents. A rational degree of hopefulness will become the physician. Sir Dyce concluded with the solemn and beautiful words of advice of the late Sir Thomas Watson to remember, "in your most successful efforts you are but the honored instruments of a superior power."

University College delayed opening the session of her Faculty of Medicine until the 5th inst., when Prof. Sidney Martin, as Dean, read his report. It stated that during the past year the arrangements for the incorporation of the College in the University of London had been adopted, and progress made toward the execution of the scheme, but funds were required for further buildings.

Prof. E. H. Starling then delivered an introductory lecture and took for his subject "London's Debt to Medicine." He referred to the many benefits to mankind conferred by medicine and asked what part London—both the profession and the community at large—took in the recognition of the work. He said the system in the hospital schools disclosed an absence of academical ideals—a void which, he held, could only be filled by establishing a great central medical school similar to the State-aided schools of Germany, the general working of which he went on to describe. The initiatory steps for founding such a school ought to be undertaken by the university, and it should have one object, the advancement of medicine, and so not detract from the present medical schools. It would cost money, but that would be supplied by philanthropists without appealing for government or municipal assistance. The great thing at present was to recognize the need of such a new departure, which he earnestly advocated.

American surgeons, look to your laurels! Mr. John Atkinson, F.R.C.V.S., having demolished Lorenz and found that "the medical body of England condemns hundreds of children annually to a life of wretchedness for the sake of a mere point of etiquette," announces in the newspapers that he is coming to the United States to render his help in special cases. He says he succeeded to the practice of the Huttons—so I suppose we may take him as the leading "bone-setter." As a further introduction he remarks "it is no boast to say that as a Fellow of the Royal College of Veterinary Surgeons, and as a medallist in comparative anatomy, I hold as high a certificate of capacity as can be awarded in this country." Nevertheless, he finds in spite of this wonderful certificate that the medical men of this country decline to recognize him as qualified to practise on children, or let him "work under their own supervision for the relief of cases which they openly confess their own inability to cure." So he is coming to you and will "invite the press to select" cases which have been "pronounced intractable" for him to treat at his "own residence" by his "own methods," and when his treatment is completed he will submit the "patients to the investigation of the profession." This great offer is made "in the interests of suffering humanity alone," so beware of rejecting it lest you come into the same condemnation as the effete old country whose surgeons decline to surpervise the practice on crippled children of the bone-setter who is a Fellow of the College of Veterinary Surgeons. I don't know that the other Fellows of that respectable college are particularly proud of the successor to the Huttons.

The newspapers are circulating a statement that Professor Fabiani of the Palasciano Institute, Naples, has discovered a serum for the cure of cancer, and that he has found organisms in the disease differing from any previously described. He is shortly to make scientific communications on the matter.

The Hospital Saturday Fund's collection so far for this year is not discouraging. Up to the end of September the general collections reached £10,197, as against £9,995 for the same period of last year, but the accounts were kept open a week longer in 1902.

The collection of the Sunday Fund is the best this year that it has ever had, over £63,000.

It is announced that the King will himself lay the foundation stone of his Sanatorium for Tuberculosis.

St. Bartholomew's has lost one of the senior surgical staff in Mr. W. J. Walsham, who died on Monday, in his fifty-seventh year. He was a Bart's student, went to Aberdeen and graduated there in 1871. Afterward took the F.R.C.S. (1875), and has had a distinguished career both as surgeon and teacher. He has also been examiner at the college and at Apothecaries' Hall. You will remember his text-book of "Surgical Pathology" and perhaps better still his "Surgery, Its Theory and Practice," which reached a seventh edition. He was an active member of the societies and contributor of various papers. He wrote the articles on the nose and on orthopædic surgery for Treves's work; the pharynx, vasopharynx, and ulcers in Heath's Dictionary of Surgery, and many papers in the St. Bartholomew's Hospital Reports, the Medico-Chirurgical Transactions and the weekly journals. Perhaps his favorite subjects were deformities and nasal diseases.

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## OUR BERLIN LETTER.

(From Our Special Correspondent.)

PROFESSOR BEHRING ON TUBERCULOSIS—PROPHYLAXIS OF TUBERCULOSIS—OPERATIONS FOR INTUSSUSCEPTION—DISEASES WHICH FORBID MARRIAGE—INCREASE OF HEART DISEASE IN THE GERMAN ARMY—PLACES BOYCOTTED BY THE PROFESSION—OBITUARY.

BERLIN, October 2, 1903.

BERLIN medical life has been transplanted recently to two places: to Kassel in Hessen-Nassau, where the Congress of German Physicians and Naturalists was held, and to Brussels in Belgium, where the Ninth International Congress of Hygiene took place. The first was of more especial medical interest. Among the well-known scientists present were Behring, Ladenburg, Naunyn, van't Hoff, Allan Macfadyn, and Ramsay. The question of bovine and human tuberculosis was discussed at both places. At Brussels, Kossel of Berlin, Arloing of Lyons, de Jong of Leyden, and Gratia of Cureghem discussed the question whether human tuberculosis and tuberculosis of domestic animals are due to the action of the same tubercle bacilli. On this question the Congress voted the following resolution: Human tuberculosis generally originates from man, but, as has been proved by modern experiments, it is necessary to observe all precautions to prevent the possibility of an infection through animals.

Professor Behring at Kassel answered the question in the same terms. According to the experiments made

at Marburg, human and bovine tuberculosis have the same origin, and it would be detrimental to the public health to neglect precautions as to the cow's milk. Behring expressed the view that infected milk is the principal cause of tuberculosis in infants. The adult is able to protect himself from the noxious influence of the Bacillus tuberculosis by means of the alexins of his body conferring upon him practical immunity. But as infants do not possess alexins they are naturally more prone to become infected. Behring said he was working on a protective serum with which to inoculate young children. But as his experiments have not yet been concluded he did not wish to give details of the composition of this serum.

Tuberculosis and pregnancy was the subject of Dr Veit's paper. Experiments have proved that the tubercle bacillus penetrates the placenta and may infect the child, and that the state of the pregnant woman may become worse through her own tuberculous infection. For this reason Hegar holds that in all cases of tuberculosis of pregnant women abortion should be induced. This is, according to Veit, an exaggerated demand, as very often pregnant women gain in weight more than the normal weight of the child, and they bear a healthy child without harm to themselves. The indication for abortion is furnished by changes in the weight of the woman. If no increase results then abortion is necessary. But under no circumstances ought abortion be procured if the woman is increasing in weight.

Dr. Braun read a paper on intussusception. This condition is rare in Germany, less frequent than in England for instance. The cause is a spasm of the intussusceptum, not a paralysis of the intussuscipiens. Acute cases are easily diagnosed in children when tenesmus, vomiting, and bloody diarrhœa occur with collapse. Operation gives the best results; high injections of air or water may prove beneficial, but if the patient does not recover within forty-eight hours there should be no delay in operating. The establishment of an artificial anus only means protracted death, and children in whom resection is made generally die too, therefore disinvagination ought to be done as soon as possible. Resection is preferable for adults. Dr. Kredel supported Dr. Braun's view that resection was the best operation for adults, for from disinvagination he did not anticipate any good results.

Some interesting remarks on the diseases which contraindicate marriage were made by Dr. Fellner. Tuberculosis of the lungs in advanced stages, phthisis laryngis, mitral stenosis, myocarditis, chronic nephritis, and cancer contraindicate marriage. In a second group, comprising chorea and severe epilepsy, it must be left to the physician's own judgment whether marriage ought to be allowed or not. Dr. Rehn discussed the value of the leucocyte count in appendicitis. He thought the method was of no value, although a large abscess may be diagnosed without it. According to his statistics, furthermore, there were cases in which there had been no increase of the leucocytes, although the operation showed the presence of a small collection of pus.

The report of the commission on the causes of the increase of heart disease in the German army has just been published. Dr. Stricker says that the causes are overwork of growing boys, no rational leisure between the hours of work, too early use of alcoholic drinks and of tobacco, too much cycling and rowing. Combined with these are often hysteria and neurasthenia. Rheumatism, and especially influenza, most frequently cause heart disease. Medical men in Germany are waking up to the importance of several social questions in the profession. The club system (Kassenvereine) has reduced the income of many doctors to a minimum, demanding hard work and little pay. Great opposition has been made to these clubs and societies, and recently resort has been had to a trial of the boycott. An organization, at the head of which is the Medical Union of Leipzig, is boycotting places all over Germany, where the directors of the clubs, mostly members of the working-classes, have tried to impose on the doctors unfair payments. One of the places boycotted was Mühlhausen in Thüringia, and *mirabile dictu* the whole German profession has stood together, no doctor came to Mühlhausen and the Mühlhausen clubs had to give way and pay all expenses. Stettin and Braunschweig, places of 100,000 inhabitants, are boycotted to-day, and in every medical paper we read announcements: "Cave Stettin, Cave Braunschweig." The number of the boycotted places amounts to nearly a dozen to-day. The Government is taking a hand in the matter, and a new law is to be brought before the Reichstag dealing with the quacks, a numerous body in Germany. The fact though remains that the number of physicians is too great at present in relation to the population. The number of physicians may gradually decrease in the next decennium, as the number of medical students at the universities is becoming less from year to year.

## THE PLAGUE IN PERU AND CHILI.

(From Our Special Correspondent.)

AREQUIPA, PERU, September 19, 1903.

SINCE my last letter I have received the Bulletin of the National Academy of Lima for August. This sets forth clearly the clinical history of the first-recognized cases of plague in Callao. The 28th of April seems to have been the date of the first. Now it is reported as existing in Pacasmayo, Mollendo, and Iquique.

What strikes one—so far as one can learn—is that it does not seem to be very contagious, and that it is not so fatal as in other parts, the cases being comparatively few as yet and many responding satisfactorily to serum injections. Gradually people are beginning to see that an effective quarantine is impossible, so hygienic measures are taking more prominence.

Let us hope that these measures, assisted by the brilliant sun which is said to destroy the germs in three hours, may prove effectual in stopping the spread of the disease.

Smallpox has again appeared in this town.

## VOMITING, GREEN STOMACH CONTENTS, APPETITE.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: I feel sure that Dr. Mark I. Knapp, who contributes an article on "Some of the Mistakes We Have Inherited," to your issue of September 19, will not be offended at my confessing to be one of the heirs.

Dr. Knapp holds that vomiting is never reflex, but always due to a spasm of the stomach or intestine and, in turn, due to irritating material. Even the action of irritating contents seems to me to be a reflex one, but, as a matter of common observation, extrinsic reflex vomiting does occur. Why is it that ordinary gastric contents or a few drops of mucus become highly irritant to the mucous membrane when one passes from dry land to a boat? How does a hair in the butter on the plate suddenly transform agreeable food into irritating gastric contents? How about the man who tied his room mate in order to commit suicide without interruption, swallowed poison and was saved by the filthy stories which his chum narrated? This may be a myth, but it certainly is based on a well-known psychic reflex.

Green vomit may be invariably due to green mold in New York, but in Buffalo it is usually due to bile, and stomach contents set aside, under a cotton plug, develop white or black mold more frequently than green. Dr. Knapp has very kindly verified for me one of the few cases of green stomach contents that I have encountered, in which the color was due to mold. Dr. Knapp further states that, while bile may be present, it is yellow instead of green. Quite a few years ago, I called attention to the fact that the yellow or green color of stomach contents was fairly reliable evidence of the absence or presence, respectively, of free hydrochloric acid, which acts as an oxidizing agent. Some time ago, I was surprised to withdraw stomach contents tinged with yellow and showing considerable free HCl on immediate titration. But, within a few minutes, the characteristic green color spontaneously developed, and I then recollected that the yellow tinge had occurred only in the last portion of chyme aspirated, the bile evidently having entered the stomach during the process of extraction.

The relation of appetite to the state of contraction of the stomach is not easily demonstrated by experiment, yet it seems to me that the old view that appetite depends upon an inequality between cellular demands and nutritive supply is more rational than the theory that it depends upon a purely gastric condition. For instance, persons with large gastric areas may be hungry and those with small areas may have a distaste for food. After the tremendous muscular exertion to squeeze a few drops of liquid from the stomach during seasickness, it is reasonable to suppose that the patient's stomach is contracted—in addition to the evidence afforded by ordinary or auscultatory percussion—yet the appetite does not usually return. I agree practically with Dr. Knapp's view that the appetite disappears when the stomach relaxes, but would express it rather differently: Satiety is due to the stretching of the rugæ, not to a true relaxation, and hence, persons with dilated stomachs often manifest boulimia—not necessarily as the result of genuine appetite or hunger—because a normal amount of food does not cause tension on the rugæ.

A. L. BENEDICT, M.D.

156 W. CHIPPEWA ST., BUFFALO.

## A DOCTOR'S BUILDING.

To the Editor of the Medical Record:

Sir: At various times we have heard of plans for a building devoted exclusively to doctor's offices, similar to buildings of the same sort in other cities, but nothing has been said about the plan of late. It is practically certain that such a building would give a good return for the investment, as there are hundreds of physicians, specialists chiefly, who would be glad to avail themselves of offices away from their homes. This would be particularly true of a building situated centrally, and near to the Academy of Medicine, and the Public Library, where library facilities would be closely at hand. In such a building consultants would be grouped together in such a way that one could readily avail himself of special information desired in any given case and various laboratories could be carried on to the advantage of those of us who are so busy as to be a little neglectful about giving our patients the best and latest resources. Offices could be so fitted up that we could have special office facilities with dark rooms, compressed air, *x*-ray apparatus, and numerous conveniences that are desirable and expensive when wanted for a private house, but less expensive when managed for a large number of physicians in some public building.

The argument that undesirable tenants would be the first to choose such quarters can be answered as it has been in other cities. For that matter, it would be easy to limit tenants, and admit only those who are members of the responsible medical societies.

Medicus.

# Progress of Medical Science.

*Boston Medical and Surgical Journal, October 22, 1903.*

**A Hitherto Undescribed Membrane of the Eye and Its Significance.**—Frederick Herman Verhoeff concludes: In the pigment layer of the retina there is a fenestrated membrane identical in structure and staining reactions with the membrana limitans externa. The rods and cones are not nervous elements, but modified ependymal cells, and are analogous to sensory epithelium. The limiting membrane of the rosettes of glioma retinæ is a fenestrated membrane similar in every way to the membrana limitans externa, and the rosettes correspond to the neuro-epithelium of the normal retinæ. The stricture of the limiting membrane of rosettes explains why they assume their characteristic spherical and spiral-like forms. "Neuro-epithelioma retinæ" is no more suitable than "glioma retinæ" for the class of tumors to which these terms have been applied.

**Lesions that Augment the Development of Tetanus and Other Infections in Gunshot Wounds.**—Louis A. La Garde states that lesions will appear in the parts beyond the channel made by the projectile, to an extent dependent upon: (1) The sectional area of the bullet. (2) Its velocity. (3) The resistance encountered on impact. The greater the velocity or sectional area of the bullet the greater will be the lesion in the surrounding tissues. In those cases in which the velocity is great, and the resistance on impact unyielding, the destruction is enormous. Slough often occurs in the skin beyond the margins of entrance and exit. When healing is well along, a cord marking the track of the bullet in the soft parts is easily discernible to the sense of touch. Hæmatomata especially predispose to the development of infections. Burn adds to the susceptibility. The extent of the hæmatoma increases with the velocity of the orojectile to a marked degree. Destructive effects increase with the sectional area of the bullet. The thoroughness with which tissues are often infected by the energy of an unclean bullet has a great bearing upon the susceptibility to infection. Among the lesions of gunshot wounds which predispose to infection, another important factor is the fissuring, extending laterally from the channel track, and the disturbance of the muscle or tissue fibers, which is apt, ultimately, to lead to necrosis of the same.

**The Condition of the Vasomotor Neurons in Shock.**—W. T. Porter declares that in shock the primary injury lies outside nerve cells. The symptoms which characterize shock have often been ascribed to a depression of the vasoconstrictor nervous system. Each of the nerve chains which constitute the vasoconstrictor nervous system has three neurons. The cell body of the first lies in the bulb; its axis cylinder process ends in the spinal cord, or in the bulb itself, in physiological contact with the second neuron. The cell body of the second neuron lies in the cord or bulb, but its axis cylinder process leaves the cord and ends in physiological contact with a sympathetic cell. The sympathetic cell is the third neuron. Its axis cylinder process ends in the wall of a blood vessel. The bulbar cells or first neurons affect the blood vessels only through the second and third neurons. Consequently, if stimuli which pass through apparent nerves to the bulbar cells call forth a normal change in the caliber of the blood vessels, the condition of all three neurons must be normal. The depressor nerve connects with all the bulbar vasoconstrictor cells alike. The fall in blood pressure caused by the stimulation of the central end of the depressor nerve is, therefore, a quantitative test of the condition of all the vasoconstrictor neurons, those of the first order, in the bulb, and those of the second and third order, through which alone the bulbar neurons can alter the constriction of the blood vessels. If, therefore, the stimulation of the central and of the depressor nerve produces as great a fall in blood pressure during shock as before shock began, the condition of the three vasoconstrictor neurons must be normal even in shock. Exhaustion in the vasoconstrictor neurons therefore cannot be the essential cause of the symptoms ermed "shock."

*Journal of the American Medical Association, Oct. 24, 1903.*

**Sarcomatous Transformation of Myomata.**—T. S. Cullen states that myomata showing sarcomatous degeneration are developed from two sources: (1) Connective tissue, leading to spindle or round-celled formation, and (2) uterine muscle. Clinically, it is noted that a myomatous uterus, after being dormant for possibly several years, becomes the seat of a rapid enlargement. If the growth is submucous, portions may be expelled from time to time, and there is an offensive discharge with cachexia. From recent laboratory investigations the following rules for operative intervention may be laid down: (1) Whenever sarcoma or carcinoma may coexist with myoma panhysterectomy is imperative—not amputation through the cervix. (2) Bisection of the uterus is contraindicated where there is a possibility of a malignant growth developing in or associated with the myomatous uterus (3) In every case of hysteromyomectomy it will be advisable to have an assistant open the uterus immediately on its removal to determine if carcinoma of the body exists and to find out whether the myoma has become sarcomatous. If malignancy is detected the cervix can thus be removed without delay.

**A Case of Aerogenes Capsulatus Infection of the Neck.**—The patient of L. Leroy was a colored man aged twenty-three years, with the history of a "sore throat," and considerable cervical swelling in the region of the left tonsil. The progress of the case led to a diagnosis of suppurative cellulitis. Incision gave exit to a little dark colored fluid, but no pus. After the second day the skin below the incision slowly separated from the subcutaneous tissue, until at the fourth day a gangrenous area was present, reaching from the ear to the clavicle, and discharging a light sanguineous fluid from an opening at the lower edge. About the fifth day the skin was entirely separated, leaving the muscles beneath clearly exposed. The fibrous tissue rapidly became destroyed, leaving the underlying muscles, vesicles, and nerves clearly exposed to view, as in the most careful dissection. The swelling was not extreme, and until the last day no emphysema or crepitation was present, and then only in small amount. Death occurred on the eighth day. Examination of discharge made six days before death, many bacteria were observed, but no streptococci. A few large bacilli were found, judged to be Bacillus aerogenes capsulatus, though the author was unable to demonstrate any capsule, and based his diagnosis on culture reactions.

*Medical News, October 24, 1903.*

**Congenital Hypertrophic Stenosis of the Pylorus.**—B. G. A. Moynihan declares that the symptoms of the disease are strikingly similar in the majority of the recorded cases. The child at birth is of normal weight and healthy. Soon it is noticed that it begins to vomit after its food. At the first it is only after the completion of a meal or toward the end that the food is returned. The quantity vomited increases day by day It is little altered from its condition when swallowed, only a little mucus is added. Bile is never present in the vomit. When the vomiting is thoroughly established as an enduring symptom its violence is remarkable. Weight is steadily lost. The temperature is constantly subnormal. Constipation is almost invariable. The abdomen is shrunken and hollow. The stomach is dilated or hypertrophied with visible waves of peristalsis. If with all these symptoms a transverse epigastric tumor be found, the diagnosis of pyloric stenosis can no longer be in doubt. No very satisfactory explanation of the causation of the condition has yet been given. Further investigation is necessary. Spasm at the pylorus and in the body of the stomach is a condition which can be seen from time to time on the operating table. Before the vomiting has become incessant much good may be done by careful washing of the stomach and feeding in small quantities through an india-rubber catheter. The operations of pylorodiosis, pyloroplasty, and gastroenter-

ostomy have each been performed on several occasions, and their relative merits have not as yet been definitely determined. The statistical results up to the end of 1902 were as follows: Pyloroplasty had been performed three times successfully; in a fourth case, the relief being imperfect, a gastroenterostomy was done later with good results. This patient was sixty-seven years old. Gastroenterostomy always anterior had been performed nine times; five patients recovered, four died. In one, death was due to obstruction caused by a Murphy button. Loreta's operation had been performed nine times with seven recoveries.

*New York Medical Journal, October* 24, 1903.

**Tubal Pregnancy.**—M. D. Rushmore reports twelve cases operated on in hospital. The first group of four all presented a free hemorrhage into the peritoneal sac, three times from tubal rupture, and once from the dilated fimbriated end. In three cases the operation was done soon after the rupture when the patients were in a condition of extreme anæmia and partial collapse. In one case several weeks intervened between rupture and operation. All four cases were saved. The second group of eight cases all presented unruptured tubes distended with blood. The symptoms in all were pain and hemorrhage, and in all elastic masses were felt alongside of the uterus. All of this group were saved. As to evidences of pregnancy it is stated that in no case was a fœtus found; in one there was a fetal sac, in ten evidences of decidual formation were shown by the microscope, while in two no evidences of pregnancy were noted.

**Cancer of the Prostate.**—From a careful review of literature (the references being given), R. H. Greene lays down a general description of prostatic cancer, considering its frequency, age of the patient, the question of glandular metastasis, symptoms, prognosis, and treatment. He adds the notes of a case coming under his own observation. His patient was a man of fifty-nine years, who had had gonorrhœa at the age of nineteen. His prostatic symptoms commenced with slight burning or micturition, and a burning feeling in the perineum. On one occasion catheterization was necessary after excess in drinking wine. At that time only very slight enlargement of the right lobe of the prostate could be made out. The usual sedative measures failed and operation was considered. It was thought that either an encapsulated abscess or stone in the prostate was the cause of the pain. The prostate was removed through an opening into the urethra, breaking into the walls of the latter from the inside with a blunt instrument and digging out the side lobes with the finger. The rectum was slightly wounded and a small fistula resulted but gradually closed up sufficiently to give no trouble. At the present time, some fifteen months after operation, the patient is doing well. He has had two attacks of epididymitis since the operation and has noted a loss of sexual power. The pathologist's report of the tissue removed was that the right lobe of the prostate was cancerous, but that it presented a low grade of malignancy.

*American Medicine, October* 24, 1903.

**Funic Pulsations: When to Ligate the Cord.**—Wm. Harman Good declares that the funic pulsations are fetal in origin. To demonstrate this, the writer placed a hemostat on the cord. The pulsations on the maternal side immediately ceased, while on the fetal side they persisted. The stump was still pulsating, thirty minutes after the cord was tied off. In a vigorous child the cord may be ligated immediately, but in less vigorous children the cord should not be ligated till the pulsations cease. The funic pulsations are of fetal origin, and the first firm contraction of the uterus is the indication for the ligation of the cord.

**Treatment of Abscess of the Liver.**—Thos. L. Rhoads declares that No. 2 abscesses are found in exactly the same location in the liver. Two methods as commonly used to locate the pus: Aspiration, and temporizing until the volume of pus has become so large that the evident swelling below the rib margin or toward the nipple, together with local signs of redness, œdema, bulging, or fluctuation, leave no doubt as to where the instrument must enter. Aspiration is unreliable, and danger is always associated with the process. The writer makes a direct palpation of the liver in every suspected case after a very careful examination of the case in all its aspects has satisfied the surgeon that pus exists. An exploratory incision is made 2 cm. below and parallel to the right costal border. A methodic digital examination of the liver is made. When the pus is located, there are but two routes for its evacuation: Through the original incision, and through the chest wall. The abscess is incised and the cavity cleansed. After-treatment must be judicious. Feeding is very important. Olive oil is given thrice daily on an empty stomach. Milk should not be given. Foods must be chosen with the object of giving the large bowel rest.

*The Lancet, October* 17, 1903.

**On the Etiology of Bubonic Plague.**—J. A. Thompson has made extensive observations of two epidemics of plague which have occurred at Sidney. His general experience shows that neither direct nor indirect communication with the sick has any share at all in the diffusion of the disease; place infection almost certainly does not operate to maintain it; the sole source of infection for man is from rats, and probably through certain classes of fleas infecting those animals.

**The Treatment of Sciatica.**—J. M. Clark extols the virtues of Weir Mitchell's plan of immobilization of the limb by the long splint. He has employed this device in twelve cases. Eleven were men, their average being forty-nine years. The average duration before coming under observation was nearly six months; the average duration of treatment was five and a half weeks. Ten cases were cured. One had a severe relapse some weeks later, but was cured by a second course of treatment. One was not relieved, but he was a restless patient and would not keep the splint on. The restraint is at first very irksome and a hypodermic of morphine is often required the first night or two. The splint must be carefully watched and readjustment may be necessary, especially if pain appears in the foot, behind the outer malleolus or in the ankle.

**The Quantitative and Qualitative Relations of Toxin and Antitoxin.**—The following conclusions are offered by E. F. Bashford: (1) The volume containing the lethal dose can be converted into one no longer lethal within the time limit by diminishing the total volume by a small but measurable fraction of the whole. (2) A measurable quantity of toxin solution can be borne without the production of any symptoms. (3) The poisonous action of the lethal dose may be abolished within the time limit by the addition of a very small quantity of antitoxin; the experiment gives evidence of a qualitative reduction in the toxicity itself, but no evidence of the occurrence of the quantitative reduction referred to in conclusion (1). (4) When the toxic power of a quantity of toxin has been reduced by antitoxin to such an extent that no symptoms appear, a measurable degree of toxic power is still potent qualitatively, but we are not entitled to state this in the quantitative terms of conclusion (2). (5) The lethal dose is separated from the non-lethal not by a hard-and-fast line but by a zone wherein are contained appreciable fractions of the lethal dose; the data here are quantitative. (6) In mixtures of toxin and antitoxin in such proportions that a lethal issue occurs and does not occur, the margin between the toxic powers of such mixture is not sharp but is a zone, and the actions standing at the upper and lower limits of this zone differ from each other by a measurable fraction of the total toxicity; the data here are purely qualitative. (7) It is not justifiable to assume *a priori* that one volume of antitoxin solution always fully accounts for one volume of toxin solution when mixed in varying multiples. It is preferable to speak of the retention of active toxicity or of active antitoxicity in characterizing such mixtures. The phrases "free toxin" and "free antitoxin" may not be in accordance with the facts and should be abandoned.

*British Medical Journal, October* 17, 1903.

**Cystic Tumors of the Mammæ: Their Removal by "Forcible Massage" without Incision.**—Herbert Snow makes this report. The breasts of patients suffering from cysts of the mammæ are full of milk—a decomposing and more or less altered product. This is quite apart from pregnancy. The women are single, or have not borne a child for many years. If this milk secretion is squeezed completely out, all the trouble vanishes at once. The work must be done under anæsthesia. No inflammatory mischief follows the rupture. The large cysts should be ruptured subcutaneously; then the viscid yellow or greenish-black matter is squeezed from the nipple till no more can be expressed. The large cyst usually ruptures without force, but continued pressure, exercised in various directions, is needed before the retained secretions can be completely evacuated.

**The Pathology and Treatment of Hallux Rigidus, Hallux Flexus, and Hallux Extensus.**—A. H. Tubby is convinced that there is one cause underlying all the conditions, namely, an osteoarthritic condition of the first metatarsophalangeal joint. The writer insists upon the enlargement and inflammation of the intersesamoid pad as an essential factor in the production of the rigidity. The only operative treatment he has found effectual is to remove the head of the first metatarsal bone, dissect out

the part of hypertrophied and inflamed tissue between the sesamoid bones, and, if the surface of these bones should be ulcerated, to dissect them out from the tendons in which they lie. In many cases of rigidity the movements become, under an anæsthetic, entirely free, showing that the apparent loss of movement in the joint is reflex. After a time osteophytic outgrowths, especially from the base of the first phalanx, render flexion or extension impossible. Operation is the same as that for bunion. In less painful cases attention to the size of the boots, giving ample room to the big toe, is effectual. The boot should be long enough and the sole stiff enough to prevent any pressure on the end of the big toe in walking. It is also desirable to take off pressure on the metatarsophalangeal joint in walking, by a bar placed obliquely across the sole of the boot and well behind the heads of the metatarsal bones, so that the weight of the tread is not borne at the heads of these bones, but behind them.

*Deutsche medicinische Wochenschrift, October* 1, 1903.

**Circumscribed Gangrene of the Dura, and Subdural Abscess in the Posterior Occipital Fossa Due to Chronic Suppuration of the Middle Ear.**—B. Heine's patient was twenty-six years of age and had suffered since childhood with a chronic suppuration of the middle ear. The patient applied for treatment with symptoms of an acute mastoid involvement, and an operation for the same was immediately undertaken and an extensive suppuration of the mastoid cells revealed. Following the operation the symptoms were but little improved, and eight days subsequently, at a second operation, additional portions of the temporal bone were removed. This was followed by a marked increase in the discharge of pus. At subsequent dressings small pieces of the dura were discharged and at times considerable quantities of cerebrospinal fluid. Death eventually took place from pulmonary tuberculosis, and at autopsy the above lesions were found.

**Pathogenesis of Gonorrhœal Epididymitis and the Treatment of the Same by Puncture.**—Gustav Baermann says that epididymitis which develops during the course of a gonorrhœa is due to a local invasion of the gonococcus, and that these organisms can be cultivated with regularity from the puncture fluid. In the majority of these cases of epididymitis there occurs very quickly an abscess formation which has not hitherto been diagnosed by clinical means. Such suppurations are either pseudo-abscesses due to stagnation of the circulation and followed by secondary breaking down of the walls of the vas epididymitis, or they are pure abscesses which arise in the surrounding connective tissue and occasioned by the invasion of gonococci through the lymph channels. In all cases which go to suppuration a smaller or larger hydrocele develops, which is due to the invasion of the tunica vaginalis by gonococci. All cases of epididymitis, which occur in conjunction with attacks of non-gonorrhœal urethritis are due to a local invasion of the microorganism, which gives rise to such a urethritis. All cases of epididymitis which set in with pronounced symptoms should be treated by early puncture, since by so doing the chances of subsequent abscess formation are materially lessened. In all cases the hydrocele should also be punctured in order that the pressure may be relieved and conditions favorable for absorption established.

*Berliner klinische Wochenschrift, October* 5, 1903

**Orthostatic Albuminuria.**—Otto Jacobson, under this classification, considers that form of albuminuria which is dependent for its existence upon a change in the position of the individual—from a vertical to a horizontal. The albumin is never present during a maintained vertical or horizontal position, but appears in the urine shortly after a change from one to the other. In the vast majority of instances, persons affected with this form of albuminuria are of an intensely nervous disposition, and give an hereditary history of neurasthenia or pathological nervous diseases. It is almost exclusively limited to the time of puberty, and is to be regarded as a form of the so-called "puberty" albuminuria. The amount of albumin present may vary from a mere trace to a considerable quantity, and hyaline casts may, at times, be present. For a diagnosis it is necessary for the albumin to vanish when the patient is placed and maintained in the horizontal position. Furthermore, the change from albuminuria to an albumin-free urine occurs under the proper conditions with marked celerity.

**Action of Heat and Light Rays upon the Temperature of the Skin.**—Ernst Sommer shows that the temperature of the skin covering joints affected with chronic diseases is lower than normal except during acute exacerbations when the reverse is the case. The application of heat and light rays causes an increase in the cutaneous temperature of the regions thus treated over that of the non-treated portions. Nevertheless, there are cases in which following the use of the rays the temperature of all portions of the skin is lower than previous to such application. The reduction in the temperature of the collateral side does not occur with the same regularity under the application of the rays as is the case when hot and cold applications of other nature are used. The immediate heating effect of the short is more lasting than that of the long waves. After two to four hours the temperature of the treated and untreated regions becomes reversed—that is, the former is cooler than the latter. This appears to be due to a reactive action in the portions of the skin which have not been submitted to the action of the rays.

*Münchener medicinische Wochenschrift, October* 6, 1903.

**Acute Inflammation of the Cæcum.**—Reisinger reports two rare cases of acute inflammation of the cæcum (typhlitis) in which the appendix was in no way involved. All authors agree that such a condition is extremely rare, and that such is the case is apparent from the fact that the two cases here recorded were the only instances of this kind which occurred among 350 which were operated upon under the symptomatology of acute appendicitis. The diagnosis between these acute inflammations and appendicitis is not possible, and the true condition can only be determined at the operation.

**Significance of the Increase of Erythrocytes in Congenital Heart Affections.**—E. Fromherz reports seven cases in detail, but comes to no definite conclusions regarding the pathogenesis of the increase of the red blood cells. One of the cases which was submitted to numerous blood counts would seem to uphold the theory of Arcangeli, who regards the increase as compensatory in nature—that is to say, the deficient oxydation of the blood is sought to be compensated by an increase in the production of erythrocytes by the blood-forming organs. In this case several attacks of cyanosis and dyspnœa occurred, and in every instance during such attacks the number of red blood cells was markedly reduced below the normal. Other of the cases go to show that in many instances the cyanosis observed in these cases is to be regarded as a "mixture-cyanosis"—that is, a mixture of arterial and venous blood in the heart which is brought about by a patent foramen ovale.

**Epidemic Pneumonia.**—Franz Spaet reviews the recent epidemic in Neubrunn in which 63 (13.9 per cent.) persons, out of a total population of 454, were seized with the disease. The first case developed on the 8th of May, and the last on the 7th of July. The majority of the cases (46) were concentrated within three weeks—between May 15 and June 5. Clinically, the type of the disease was severe and the majority of the cases came within the classification of pneumonia known as "typhoid." The author reviews the literature regarding the modes of dissemination of pneumonia, but comes to no definite conclusions regarding the same. There is not doubt that but pneumonia belongs to the so-called contagious diseases, but its mode of dissemination depends upon many local factors and the susceptibility of the population exposed. No bacteriological investigations were conducted in connection with the present investigations, excepting in one instance in which the diplococcus was found to be abundantly present in the sputum.

*French and Italian Journals.*

**The Action of Histone in Diphtheria.**—Mario Flamini says that Carboni has recently made a study of the immunizing action possessed by histone (a pure extract of the cellular juice of tissues) in diphtheria. The author, experimenting on his own account, found that the hydrochlorate of histone obtained from the thymus gland possessed no power against diphtheria, while that taken from other organs had a slight immunizing action against the toxin of this disease and a stronger action against cultures of diphtheria bacilli. This would seem to disprove the theory that the thymus gland possesses a protective action against various infections of childhood.—*Rivista di Clinica Pediatrica*, October, 1903.

**The Treatment of Acute Gastrointestinal Toxic Infections in Children.**—Luigi Concetti holds that the most efficacious treatment consists: (1) In a rigid water diet, giving either pure water or slightly alkaline water, as vichy. This will quench thirst, which is sometimes excessive, supply the fluid in the organism lost by diarrhœa, favor duiresis, and enable the patient to support the absolute fast (2) Thorough evacuation by means of castor oil, calomel, and intestinal lavage. (3) Intestinal antiseptics. (4) Astringents. (5) Medication directed to sustain the heart, kidneys, and nervous system, and to regulate the temperature.—*Rivista di Clinica Pediatrica*, October, 1903.

**Dyspepsia.**—Dr. V., writing of the treatment of dyspepsia, says that the gastric juice of the dog has been

found to be a powerful digestant. Huchard does not hesitate to say that this *gasterine* is to diseases of the stomach what digitalis is to diseases of the heart. It relieves and surely cures. Each tablespoonful contains 1 gram of pepsin, 20 centigrams of HCl, and a good deal of rennin combined with other substances, such as potassium, sodium, and iron. Unfortunately the active dose is very large, one to ten tablespoonfuls with each meal. Moreover, the compound cannot be manufactured, and it can only be hoped that the canine race will be sufficiently numerous to provide for the constantly increasing army of dyspeptics.—*Le Bulletin Médical de Québec*, September, 1903.

**Appendicitis in Women in Relation to Lesions of the Uterus and Appendages.**—M. H. Barnsby reports five cases: (1) An appendix adherent to a hematosalpinx, (2) fixed to an ovarian cyst, (3) to a hydrosalpinx, (4) and (5) to an old pyosalpinx. He concludes that there exists a form of appendicitis secondary to lesions of the appendages. It is chronic plastic in variety, with a tendency to sclerosis. It may be diagnosed by a careful study of intermenstrual or intestinal colic, as distinguished from premenstrual or uterine colic, and by an examination of the upper end of the tumor, which is nearly always high in the pelvis. Treatment, of course, consists in removal of the appendix.—*Gazette de Gynécologie*, September 1, 1903.

**Radiotherapy in the Treatment of Ozæna.**—Adolphe Casassa says that four species of bacilli have been described as specific to ozæna, but so far treatment by antiseptics and by serum therapy has proved valueless. Professor Dionisio has reported the result obtained in six cases by the use of the *x*-ray. There was rapid diminution in the secretion and crusts, and prompt disappearance of the characteristic odor, even in cases that had proved rebellious to all other treatment. More recent reports have brought the number of cases improved up to twenty. The author in his own experiments obtained such excellent results that he can only conclude that radiotherapy is the first and only rational treatment for this offensive and troublesome disease.—*Revue Internationale de Thérapie Physique*, October 1, 1903.

*The Practitioner, October*, 1903.

**The Results of Organotherapy in Addison's Disease.**—Edward W Adams gives the results of an extensive investigation into the subject, and draws the following deductions: (1) There would appear to be a certain class of case of Addison's disease which derives indubitable benefit from the exhibition of some form of suprarenal substance, though in any given case it remains up to now impossible to determine its probable response to the treatment. (2) In any given case of the disease, selected haphazard, the probability obtains that disappointment will follow on the institution of organotherapy: but that probability is very distinctly less than that attaching to any alternative method of treatment at present known. (3) The last word upon the preparation to be used and its method of administration remains yet to be said. The problem seems to be to get a sufficient and continuous dose of the pure and active principle unchanged into the blood stream. Intravenous injection is impracticable.

**The Frequency of Alimentary Glycosuria in the Children of Diabetic Persons.**—Arnold Lorand says that in the majority of the cases observed the children of diabetic persons have inherited a certain defective power of dealing with sugar in their economy. Apparently in such persons the power to assimilate carbohydrates is diminished. All these persons are candidates for diabetes, but it does not necessarily follow that the disease will develop in each case. It can develop itself in persons who are addicted for a long time to an irrational nourishment. Its appearance in the majority of cases is about the thirty-fifth to the fortieth year. Owing to great psychical emotions, it may appear much sooner. We must do our best to defer its advent to a late period, or if it is possible, to prevent its onset altogether. For this purpose we should recommend such persons not to take any great quantity of sweet or amylaceous food. Diabetes is most frequent among classes who eat much meat and amylaceous food simultaneously. Alkaline mineral waters are able to improve the assimilative power for carbohydrates in cases of alimentary glycosuria, and are therefore a useful preventive or at least dilatory agent against diabetes.

**The Causation of Cancer.**—Alex. Theodore Brand says that belief in the infectivity of cancer is founded on clinical facts and logical proofs. Pathological proof is wanting, but that it will be eventually forthcoming is assured. It is only a question of time. No one can deny that cancer is most intensely infectious to the individual, and it cannot be gainsaid that all diseases which are infectious to the individual are capable of communication to others, and are also of external origin, therefore cancer is, and must be, of an infectious nature. Infection undoubtedly differs widely in degrees, and cancer, like tubercle and leprosy, is of a low degree of infectivity, but all the same it *is* infective. The clinical facts are many and convincing. The statistics of cancer districts and houses cannot be explained otherwise than by infection. Over sixty cases of cancer-ä-deux have been reported. Then again cancer has been successfully transferred from man to man, and man to lower animals experimentally. Pending the universal admission of the infectivity of cancer, it should be considered infectious and action taken accordingly.

*Archives of Pediatrics, October*, 1903.

**A Case of Chondrodystrophy Fœtalis.**—J. Park West and W. O. S. Piper report a typical case of this deformity. The main points wherein the child differs from a rachitic and from a normal child are in the length and form of the bones. Compared with a normal child of the same age, this one is 5½ inches shorter from vertex to sole, ½ inch shorter from top of sternum to pubes, ½ inch from vertex to anterior superior spinous process, and 5 inches from anterior superior spinous process to sole. From the acromion to wrist it is 2½ inches shorter, the hand and wrist 1 inch shorter, the thigh 2¾, and the leg 3 inches shorter. The bones are thickened, are distinctly hard, and the anatomical landmarks as distinctly made out as in a thin adult, thus giving one the impression of a small matured bone. The circumference of the child's head is 1 inch greater than that of a normal child, but the diameters are about the same. The shape of the head and the sweating of the head are the only rachitic features present. The size of the face is proportionate to the head, both being large, and not the large head and small face of rickets.

**A Case of Pulmonary Osteoarthropathy.**—Thomas Morgan Rotch and Charles Hunter Dunn report the case of a boy of three years and seven months suffering from continuous cough. He had no night sweats, and had not lost in weight. For nine months previous to entering the hospital the parents had noticed an enlargement of the finger tips. Examination of the lungs showed flatness on percussion over the entire left front of the chest, marked dulness over the back of the left chest, but no absolute flatness. Throughout the left side of the chest—front and back—there was loud bronchial breathing, bronchophony and increased tactile fremitus, with numerous crackling râles. There was a marked enlargement of the tips of the fingers of both hands, giving a flat club-shaped appearance, and this enlargement was also noticeable in the distal phalanges of both great toes. Thoracentesis on the left side showed no fluid, but a solidified lung. A tuberculin test was made twice with negative results. The *x*-ray showed consolidation of the left lung, and, a condition of the distal phalanges which correspond to the description given of pulmonary osteoarthropathy—that is, an enlargement of the entire distal phalanges, involving primarily the bone itself.

**The Prophylactic Use of Diphtheria Antitoxin in School Children.**—Augustus Caillé suggests a new use for antitoxin, by advocating an immunizing injection for young school children once or twice during the school year—for instance, in November and February—with the hope of preventing infection from primary diphtheria or croup; and furthermore with the hope of lessening the mortality of the severe forms of scarlatina and measles, a large percentage of such cases being complicated by diphtheria from the beginning or in the course of the disease. The mortality from scarlet fever plus diphtheria, and measles plus diphtheria is quite high, and the writer is of the opinion, based on clinical experience, that this mortality can be markedly reduced by means of protective inoculations of diphtheria antitoxin. Such prophylactic management will have no effect upon pure and simple scarlatina or measles, but will certainly create more or less immunity as regards grave diphtheritic complications; or, in other words, turn a grave disease into a milder disease. During the past two years the writer has practically followed out this line of thought, has immunized a number of children twice during the school year. No figures are given, for no one can tell what might or might not have happened. It may be stated, however, that not one of the children contracted primary or secondary diphtheria, and in no case was there the least unpleasant or unfavorable reaction after the protecting injection. The parents readily accepted the "protecting vaccination for diphtheria."

# Book Reviews.

A Narrative of Medicine in America. By James Gregory Mumford, M.D., Assistant Visiting Surgeon to the Massachusetts General Hospital, and Instructor of Surgery in Harvard Medical School. Philadelphia and London: J. B. Lippincott Co., 1903.

The author of this charmingly written history strikes the keynote of its real interest when he says in his introductory that the book is a mere narrative of medicine and doctors in colonial and pre-revolutionary times. In following out such a purpose he has taken some of the conspicuous American physicians in each era in their proper sequence to tell the story of their lives and their doings, and through them to illustrate their influence in the development of the medicine of the New World. The history is as interesting as a novel and well calculated to edify the general as well as a medical reader. The leading men of the different periods are the actors who adapt themselves to their surroundings and make the most of their conditions.

American medicine had the smallest possible chances for development during the early part of the sixteenth century. At that time the country was occupied with wars and rumors of wars, and civilization stood merely on guard to protect its interests against the antagonism of unsettled political conditions. What little science there was remained forsakenly in the background. There were then no native-born doctors, none who could receive a proper education in primitive and colonial America. What medical talent there was came from England, France, and Holland with the early colonists. The history of this period covers disastrous smallpox and yellow-fever epidemics, malignant throat affections, and other pestiential invasions with a mortality that can be easily calculated.

Later in the century the American medical man awoke to his privileges and necessities, and we find the most ambitious and affluent of this class taking tedious and perilous journeys to Edinburgh, London, and Paris, and becoming pupils of the great lights of these educational centers. Many of these men came back in time to do valiant service in the Revolutionary War, and take most active parts in shaping the political policies of their periods. Then, also, in the natural course of events, came the establishment of hospitals and medical schools after the European patterns, until the end of the great Civil War, at which period this history stops, America, in little over two centuries of development, took her stand in medicine as she did with other sciences in the first rank of national progress. All this story is so well told, so skilfully interwoven with personal narrative, so judiciously filled with suggestive comments, that the reader follows the author from page to page with the greatest satisfaction and delight.

The individualities of the prominent men that are so identifully and incidentally portrayed, give a striking human interest to the sketches and prove that jealousy, bickering, and malice were as rife then as now. Even quarrels on ethics threatened dissolutions of friendship, and one doctor is said to have declined to meet another in consultation because the latter did not wear a fashionable wig. The account of the discovery of ether makes a very interesting chapter. Morton is rightly given the credit of popularizing anæsthesia, but is justly blamed for the mercenary spirit he displayed in seeking patents. The work, as a whole, is certainly a model of its kind and is destined to take a permanent place not only in medical, but in general literature.

Burdett's Hospitals and Charities, 1903, Being the Year Book of Philanthropy and the Hospital Annual, Containing a Review of the Position and Requirements, and Chapters on the Management, Revenue, and Cost of the Charities. An Exhaustive Record of Hospital Work for the Year. It Will Also Be Found to Be the Most Useful and Reliable Guide to British, American, and Colonial Hospitals and Asylums, Medical Schools and Colleges, Religious and Benevolent Institutions, Dispensaries, Nursing and Convalescent Institutions. By Sir Henry Burdett, K.C.B., Author of "Hospitals and Asylums of the World;" "Hospitals and the State;" "Pay Hospitals of the World;" "Cottage Hospitals: General, Fever, and Convalescent, with Fifty Beds and Under;" "Helps in Sickness and to Health;" "The Relative Mortality of Large and Small Hospitals," and Editor of "The Hospital." London: The Scientific Press (Limited); New York: Charles C. Scribner's Sons, 1903.

This is the fourteenth issue of the now well-known year book of the hospitals and dispensaries of the English-speaking world. The information contained in the work is invaluable to all interested in institutional work. The fullest treatment is accorded to British hospitals, but those of the colonies and of the United States are by no means slighted, and would receive greater notice were it not for the carelessness of their officers in not furnishing the desired information which only they are able to give. Sir Henry Burdett appears to be somewhat jealous of the medical management of hospitals, and shows a tendency to decry the teaching function of these institutions—which is very foolish, for if students were denied hospital facilities in learning their profession, the hospital patients would later suffer from the defective knowledge of the medical staff. The annual is nevertheless full of valuable statistics, and no one need read the editor's grumblings.

Manual of the Diseases of the Eye. For Students and General Practitioners. By Charles H. May, M.D., Chief of Clinic and Instructor in Ophthalmology, College of Physicians and Surgeons, Medical Department, Columbia University, New York, 1890-93; Ophthalmic Surgeon to the French Hospital, New York; Consulting Ophthalmologist to the Red Cross Hospital, New York; Adjunct Ophthalmic Surgeon to Mt. Sinai Hospital, New York, etc. Third edition. Revised. With 275 original illustrations, including 16 plates, with 36 Colored Figures. New York: William Wood & Company, 1903.

In writing this manual it has undoubtedly been the design of the author to prepare a work especially adapted to the needs of the student and the beginner in ophthalmology. The third edition appears a little less than two years after the second edition, a fact which speaks well for the popularity of the work. The volume is one of 408 pages. It has, apparently, been thoroughly and carefully revised and brought fully up to date. The work is abundantly illustrated in all its parts. There are many plates illustrating the external as well as the internal conditions of the eye. It may be said to the credit of the work that the greater number of the illustrations are original. Much space is devoted to the methods employed for the examination of the eye and to the technique of treatment. In fact, all the points that are of most value to the beginner have been dwelt upon in full. The first three chapters are devoted to the methods of subjective and objective examination of the eye. These are followed by chapters on diseases of the various parts of the eye. A chapter is devoted to the consideration of uveitis, one to intraocular tumors, one to glaucoma, and one to amblyopia and functional diseases of the retina. Then follow chapters in which general optical principles, errors of refraction, disturbances of motility, etc., are considered. The last chapter is one devoted to ocular therapeutics and general rules for operations upon the eye.

Of the many works on ophthalmology which have appeared recently, designed for the use of the student, this is certainly one of the best.

A Handbook of the Diseases of the Eye and Their Treatment. By Henry R. Swanzy, A.M., M.B., F.R.C.S.I., Surgeon to the Royal Victoria Eye and Ear Hospital and Ophthalmic Surgeon to the Adelaide Hospital, Dublin; Ex-President of the Ophthalmological Society of the United Kingdom. Eighth edition. Revised, with 168 Illustrations and Zephyr Card of Holmgren's Tests. Philadelphia: P. Blakiston's Son & Co., 1903.

The popularity of this work is evident from the number of the editions through which it has passed. It is now in its eighth edition and is widely known in America as well as in England. It is a carefully prepared manual of 580 pages. The illustrations are in black and white. There are no plates. The work is not an atlas in any sense. The anatomy and histology of the eye and its appendages are not included in the work. The first three chapters are devoted to the consideration of the properties of lenses, the dioptrics of the normal eye, abnormal refraction and the methods for its correction, and to the ophthalmoscope. The external diseases of the eye, including diseases of the conjunctiva, cornea, lacrymal apparatus and sclera are then considered. The diseases of the interior of the eye are treated of in separate chapters, after which the normal and pathological conditions of the intraocular contents of the orbit are discussed. The last forty-three pages of the text are devoted to a consideration of the effect of the various diseases of the central nervous system on the functions of the eye and the interdependence of the diseases of these parts. An appendix in which the visual requirements for admission into the military, naval, and civil service of England are considered, completes the text. The various operative procedures employed on the eyelids, eyeball, and orbit are especially fully set forth.

The work is carefully prepared and presents the modern views on ophthalmology clearly and concisely. It is a work of average scope, and is well suited to the uses of the student and of those who are engaged in the practice of ophthalmology to whatever extent.

# Society Reports.

## NEW YORK STATE MEDICAL ASSOCIATION.

*Twentieth Annual Meeting, Held in New York City, October 19-22, 1903.*

(Continued from Page 680.)

*Thursday, October 22—Fourth Day.*

**Diphtheria in the Country; Its Diagnosis and Management.**—Dr. J. R. STURTEVANT of Theresa read a paper with this title. He said that while the State had provided for gratuitous examination of suspected cases, the delay in receiving the report of the bacteriological examination was too great to admit of this plan proving very useful in the rural districts. An instance was cited of an outbreak of diphtheria apparently traceable to the fact that chickens had had free access to a dwelling house, and the author expressed the opinion that there was abundant reason to believe that the open cesspool, so often seen at the doors of farm houses, was a fruitful source of diphtheria. It was the duty of the country physician to have diphtheria antitoxin at hand at all times, in order that precious time might not be lost when a case of diphtheria was encountered. However, he was not a believer in large doses, having obtained perfectly satisfactory results from doses of 1,500 units.

Dr. JAMES J. WALSH called attention to the fact, proved by accurate records. that those engaged in work on the sewage farms and in the sewers of Berlin and London were no more liable than the rest of the population to specific diseases, and especially to specific intestinal diseases, such as typhoid fever and forms of dysentery. They were, however, prone to develop the non-specific diseases of the throat, from which it might be inferred that the emanations from cesspools and sewers were apt to cause pathological conditions of the throat upon which the diphtheria germ might very easily be engrafted. Perhaps the most interesting mystery to-day in pathology was as to the origin of the pathogenic bacilli, their habitat and their life history outside of the human body. Certain it was that a good many of the domestic animals did carry some forms of bacilli.

Dr. J. ORLEY STRANAHAN of Rome said that he had been unable to obtain any results from such small doses of diphtheria antitoxin as 1,500 units A case was mentioned in which 3,000 units were given every six hours for five doses, and that no decided improvement had been noted until shortly after the fifth dose. He had made use of various preparations of antitoxin, and had noted very little difference in them.

Dr. DELANCEY ROCHESTER said that he had had a large experience with diphtheria in the contagious departments of two hospitals in Buffalo, and had learned not to give less than 4,000 units for the initial dose. He had given to infants up to one year of age 5,000 units, and had repeated this in three hours, and since he had been using diphtheria antitoxin he had not lost a case of diphtheria.

Dr. WILLIAM B. ULRICH of Chester, Pa., recalled the fact that up to 1859 diphtheria was an unknown disease in this country, and stated that from his experience in the treatment of this disease prior to the introduction of antitoxin he felt justified in urging strongly the claims of *ad libitum* doses of chlorate of potassium and tincture of the chloride of iron in cases of diphtheria when antitoxin could not be procured—a not infrequent occurrence in many country places because no provision was made for the gratuitous distribution of this great remedy to those who were unable to purchase it.

Dr. Sturtevant replied that New York State supplied antitoxin to those who could not afford to purchase it, but that others must purchase this remedy through the usual channels. His dosage was based entirely upon a airly large personal experience.

**Some Features of the Epileptic Attack.**—Dr. B. ONUF of Sonyea was the author of this paper. He said there was no single symptom that could be called characteristic of epilepsy, and it was only by familiarity with the great variety of forms in which the disease might show itself that one could arrive at a correct diagnosis. Of the first importance was personal observation of the attack. It was now generally accepted that the epileptic cry was not one of fear, but was the result of spasm of the muscles driving the air through the contracted glottis. It was not a shrill cry, as many supposed, but a low, tremulous groan In the epileptic the pupil was often, but not always, immobile. The degree of dilatation gave a fair measure of the severity of the attack, but was subject to certain exceptions. Extreme contraction of the pupil was sometimes observed at the very beginning of the attack. At the commencement of the stertorous stage the pupils were apt to be moderately contracted. Half of the attacks of *grand mal* began with an aura; the face was pale, the eyes open and turned to one side and the whole body was rigid The arms were thrown out from the trunk, the fingers were clenched and the legs and feet were extended. After fifteen or twenty seconds, the face became livid, and gradually the stage of clonic spasm set in The face and eye muscles then twitched, the saliva collected in the mouth and was often stained with blood because of biting the tongue. While the foregoing was the classical description, there were some exceptions. At the beginning of the clonic stage the head might be drawn to one side, and at the end of this stage be drawn to the opposite side. In many cases the head was directed forward. The eyes were not always turned upward or to one side, but might simply be staring. The upper extremities were more frequently flexed than extended. Extension of the legs and feet was by no means the rule. The point to be particularly noted was the asymmetry of the postures assumed. The determination of the state of consciousness during the epileptic attack was often very difficult. If the prick of a pin caused the patient not only to withdraw the part, but to replace it in another place this was evidence of a certain amount of cerebral activity. Sometimes the existence of consciousness would be shown by the patient's recollection of certain features of the seizure. The study of the tendon reflexes had not been hitherto very thorough. In his own experience they had been more frequently exaggerated than diminished.

**A Report of Twenty-five Prostatectomies.**—Dr. PARKE SYMS made this report and presented the specimens. He said that in sixteen of the patients catheter life had already begun; in thirteen there was complete retention, and in one case incontinence of urine. Of the twenty-five cases one died. Two of the patients who survived appeared had permanent incontinence of urine. Of the whole series there were practically twenty cures. In seven cases there was epididymitis occurring sooner or later after the operation. It was not the size of the prostate but its effect on the urethra that should decide the question of operation. He believed every case of prostatic obstruction with infection of the bladder would ultimately terminate fatally without operation. His first twenty-three operations were done without a death. The principal danger connected with the operation was from the anæsthetic.

Dr. GOODFELLOW of San Francisco said that since 18[illegible] he had done about ninety prostatectomies. The cases for operation were those presenting urinary obstruction. The operation which he employed was the old median lithotomy operation, and by pressure over the pubes he found that the prostate could be easily reached and enucleated through the perineum. In order to eliminate the danger from the use of ether and chloroform or ether he had during the past two years substituted spinal cocainization. Epididymitis not infrequently followed the operation, but since he had adopted the rule of refraining as far as possible from instrumentation, both before and after the operation, he had found this com-

plication of rare occurrence. There was, as a rule, almost no hemorrhage in the perineal operation. He had had no case of permanent incontinence of urine, nor of fistula lasting longer than a few months. He had only met with one case of complete atony of the bladder, and that quite recently.

Dr. HENRY ROTH of New York said that he had observed almost all of the twenty-five cases reported by Dr. Syms. It was worthy of note that the mortality in this series of was only 4 per cent., whereas the rate for prostatectomies as done some years ago was generally conceded to be 30 or 40 per cent. It was probable that a better understanding of the capabilities of perineal prostatectomy and an earlier resort to this operation would still further reduce the death rate. The general condition rather than the actual age of the patient should be considered in deciding upon the operation.

Dr. Syms said that he had only tried spinal anæsthesia in one case, and with such terrifying consequences that he had not been disposed to give it a further trial.

**Knowledge of the Eye that Is of Use to the General Practitioner.**—Dr. S. BUSBY ALLEN of New York read a paper with this title. He pointed out the disastrous results arising from a failure to detect acute glaucoma, and the ease with which such oversights could be avoided by noting the tension of the eye. In the chronic forms of glaucoma the general practitioner was more excusable if he failed to detect the true condition, for a diagnosis was often difficult. In 30 per cent. of cases of tabes certain paralyses of the eye muscles were observed. Progressive loss of vision, and particularly a narrowing of the field, were also observed, and often long before the appearance of other symptoms. At first, only one eye would be affected. The most usual paralysis preceding tabes was that of the sixth nerve, producing diplopia. Not infrequently ptosis was also present. The onset and steady increase of presbyopia at an unusually early age should excite suspicion of diabetes. Less frequently there was a partial paralysis of the sixth or fourth nerve, giving rise to diplopia, and there might be complete paralysis of all the ocular muscles. These paralyses might occur both in mild and severe forms of diabetes. Cataract was not an uncommon result of this disease. Inequality of the size of the pupils was always a matter of serious import, and the history of gradual failure of the sight should always arrest attention. In acute parenchymatous nephritis there was a sudden partial or total loss of vision, dependent upon what was called uræmic amaurosis. Toxic amaurosis resulting from various poisons should be borne in mind.

Dr. FRANK W. HIGGINS of Cortland made an earnest plea for the more common use of the ophthalmoscope by the general practitioner, believing that in this way many serious errors would be avoided, and that it was better to recognize the existence of some disease of the eye, and refer the case if necessary to a specialist than to let such cases go entirely unrecognized. Expense was no longer a bar to the use of this instrument.

**The Early Diagnosis of Tuberculosis.**—Dr. JAMES J. WALSH of New York presented this paper. He pointed out that despite a knowledge of the contagious nature of tuberculosis physicians, as a rule, failed to make the same searching inquiry as to the source of infection that they would in other contagious diseases. It was safe to say that a pulse above 90, in the absence of excitement, pointed to some chronic infection, and that the toxin of tuberculosis usually disturbed the pulse a long time before the temperature was affected. To determine variations of temperature the temperature should be taken before 8 A.M., about noon, and again about 6 P.M. While the normal temperature was stated to be 98.4° F., the morning temperature in healthy individuals was sometimes 97.5°, and the evening temperature might be 99°. If, however, there were more than a daily variation of a degree and a half it was probable that there was some infection present. It should always be remembered that a morning temperature of 98.5° F. was a degree or more above the normal morning temperature of many persons, and that in such instances it would point to a slight rise of temperature at that time. There was apt to be an extensive consolidation, and often even a secondary infection before tubercle bacilli appeared in the sputa. The posterior portion of the apex was the first part usually affected.

Dr. DELANCEY ROCHESTER said that in some instances it was necessary to take the temperature at short intervals. For example, he recalled a case in which, on taking the temperature three times a day, the variation was not as much as one degree. Feeling certain that tuberculosis was present he insisted on having the temperature taken every two hours from 6 A.M. to 10 P.M. for several days, with the result that it was then discovered that the maximum temperature occurred between eight and ten o'clock in the evening, instead of between two and six in the afternoon as was usually the case, and that there was a total daily variation of two degrees and a half. The morning temperature was often as low as 96 or 97° F. The pulse certainly afforded a clue, but he was of the opinion that careful percussion was even more useful, giving a change in pitch at a time when other methods of physical examination yielded only negative results, even before prolonged and rough breathing could be heard. The physical signs of early tuberculosis were often obtained not only at the clavicle, but above the scapula, often in the upper portion of the scapular region. The tuberculin test was a most important means of confirming the diagnosis in doubtful cases.

Dr. S. A. KNOPF of New York said that sometimes when it was not practicable to take the temperature frequently he had it taken before and after exercise. What was known as the sign of Muller was often an important diagnostic aid. Patients with consolidated lung when talking loudly were often conscious of a vibration in the solidified area. With a little care the examiner could discover this by placing his hand on the chest and telling the patient to take a deep inspiration and then make a humming sound. It was important to know not only the patient's occupation, but its exact nature and requirements. He had known of many cases in which tuberculin had reacted in chlorotic girls, in actinomycosis and in syphilis; but, worst of all, he had known an injection of tuberculin to cause a generalization of the disease; hence this test was both uncertain and dangerous.

**Treatment of Septic Affections by Intravenous Injections of Soluble Silver.**—Dr. GEORGE TUCKER HARRISON of New York read this paper. He said that some years ago Credé had brought forward collargol, a non-poisonous bactericidal and soluble colloidal salt of silver, and had recommended its use in the form of a 15-per-cent. ointment in cases of sepsis. The speaker's attention had first been directed to it last June by a paper read in January, 1903, by Hermann Schmidt of Dresden. It was at present found in the market in the form of glistening scales and granules, which dissolve readily in water in the proportion of one in ten. A concentrated solution was quite stable. The injection must be made very slowly and, of course, under aseptic precautions. He personally made use of a five-per-cent. solution, so that only a small quantity of solution need be injected. He found that the temperature and pulse gave only incomplete pictures of the course of the disease after collargol injections, for this remedy exerted a beneficent influence upon the nervous system and upon the general condition. The good effect was observed in four to six hours in the subsidence of the nervous phenomena, the return of the appetite, and in increased activity of the bowels. The pulse and temperature were not affected quite so rapidly, although sometimes one injection was sufficient to effect a cure. As many as twenty injections had been given by Schmidt in one case, but Dr. Harrison had not found it necessary to

use in any case more than seven injections. The speaker said that there had been a sufficient amount of clinical material collected to demonstrate that this treatment was a therapeutic resource of the highest order in the treatment of septic affections, and his own experience confirmed this view.

**Peculiar Symptoms Following a Radical Operation on the Ear.**—Dr. GEORGE F. COTT of Buffalo reported this case, presenting the patient, a lady physician. There was a history of long standing otorrhœa at the time that a mastoid operation became necessary. Following the operation on May 12 there was a zigzag temperature curve lasting until June 6, together with symptoms pointing to sinus phlebitis and thrombosis. Several examinations of the blood and urine were made with negative result. After some delay the second operation was done, and although the patient had apparently recovered, she still had a more or less marked febrile movement. At the time of the urgent symptoms it was probable that she was suffering from a localised meningitis.

**Acute and Chronic Cholecystitis.**—Dr. J. H. MUSSER of Philadelphia, Pa., presented this paper, but for lack of time, confined his remarks to acute cholecystitis. He expressed the belief that cholecystitis was a primary condition and that gallstones developed secondarily, in consequence of the infection of the biliary passages, and that when gallstones had formed, infection arose, because the presence of the stones led to the formation of an infection itrium. He considered the primary form only. From his own personal experience and from a study of the autopsy records of the Philadelphia and Presbyterian hospitals, he was sure that cholecystitis was a very common disease. Notwithstanding the careful investigations of Herter, he believed that gallstones were almost always secondary to cholecystitis; hence cholecystitis must be a common disease, because all were familiar with the frequency with which these stones were found. He believed many of the so-called cases of relapse in typhoid fever were due to cholecystitis, because he had seen a few cases that seemed to support this view. The cases of cholecystitis were divided into the mild, the severe, and the gangrenous forms. The clinical course of the disease bore a decided resemblance to that of appendicitis. The mild cases were often so mild as to escape recognition. He hoped the day was rapidly approaching when catarrhal jaundice could be eliminated as an entity. Pain and tenderness were the most common symptoms of cholecystitis, being present in 95 per cent. of the cases. The pain was sometimes referred to the epigastrium or radiated to the right shoulder. In the gangrenous form there was pain with a sense of distention at the very outset, but, just as in appendicitis, the pain quickly disappeared coincidentally with the occurrence of gangrene. At this time rigidity would persist, and there would be a chill or some evidence of shock. In 8 per cent. of the primary cases a tumor was present, and was almost always situated in the region of the gallbladder; but occasionally the tumor was lower down, especially when there had been long-standing gallstone disease, or when there was displacement of the liver. There was usually some fever, even in mild cases; in the more severe forms there was a septic temperature. In typhoid cholecystitis nausea and vomiting were usually absent; in the forms due to colon infection nausea and vomiting were more common; they were never, however, such prominent symptoms as in appendicitis. In 60 per cent. of the non-typhoid cases leucocytosis prevailed; in 40 per cent. only of the typhoid cases was leucocytosis observed. Perforating duodenal ulcer gave rise to symptoms similar to those observed in cholecystitis. The differential diagnosis from pancreatitis without hemorrhage was quite difficult. He had collected thirty cases of typhoid cholecystitis in which bacilli were found; forty-eight cases with a history of typhoid, but in which no bacilli were found; twenty in which there were colon or other bacilli and sixteen cases in which the findings were negative. The mortality of cholecystitis was not as high as in appendicitis. He had found that 40 per cent. of all forms of cholecystitis, not operated on, died, whereas only 5 per cent. died when the operation was done in the course of the disease. It should be remembered that many cases of obstruction of the duodenum or of the pylorus had their origin in cholecystitis. Three of the gravest cases of dilatation of the stomach that he had ever met with had this origin. The fact that very grave results followed cholecystitis had early led him to advocate operation and drainage in every case—indeed, he thought it was perfectly justifiable to remove the gall-bladder under these circumstances. Such early operations almost uniformly gave good results. He felt pretty sure that almost all cases of pancreatitis arose from disease of the biliary passages. The interval operation should be urged if there was reason to suppose that cholecystitis was present. It was safe to assume that in 80 per cent. of the cases the result, without operation, would be serious.

Dr. ROBERT T. MORRIS of New York said that one of the most acute cases of primary cholecystitis that he had seen was one in which typhoid fever apparently began at the gall-bladder. There had been no prodromal symptoms, and yet immediately after operation for acute empyema of the gall-bladder the patient passed through a typical course of typhoid fever. There might not be a marked rise of temperature in primary cholecystitis if the infection were caused by the colon bacillus. The symptoms were sometimes such as to suggest appendicitis, probably because the pressure of a distended gall-bladder on the superior mesenteric vein gave rise to congestion of the cæcum, colon, and appendix. He believed acute pancreatitis to be one of the most dangerous of the complications, and one of the best reasons for operating early in such cases of cholecystitis.

Dr. ALEXANDER LAMBERT said that he had seen cases in which it had been almost impossible to distinguish between appendicitis and cholecystitis. In such cases he had been assisted by the position of the tenderness and the radiation of the pain when pressure was made over the appendix and over the region of the gallbladder.

**The Etiology and Pathology of Salpingitis.**—Dr. EDWARD J. ILL of Newark, N. J., discussed this topic. He said that many cases of tubal disease arose from disturbances of the circulation produced by mechanical pressure, causing abnormally large convolutions and retention of secretion. It was highly probable that the normal tube contained no germs. Puerperal and gonorrhœal infection were the chief cause of tubal disease. The uterine end of the tube was rarely closed by adhesions, but rather by swelling of the mucous membrane and kinking of the tube. Extensive destruction of the epithelial lining of the tube was the exception.

**The Surgical Treatment of Salpingitis.**—Dr. HENRY C. COE of New York read this paper, He said that the comparison of appendical to tubal disease was frequently made, but was hardly warranted, although there was quite a similarity between recurrent cases and so-called pachysalpingitis. The well-known fact that gonorrhœal pelvic inflammation was self-limited and that septic inflammation was prone to be diffuse, had led most gynecologists to adopt an expectant plan of treatment during the acute stage of pelvic inflammation. The modern teaching was to operate early, thoroughly, and intelligently as soon as the presence of pus was detected. It is true that one sometimes failed to find the pus at the time of operation without extensive exploration, but such incision usually resulted in determining the evacuation of the abscess at that point. Vaginal incision and drainage of pyosalpinx was an operation the propriety of which was generally recognized. Fluctuation alone had ceased to be regarded as an indication for operation. The careful surgeon would never approach even a supposedly simple case of pelvic abscess without being prepared to open the abdominal cavity if necessary. It was usually held, that if

the purulent accumulation was near the pelvic brim, it was not a suitable case for attack by the vaginal route, but this depended largely upon the special skill of the operator. It was assumed in all these cases that a radical operation would, eventually, become necessary. He doubted the practical value of attempting to disinfect the tube by syringing it out. The practical difficulty in all conservative operations on the tubes was to decide what tissues were healthy and what diseased. Curettement should precede all operations on the tubes. When a radical operation was indicated it was far better to excise the tube and suture the cornu of the uterus than to employ the older method of leaving a stump. The time had passed when the ovary was removed on one side because the tube was diseased. The modern surgeon kept ever in view the remote as well as the immediate results of operation.

**The Non-operative Treatment of Salpingitis.**—Dr. W. TRAVIS GIBB of New York read this paper. He said that in the treatment of simple acute catarrhal salpingitis the less active the therapeutic measures employed, the better for the patient. Antipyretics and analgesics, especially the coat-tar derivatives, were absolutely contraindicated, as pain and fever were the two guides most relied upon in following the course of the disease. It was only when the temperature became elevated that it might become necessary to reduce it. Any marked elevation of temperature accompanied by a chill usually indicated that the salpingitis was no longer simple, and that more active measures were indicated. Curettage was inadvisable in the acute stage of catarrhal salpingitis, and all intrauterine applications were contraindicated at this stage. When infection had become general and the symptoms were those of general infection, the treatment should, ordinarily, be expectant as regards surgical interference. Of course, if general peritonitis should develop, the abdomen should be opened. The pus of an old pysalpinx was seldom entirely absorbed; if the collection were small, the fluid portion might be absorbed, leaving a cheesy mass of infected material. Many cases of chronic salpingitis could be relieved of their symptoms by non-operative treatment, and hence, such treatment should be given a fair trial, as it could not be denied that even a radical surgical operation did not always remove all of the symptoms. The non-operative treatment should consist in every measure that would promote the general health and diminish the pain and tenderness. Morphine and alcoholic stimulants should be avoided. Much good would result from the use of large douches of hotsaline solution and of vaginal tampons. For the latter purpose, a number of cylinders of lamb's wool, about one inch in diameter and two inches long, should be moistened with ichthyol and inserted into the vagina with the patient in the knee-chest position and the parts retracted. The vaginal orifice should not be distended. The tampons should be removed after twenty-four or thirty-six hours.

Dr. WILLIAM M. POLK advocated the more general use of the incision through the posterior cul-de-sac in cases of severe pelvic inflammation, as this procedure was not only often the means of arresting the pathological process, but offered a better chance for the preservation of the affected organs.

Dr. C. BONIFIELD of Cincinnati, Ohio, said that while it was worth while to make an effort to save the ovaries and tubes, our treatment must depend somewhat upon the social condition of the patient. He wished especially to direct attention to the fact that in the treatment of these conditions we had in vevatrum viride a very useful remedy. In cases of acute peritoneal inflammation, with a rapid, thready pulse, it would be found almost invariably that the pulse would improve under the administration of this drug to the point of producing the physiological effect. Ordinarily, the dose should be from eight to fifteen minims, repeated once in eight to twelve hours. He believed that it had a very decided influence in limiting the inflammation. It not only affected the circulation but stimulated the skin, kidneys, and liver, effects which were desirable in the treatment of septic conditions.

Dr. J. RIDDLE GOFFE said that cases in which the fimbriæ of the tube had become inverted and their peritoneal surfaces adherent, he was accustomed to treat by stripping from the uterus toward the end under a douche of saline solution, and then gradually manipulated them with his fingers until the fimbriæ were opened out. Then, with a spray of saline solution he washed out the interior of the tube. In old gonorrhœal cases he did not hesitate to amputate the portion of tube containing the pus, leaving a stump

**Clinical Aspects of Ileocolitis in Children.**—Dr. THOMAS M. ROTCH of Boston presented a paper on this subject. He said that the onset of fermental diarrhœa was often characterized by the toxic symptom of sudden rise of temperature. The color of the discharges was green or greenish-yellow, and the odor excessively offensive. The discharges were generally accompanied by considerable pain and the passage of gas. There were usually not more than a dozen stools in the twenty-four hours, and they were commonly associated with the discharge of mucus. In about 15 per cent. of all cases albuminuria was present, and in about 15 per cent. of the latter casts were also present. The term, ileocolitis, included all the more grave lesions of the intestine, those commonly classed as dysentery. They were usually secondary to the fermental diarrhœas, and sometimes to the acute infectious diseases, especially measles. It was now known that the dysentery bacillus represented a group rather than a single class of cases. The symptoms of ileocolitis were very unsatisfactory for differential diagnosis. The characteristic symptoms were, elevated and continued temperature, frequent small discharges of mucus, blood, pus, and shreds of membrane, sometimes associated with tenesmus, and usually with abdominal tenderness. The urine sometimes contained albumin. Of sixty-one cases of diarrhœa examined last summer in Boston bacteriologically, the bacillus pyocyaneous was present as the apparent cause in two, the streptococcus pyogenes in one, and the Shiga bacillus in ten cases. In the remaining forty-eight cases the sugar-fermenting organisms were chiefly found. A clinical study of these cases showed that the Shiga bacillus cases included a certain proportion of cases usually looked upon as examples of fermental diarrhœa. The Shiga bacillus was found in 16 per cent. of the cases of diarrhœa, and it was apparently a common cause of ileocolitis, although not all of these cases were so produced. We knew as yet of no clinical symptoms which were characteristic of infection with the Shiga bacillus. It had been proved that the Shiga bacillus was not the cause in a number of cases in which the stools contained specks of blood.

**Colon Bacillus Infection of the Female Genitourinary Tract.**—Dr. ALBERT H. ELY of Southampton presented this paper in abstract. The cases reported were divided into three groups, viz., (1) Those occurring before puberty; (2) those occurring between puberty and the menopause, and (3) those occurring after the menopause. He believed many cases of colon infection of this kind passed unrecognized, and that many cases of simple vaginitis and cystitis were accompanied by toxæmias and septicæmias of very severe type, both in children and adults at an age when it would not be expected. He cautioned against the use, without careful observation, of the so-called urinary antiseptics because of the chance of toxic symptoms arising from absorption through denuded surfaces.

Dr. WILLIAM H. PARK said that the more ileocolitis resembled severe dysentery the more the likelihood of finding the dysentery bacillus. It was highly probable that there was a true Shiga bacillus, found almost invariably in typical cases, and that there was a similar

bacillus more like the streptococcus found in the throat.

Dr. L. EMMETT HOLT said that all kinds of lesions were found associated with the Shiga infection, from the mildest to the most severe. The lesions varied with the severity and duration, and not with the nature of the infection. It was very probable that we should find a fairly well-defined group of clinical symptoms invariably associated with Shiga infection, viz., sudden onset, high temperature, and stools containing blood and mucus. In the fermental diarrhœas it was not probable that much good would result from the use of the serum, but in the acute cases with sudden and severe onset there was a good prospect of securing decidedly beneficial effects from the serum treatment.

Dr. JOSEPH E. WINTERS said it seemed to him that in this discussion two totally distinct diseases had been confounded. A fermental diarrhœa was a food disorder; the other was primarily infectious and dangerously contagious, far more so than typhoid fever.

Dr. ROWLAND G. FREEMAN of New York spoke of his hospital experience last summer with diarrhœa in children. Altogether about forty-four cases were found to have the Shiga bacillus, and in the majority of the cases blood and mucus were present in the stools. With the exception of these stools and the persistence of the disease there was nothing especially characteristic about the symptomatology. He believed most of them were cases of true ileocolitis. The mortality was only a trifle higher in the cases that did not receive the serum treatment than in those so treated, but there was some reason to believe that the dosage employed was inadequate.

## AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

*Proceedings of the Sixteenth Annual Meeting, Held in Chicago, Ill., September 22, 23, and 24, 1903.*

(Continued from page 673.)

**Memorial Address.**—Dr. LEWIS S. MCMURTRY of Louisville, Ky., delivered the Memorial Address on Dr. William E. B. Davis, of Birmingham, Ala. Among other things, he said that no man enjoyed a more honorable career; no one had brighter prospects for years of useful and enjoyable service. Much earlier than was customary in the medical profession, he had attained the fruition of his hopes. He was a recognized leader in scientific accomplishments; enjoyed the respect of his professional brethren in a remarkable degree, and possessed a large and devoted *clientele*. He lacked at the time of his death eight months before reaching the age of forty years. His ability, his energy, his incessant activity, his enthusiasm and capacity for concentration of thought and labor had placed him in the line of demonstrated success and authority at an age when the members of the medical profession were usually only beginning to receive merited recognition. Dr. Davis was born at Trussville, Jefferson Co., Ala., November 25, 1863, and was killed instantly by accident at a railway crossing in the city of his home, on February 24, 1903. Dr. McMurtry gave an outline of the character of an earnest, honest, able and intense man, who, dying before the age of forty years, had done the work usually encompassed in a good long life. He was a leader among the members of the profession, respected, trusted, and beloved. His memory would be revered and cherished in his home by the loved ones there, and his name and fame would remain with the people of the city which was his home in his native State. The statesman and soldier left his monument in bronze and stone; the man of wealth in the colossal fortune that perpetuated his name; the author and poet in pages of thought and songs that lived, but Dr. Davis, who had joined the silent majority, he says, had a thousand monuments in the hearts of those who knew his good offices and appreciated his generous character.

**Some of the Sources of the Disappointments of the Surgeon.**—This was the title of the President's Address, delivered by Dr. L. H. DUNNING of Indianapolis, Ind. He said it was not his purpose to present an address filled with pessimistic statements, gloomy forebodings, or records of unhappy failures. There was no more pitiable object than that of an elderly physician or surgeon, who, after having passed a quarter or a half century in successful endeavor in the practice of his calling, in the declining years of his life fell into pessimism or disbelief. To lose hope in one's successful endeavor and faith in the beneficence of one's life work, was heart-breaking. He once knew a surgeon of this sort who, during a splendid career as teacher and practitioner, reached an exalted position, and who, after his powers began to decline, became a skeptic as regards the curative value of medicine and surgery. A few years later found him specializing in the use of a secret remedy, the constituents of which he did not know, and later still he had entirely lost the confidence of his former patrons and became a cynical old man, entirely dependent upon the support of an accomplished daughter, whom he had educated in his prosperous days. From such a fate, and from other unhappy states that must surely come to a surgical doubter or scoffer, said Dr. Dunning, "may we all be delivered." He begged of his listeners not to hear a pessimistic note in his address. The motive that actuated the writer was one of inquiry to the end that the causes of disappointments in surgery might be ascertained, so that in the future they might be avoided He believed in surgery, and practised it because he had faith in its beneficent power and had experienced some of the joy that came with a moderately successful endeavor. It could not be denied, however, that surgeons met with their full share of disappointments. Judging from medical journal reports, one was led to believe that there were not a few of these disappointments in the paralysis following the bloodless operation for the cure of congenital dislocation of the femur. The successful extraction of a cataract from the eye had given promise of restoration of sight to the organ operated upon, yet, when a sufficient time had elapsed it was found that the patient must walk in total darkness the remainder of his days. A woman was racked by pain in the ovaries, which organs were prolapsed and inflamed. They were extirpated under the belief that such procedure would bring to the patient not only relief from suffering, but also restoration of health, so that she might again with joy take up and discharge the duties of life. Alas! This was not infrequently a delusive hope. Former successes led the surgeon to promise himself and his patient restoration to health or relief from fear of recurrence of an ovarian cyst, if it were extirpated. Upon opening the abdomen, a papillomatous cyst with secondary peritoneal involvement was found, and the surgeon knew that his hope must fall. After months of thorough study and experimentation, a surgeon brought forward a new procedure, the execution of which he believed would prove a means of lessening the mortality of some grave operation, or would diminish the risks of recurrence of some malignant lesion. The technique seemed scientific and its execution was accomplished with ease. The profession accepted it; its popularity grew so that in a few short months reports of cases were published in many countries and languages. After a time, when a great number of histories of cases had accumulated, it was found that less good had been accomplished by this means than by former long-used ones. One of the sources of disappointment which he mentioned related to the surgeon and his environments. The most nearly perfect surgeon was one who ordered his life with the utmost care. Nature must have been profuse in her gifts to him; a good constitution, excellent health, superior intellectual and tempora mental endowments, an indomitable will, inflexible purposes and high moral susceptibilities. His training should be for the development of these faculties, together with the special training that

would give him the requisite knowledge and skill to do high-grade special work. Add to this good judgment, self-control and moderation in all things, and we had the essential elements of a successful surgeon. Disappointments in greater or less degree would come to all surgeons, be they ever so successful, for it seemed to be the natural order of things that contrasting or antagonistic elements existed side by side. The man who became despondent and inactive because of this was the weak man. The strong man would endeavor to magnify the good and crush out the evil. He would, in so far as it was possible, remove the ugly and retain the beautiful. The surgeon's hope should be to eliminate every preventable source of failure, and when failures came to make of them task-masters compelling the way to better things.

**The Rational Treatment of Postpartum Infections of the Uterus.**—Dr. D. Tod Gilliam of Columbus, Ohio, said the rational treatment of postpartum infections of the uterus presupposed a knowledge of the infecting agencies, their nature and tendencies, and of the conditions which favored or retarded their entrance into the general system. The bacteria of puerperal infection were the same that took part in other pathological processes of the genital tract, chief among which were the streptococcus, gonococcus, colon bacillus, and the saprophytes. Saprophytic or putrid infection occurred when fetal detritus —fragments of placenta or membranes—had been left in the uterine cavity. It was pernicious only through its products, the toxins, and would cease to do harm so soon as the fetal débris was expelled from the uterine cavity. Both the colon bacillus and the gonococcus were surface germs showing little tendency to penetrate into the depth of tissues or to disseminate through the general system. The streptococcus was the most deadly of germs connected with puerperal infection. It might and did propagate in living tissues. While all the germs were capable of producing invalidism, there was only one, namely the streptococcus, that jeopardized life. This assertion was to be taken in a general sense, as other bacteria had on occasions been the cause of severe or even fatal infection. It became, then, important to distinguish between streptococcus infection, and that of other germs. Unfortunately, there was no sure method, even the microscope sometimes being inefficient or misleading. Clinically, putrid infection was usually characterized by high temperature, low pulse, and foul odor, whereas in streptococcus infection there was no odor in the earlier stages, and the pulse was markedly accelerated. There might be suppression of lochia. The normal death rate for puerperal infection was about one per cent. This was increased in epidemics, which were usually due to streptococcus infection. The death rate from streptococcus infection was about 5 per cent., and these constituted about one-fourth of all cases of puerperal infection. Hence, about 98 or 99 cases out of a hundred should recover, if let alone. A recently delivered uterus was a hotbed for infection, being filled with the juices of disintegration and spilled blood. The mortality would be appalling were it not for the safeguards. These were: (1) Autosterilization of the genital tract; (2) the protective epithelium; (3) the protective leucocytes under the epithelium The germ of Doederlein was the principal agent in sterilizing the genital tract; hence irrigation before or after labor was harmful, because it washed this germ away, and did not entirely rid the tract of pathogenic germs. It was impracticable to clear the uterine cavity of pathogenic germs by curettage or flushing, as many of the germs were ensconced in the depths of the utricular glands, and could not be reached, hence curettage or flushing by opening avenues of infection without getting rid of the pathogenic germs was harmful and dangerous. The epithelium was usually an efficient preventive of germ invasion. The protective leucocytes under the epithelium gave battle to the germs, and unless overwhelmed would prevent their entrance into the general circulation. The normal death rate of puerperal infection was about 1 per cent., but after curettage it amounted to 20 per cent. The sharp curettage was especially dangerous, as it not only failed to remove the germs, but destroyed the protective barriers. As it was impossible to say that streptococcus infection was not present in any case, the only safe way was to eschew the sharp curette entirely in puerperal infection. Curettage was permissible only when there was known to be fetal débris in the uterine cavity, and when there was reason to believe no streptococci were present. For this the finger or dull curette with stiff handle should be used. Flushing, if done at all, should be done with every precaution against infection. The patient should be on a table, under a good light, the vulva and vagina cleansed, the latter with five-per-cent. creolin in liquid green soap, mopped, dried, and retractor introduced; the cervix grasped, drawn down, and steadied with forceps; the cervical canal wiped out with gauze and bits of membrane picked off with forceps. Gently introduce irrigator and flush. If pulse and temperature should drop, repeat daily or oftener, otherwise discontinue. Alcohol might be installed according to Ill's modification of Carosso's method.

**Penetrating and Perforating Gunshot and Stab Wounds of the Abdomen.**—This was the title of a paper presented by Dr. John Young Brown of St. Louis, Mo. The author went fully into the literature of this subject. An analysis showed nine cases of perforating wounds of intestines, with six recoveries and three deaths. Of the deaths, one was due to shock, the injury being so extensive that the patient never reacted. The author's second patient entered the hospital with general peritonitis, and while a perforation was overlooked, it was probable that the result would have been the same if this injury had been repaired. The third patient, he thought, could have been saved. Of the wounds of the liver, five patients in all, four recovered and one died. This patient died three hours after operation from shock, the result of hemorrhage. A patient with wound of the pancreas recovered. To these cases he added eight in which laparotomy was done and no injury to viscera found, making a total of twenty-three cases, with nineteen recoveries and four deaths.

**The Use of the Stem Pessary for Infantile Uteri, Scanty Menstruation, Amenorrhœa, and Dysmenorrhœa.**—Dr. J. Henry Carstens of Detroit, Mich., cited a number of intractable cases of this kind, which were promptly relieved by the stem pessary. The theory was that weak or poorly-developed muscles could only be strengthened by constant exercise. The only way to exercise the uterine muscles was to introduce something into the uterus, and the constant tendency to expel the contents would enlarge the muscles and develop the uterus. It was absolutely essential that no pelvic trouble, either chronic or latent, existed. The diagnosis must be perfect. The use of the stem pessary was valuable in infantile uteri and in atrophy of the uterus. In amenorrhœa, including scanty and irregular menstruation, especially as found in fleshy women, it was also of great value. It might be used with great advantage in simple cases of retroversion in young girls, and cases of stenosis or tortuous uterine canals. He used the Chapman hard rubber pessary, and left it in from six months to two years.

**Tuberculosis of the Female Genitalia and Peritoneum.**—This was the title of a very exhaustive paper conributed by Dr. John B. Murphy of Chicago. The author considered at great length tuberculosis of the vulva, vagina, portio vaginalis externa, cervical canal, fundus uteri, tubes, ovary, pelvic peritoneum, and general peritoneum.

**Movable Kidney with Secondary Cyst Formation, Resembling Ovarian Cyst.**—In a paper on this subject, Dr. Rufus B. Hall of Cincinnati, Ohio, said that until recent years the consensus of opinion of the profession was that

Mo.; *First Vice-President*, Dr. A. B. Miller, Syracuse, N. Y.; *Second Vice-President*, Dr. W. D. Haggard, Nashville, Tenn.; *Secretary*, Dr. Wm. Warren Potter, Buffalo, N. Y., re-elected; *Treasurer*, Dr. X. O. Werder, Pittsburg, Pa.

The determination of the time and place for holding the next annual meeting of the association was left to the Executive Council to decide.

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## THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

*Stated Meeting, Held September 28, 1903.*

CHARLES N. DOWD, M.D., PRESIDENT.

**High-frequency Currents.**—Dr. HENRY G. PIFFARD read a paper on this subject, accompanying it with demonstrations. (See page 681.)

Dr. A. D. ROCKWELL said that physicians were much indebted to Dr. Piffard for exploiting the very original suggestion of our French confrères, as well as for a good many original suggestions of his own. The term high frequency was certainly well applied to both the D'Arsonval and the other current. He also believed it was applicable to the static wave current. The distinguishing characteristic of the high-frequency currents was an absence of sensory and motor effects. D'Arsonval passed his current through the patient and lighted a lamp by having the patient hold the lamp in his hands. The speaker said he was somewhat perplexed at the asserted magnitude or amperage of these high-frequency currents. Magnitude of current was often much needed in electrotherapy. It seemed to him that in the step-up process we obtained high frequency at the expense of magnitude, for all electrical phenomena must obey Ohm's law. For this reason he was inclined to believe these currents to be of insignificant amperage, and that they did not represent, as Dr. Piffard had said, 200 or 300 milliamperes. As much as one hundred years ago certain experimenters described high-frequency currents, but these older investigators did not at that time appreciate the significance of what they had obtained, and so it was left for others to amplify.

Dr. JULIUS RUDISCH said that it seemed very strange that one or more persons, through whom the D'Arsonval current was passing, could light lamps to full incandescence—not as had been done here, merely to redness. The question arose, then, as to whether this lighting of the lamp was at all comparable with the ordinary lighting of the incandescent lamp. The human body was apparently able to tolerate large currents when they acted for only a short time. High-frequency currents had enormous voltage and very small amperage.

Prof. SAMUEL SHELDON of the Brooklyn Polytechnic Institute said that he had been in touch with the work of Dr. Piffard during the past year, and had been impressed, as a physicist, with two things. The first was that when a Holtz machine was employed whose total current at its maximum output was but a fractional part of a milliampere, could produce a current of 300 amperes. He had repeated these experiments with an ordinary Holtz machine and had sent this current through his own body and through a lamp, lighting the latter up to a white heat. He had then measured the current with an ammeter of the Stanley type and had obtained a reading as high as 300 milliamperes. Despite this there was no pain in the body. The reason no higher amperage could be measured was that sparks passed through from the ammeter to its case. This was certainly a surprise to physicists. We were all well acquainted with the theory of resonators in acoustics. The conditions determining the frequency of the vibration were the shape of the cavity and the nature of the orifice. In any closed circuit there was a certain definite period at which electric currents would like to alternate, and the limitations were inductance and capacity. In order that the frequency might be high the inductance and the capacity must be low. The frequency would be determined by these two factors, capacity and inductance. In the particular apparatus exhibited, an impulse of energy, like the blowing of wind against the mouth of an organ pipe—that rapid discharge between the balls of the Holtz machine—was what started the vibrations. The second thing which had impressed the speaker was that the human body could stand 300 milliamperes; personally, he had been unable to stand 20 milliamperes of an ordinary current. It had occurred to him that if a current travelled through the body, it probably did so through the liquids of the body, decomposing them and generating gases in the cells of the body. But, on attempting to accomplish such decomposition, using water, he had found that liquids did not conduct these high-frequency currents; hence the conclusion had been forced upon him that the tissues themselves, and not the fluids of the body, were the means of conducting these currents.

Dr. CLARENCE E. SKINNER of New Haven expressed his appreciation of the work of Dr. Piffard, and corroborated his testimony as to the therapeutic usefulness of these currents.

Dr. WILLIAM J. HERDMAN of Ann Arbor, Mich., also complimented Dr. Piffard on the excellent scientific work he had accomplished. He emphasized the fact that we were entering a new era, one in which attention was being directed to physiological therapeutics, *i.e.* the use of heat, light, ultraviolet light and electricity. These modalities were coming to the front, and largely taking the place of our drugs. We should recognize that these different agents were only different manifestations of one and the same thing. He was of the opinion that fully 80 per cent of what could be accomplished by drug medication could be equally well attained by electric treatment. All of the eliminative activities that we attempted to secure by cathartics could be brought about by means of electricity and leave no deleterious effects. We could not, therefore, ignore these therapeutic actions. In the department of nervous diseases he had for twelve years made use of electricity in some form for the purpose of producing metabolic changes in defective conditions of the system. He had found one of the best ways of producing elimination was by subjecting the person to one of these high frequency high-tension currents. Such an agent had been proved, beyond any question, to increase the output of uric acid and carbon dioxide and to increase the tonicity of the blood vessels. What physicians needed at the present time above all was a clear conception of what they were using. This agency was attracting the attention of humanity, but unfortunately the physicist knew a vast deal more of this wonderful agent than did the physician. We should, therefore, begin with the physics, then take up the physiology, and having established a good groundwork, pursue our investigations in the realm of therapeutics. As to the difference between these low voltages and the low frequency as compared with the higher, the speaker said that when a direct current was interrupted its electromotive force or voltage was changed, and when applied to the body the muscles contracted or the nerves responded by sensation. When the frequency of interruption was increased beyond six or, in some instances, ten thousand the human organism no longer responded. Nevertheless molecular activities were disturbed, as shown by the increased elimination and metabolic activity. Whether or not these currents of high frequency traverse the body we did not as yet know; some were of the opinion that they only passed over the surface of the body; but in any case the physiological effects were positive, and could not be disputed. We should not forget that all of the activities in our organism were capable of being transferred into electrical energy.

Dr. JOSEPH COLLINS said he regretted that his experience with electricity prevented him from agree-

ing with the previous speakers. For the past ten years he had employed currents of both high and low frequency, and n various forms. For the past two years he had tried the hypostatic current, and during the past year the current of D'Arsonval. He had just returned from a trip abroad, during which he had endeavored to study the work of electrotherapeutists there. He had never found electricity as available as a therapeutic agent as, for example, massage, in the treatment of nervous disease, functional or organic, or of general visceral disease. He did not deny, however, that there was a certain field for electrical treatment. His own experience was entirely opposed to that of Dr. Herdman regarding the eliminative action of electricity. He admitted that, following electrical treatment, there might be increased diuresis or diaphoresis, and an increased output of urea or uric acid, but the same result might follow the taking of a cup of coffee. While making these statements, he wished it understood that he was not trying to depreciate electricity, but rather to justify his belief that electricity was not of signal value in therapeutics. He declared that proof was entirely lacking of the statements made in favor of electrotherapy. He had hoped to hear of new applications of electricity of much promise, but he had been disappointed, and with a fairly extensive knowledge of electricity he felt justified in making these statements.

Dr. Piffard, in closing the discussion, said that he thought the demonstration of the lighting of the lamp should be sufficient to show Dr. Rockwell that a current of much more than two or three milliamperes was employed. The lamp could be brought to full incandescence if specially constructed lamps were used, but because of the peculiar insulation employed in our commercial lamps a spark would occur and break the lamps.

## NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting, Held October* 1, 1903.

CHARLES L. DANA, M.D., VICE-PRESIDENT, IN THE CHAIR.

**Predisposition to Tuberculosis.**—Dr. JOHN B. HUBER read this paper. He said that up to very recently it had been contended that only a vulnerability to tuberculosis was transmitted from parents to their offspring. It was a well-defined law of heredity that functional rather than anatomical alterations were transmitted. Insanity and alcoholism were often correlated with tuberculosis. In tuberculous, as in syphilitic subjects, there were usually present degenerated states of the tissues which rendered them an easy prey to bacillary invasion. There was abundant evidence of primary tuberculosis in the bronchial glands, and in almost every part of the body primary tuberculosis was found. The place of deposit, however, was not necessarily the point of entrance of the parasite. The bronchial twigs which supply the apex of the lung were often defective in their structure, and, moreover, there were imperfect expansion and aëration of this portion of the lung, so that it was not surprising that the apex of the lung should be the point of election for the tuberculous process. In infants, abdominal tuberculosis was much more frequent than pulmonary, and at this period of life gastrointestinal diseases were especially frequent. If digestion in the stomach were impaired, the tubercle bacillus might be allowed to pass through the intestine, and from there they would pass into the thoracic duct and would eventually reach the pulmonary circulation by the way of the vena cava. A faulty metabolism played an enormous part in rendering the tissues vulnerable to the invasion of tuberculosis. A deficient circulatory system meant reduced oxidation and tissue starvation, particularly in the lungs. Pulmonary tuberculosis was almost invariably found in persons dying in the course of chronic alcoholism. It was difficult to explain the effects of alcohol, but the bad effects of alcohol in this disease were largely connected with the unhealthy conditions associated with alcoholism. Poverty, with all that it implied, stood in an important etiological relation to tuberculosis. There seemed to be a subtle relation between insanity and tuberculosis. Many of the inmates of insane hospitals apparently free from tuberculosis on admission to those institutions, developed the disease subsequently, and of those entering with the disease already developed, very few recovered. Altitude, temperature, moisture, season, and soil were probably also etiological factors. Among the diseases predisposing to tuberculosis were bronchitis, pneumonia, influenza, the exanthemata, typhoid fever, and diabetes. The speaker was of the opinion that scrofulosis and tuberculosis were not always the same thing. The scrofulous constitution was one upon which the tubercle bacillus was often, but not always, implanted. The Koch bacillus was by no means the only factor to be dealt with in tuberculosis. The antimicrobic drugs which had been given internally with the idea of destroying the bacilli had been generally worse than useless. Our improvement in the treatment of tuberculosis lay, not in the use of any special bactericide, but in our appreciation of hygienic methods.

Dr. W. FREUDENTHAL emphasized the important part played by the upper respiratory tract in the development of general tuberculosis.

Dr. S. A. KNOPF said that in the main he agreed with the reader of the paper. It had been his frequent and sad experience that the children of tuberculous parents were very apt to contract the same disease, and, hence, he could not understand why some writers still insisted that such parents often conferred an immunity upon their offspring. His own view of the question of heredity in this connection was that there was a transmission of physiological poverty. The majority of tuberculous people coming from large families, according to his experience, were not the first-born, but those born when the parents were comparatively old and feeble. The theory had been advanced that predisposition to tuberculosis was partly dependent upon what might be called a demineralization of the blood. The gentleman who had propounded this theory had also recommended that tuberculous persons be given large quantities of common salt, and, in the speaker's experience, this was a valuable suggestion. Whatever might be the explanation, the fact remained that these persons seemed to thrive upon food containing an abundance of salt.

Dr. A. JACOBI said that alcoholism could only be charged with undermining the constitution, and thereby causing some sort of predisposition to microbic invasion, not necessarily only of the tubercle bacillus. Further than this he would not be willing to admit that alcoholism was a predisposing cause of tuberculosis. We had all been taught that serious heart disease and tuberculosis were not often found associated; indeed, there were some facts pointing rather to the probability of heart disease tending to prevent rather than to cause tuberculosis. Bier had shown that by the artificial production of venous obstruction tuberculous joint disease could sometimes be cured. In heart disease there was venous obstruction in the lungs, and this fact probably explained why tuberculosis and heart disease were very seldom associated. When the conformation of the chest was such as to interfere with the free and natural movement of the lungs, there was more apt to be tuberculous involvement. As far back as 1858 Freund called attention to premature synchondrosis of the sternum and ribs in young subjects as being frequently associated with tuberculosis—a fact which should cause no great surprise, because the effect on the chest would be to make it long and narrow and interfere with the action of the lungs. It was not so much poverty as overcrowding that explained the spread of tuberculosis among the poor. It should not be forgotten that in infancy there was a natural predisposition to tuberculous infection, owing partly to the deficiency in bacterial ferments in the blood of infants as compared with what was

found in older children and in adults, and partly to the anatomical condition of the mucous membrane and the deficiencies of the epithelium there. It had been demonstrated that the tubercle bacillus could pass through normal mucous membrane. Only lately a direct connection had been found between the intestinal tract and the submaxillary gland. Thus, the bacilli might be absorbed in the stomach, be carried to the submaxillary gland without any notable ulceration of the intestine having taken place.

Dr. Louis Faugères Bishop said that predisposition was not a positive, but a negative thing. Most of us were immune to tuberculosis, otherwise we would contract that disease, being more or less constantly exposed to it. The loss of this natural immunity might result from a variety of causes, as, for example, alcoholism and pleurisy. The object of treatment should be to re-establish this natural immunity. We could hardly expect to eliminate infection entirely, but it could be brought within such bounds that the system could cope with it.

Dr. Louise G. Robinovitch said that, according to her experience, extending over a period of many years and including a large number of alcoholic cases in a varied hospital practice, she had been unable to find any direct relation between alcoholism and tuberculosis. She took exception to the statements made in the paper that there was any relation between tuberculosis and insanity, and thought there would be found in the literature high authority in support of her contention.

Dr. Max Einhorn said that about fifteen years ago he had examined the gastric juice of children, and had found that it differed considerably from that of adults. Free hydrochloric acid was very rarely found in these young subjects at the period of digestion at which it would be present in abundance in older persons. He mentioned this to suggest that, because of this absence of hydrochloric acid, it might be that the tubercle bacilli were afforded a better opportunity in the infant's stomach for passing through the stomach unharmed.

Dr. Huber closed the discussion. He said that several pathologists had told him that tubercle bacilli were almost never found in the alveoli of the lungs, and that, while particles of dust might be found in the alveoli in cases of anthracosis, this was not common. This fact, therefore, showed the possibility of the tubercle bacilli gaining entrance to the alveoli, even though this was not the usual channel of infection.

## Medical Items.

**Contagious Diseases — Weekly Statement.** — Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending October 24, 1903:

| | Cases. | Deaths. |
|---|---|---|
| Measles | 108 | 7 |
| Diphtheria and croup | 285 | 39 |
| Scarlet fever | 86 | 2 |
| Smallpox | 2 | ... |
| Varicella | 28 | ... |
| Tuberculosis | 322 | 148 |
| Typhoid fever | 90 | 21 |
| Cerebrospinal meningitis | ... | 3 |

**Great Britain's Mortality Statistics.**—The Sixty-second Report of the Registrar-General of the United Kingdom for 1899 gives the death from zymotic diseases at 89,235, or 2,811 per million of population. Tuberculous diseases destroyed 60,659, or 10.4 per cent. of deaths from all causes. Alcoholism caused the death of 2,871, or 112 per million living among males and 70 among females. Cancer and malignant diseases destroyed 26,325 persons, or 829 per million of all ages and both sexes. As to the infant mortality, 163 infants under 1 year of age died in 1899 in every 1,000 of the population in England and Wales. It has increased from 149 in 1871 to 1880 There were 82,103 deaths in lunatic and idiot asylums, or 14.1 per cent. of the total deaths in England and Wales.

**Health Report** — The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended October 24, 1903:

SMALLPOX—UNITED STATES.

| | | Cases. | Deaths. |
|---|---|---|---|
| California, Los Angeles | Oct. 4–10 | 1 | .. |
| Colorado, Denver | Aug. 29–Sept. 26 | 4 | .. |
| Florida, Jacksonville | Oct. 11–17 | 1 | .. |
| Illinois, Chicago | Oct. 11–17 | 3 | .. |
| Danville | Oct. 11–17 | 1 | .. |
| Louisiana, New Orleans | Oct. 11–17 | 2 | (Imported) |
| Maryland, Baltimore | Oct. 11–17 | 1 | .. |
| Mississippi, Natchez | Oct. 12–19 | 1 | .. |
| Missouri, St. Louis | Oct. 3–10 | 2 | .. |
| New Hampshire, Manchester | Oct. 11–17 | 3 | .. |
| New Jersey, Camden | Oct. 11–17 | 1 | .. |
| Ohio, Cincinnati | Oct. 9–16 | 2 | .. |
| Cleveland | Oct. 11–17 | 1 | .. |
| Pennsylvania, Altoona | Oct. 11–17 | 1 | .. |
| Johnstown | Oct. 11–17 | 14 | .. |
| Philadelphia | Oct. 11–17 | 54 | 4 |
| Pittsburg | Sept. 12–Oct. 17 | 279 (7 cases imported) | 60 |
| South Carolina, Charleston | Oct. 11–17 | 1 | 1 |
| West Virginia, Jefferson County | Oct. 1–15 | 14 | .. |
| Wheeling | July 1–Sept. 30 | 4 | 2 |
| Wisconsin, Milwaukee | Oct. 11–17 | 9 | .. |

SMALLPOX—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Cebu | Aug. 1–31 | 8 | 4 |
| Manila | Aug. 30–Sept. 12 | .. | 3 |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Brazil, Pernambuco | Aug. 16–Sept. 15 | .. | 23 |
| Rio de Janeiro | Sept. 14–27 | 109 | 40 |
| Chile, Antofogasta | Aug. 25–31 | .. | 10 |
| Colombia, Barranquilla | Sept. 28–Oct. 4 | .. | 2 |
| Formosa | Aug. 1–31 | 1 | .. |
| Great Britain, Birmingham | Sept. 27–Oct. 3 | 9 | .. |
| Bristol | Sept. 27–Oct. 3 | 1 | .. |
| Glasgow | Oct. 2–9 | 1 | .. |
| Leeds | Oct. 4–10 | 4 | .. |
| Liverpool | Sept. 27–Oct. 3 | 8 | .. |
| London | Sept. 27–Oct. 3 | 1 | .. |
| Manchester | Sept. 27–Oct. 3 | 2 | .. |
| New Castle-on-Tyne | Sept. 7–Oct. 3 | 5 | 1 |
| Malta | Sept. 20–26 | 6 | .. |
| Mexico, Mexico | Sept. 28–Oct. 11 | 5 | 4 |
| Merida | Oct. 11 | 1 | .. |
| Russia, Odessa | Sept. 27–Oct. 3 | .. | 1 |
| St. Petersburg | Sept. 20–26 | 19 | 2 |
| Warsaw | Aug. 28–Sept. 12 | .. | 7 |
| Spain, Barcelona | Sept. 27–Oct. 3 | .. | 4 |
| Turkey, Constantinople | Sept. 28–Oct. 4 | .. | 3 |
| Smyrna | Sept. 28–Oct. 4 | .. | 77 |
| Venezuela, Yaritagua | Sept. 23 | Prevalent. | |

YELLOW FEVER—UNITED STATES.

| | | | |
|---|---|---|---|
| Texas, Connell | Oct. 20 | 1 | .. |
| Castroville | Oct. 21 | 1 | .. |
| Hondo | Oct. 19 | 1 | .. |
| Laredo | Oct. 14–21 | 98 | 7 |
| San Antonio | To Oct. 21 | 13 | 3 |

YELLOW FEVER—FOREIGN.

| | | | |
|---|---|---|---|
| Brazil, Rio de Janeiro | Sept. 14–27 | 5 | 3 |
| Mexico, Mexico | Sept. 28–Oct. 4 | 1 | 1 |
| Merida | Oct. 4 | 14 | .. |
| Nuevo Laredo | Oct. 13–21 | 14 | 2 |
| Progreso | Oct. 4–11 | 2 | .. |
| Tampico | Sept. 30–Oct. 10 | .. | 6 |
| Vera Cruz | Oct. 3–10 | 38 | 11 |
| Venezuela, Puerto Cabello | Sept. 20–26 | .. | 1 |

CHOLERA—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands | Manila, Aug. 30–Sept. 12 | 94 | 76 |
| | Provinces, Aug. 30–Sept. 12 | 1614 | 1304 |

CHOLERA—FOREIGN.

| | | | |
|---|---|---|---|
| China, Hankow | Sept. 12–19 | 1 | 1 |
| Hongkong | Sept. 5 | .. | 1 |
| Shanghai | Oct. 12–19 | .. | 11 |
| Tientsin | Sept. 12–19 | 3 | 1 |
| India, Calcutta | Sept. 6–12 | .. | 4 |
| Madras | Sept. 6–12 | .. | 3 |
| Straits Settlements, Singapore | Aug. 29–Sept. 5 | .. | 11 |

PLAGUE—UNITED STATES.

| | | | |
|---|---|---|---|
| California, San Francisco | Oct. 7 | 1 | 1 |

PLAGUE—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Cebu | Aug. 19–Sept. 12 | 6 | 3 |
| Manila | Aug. 30–Sept. 12 | 3 | 3 |

PLAGUE—FOREIGN.

| | | | |
|---|---|---|---|
| Brazil, Rio de Janeiro | Sept. 14–27 | 62 | 24 |
| Chile, Iquique | Aug. 28–Sept. 11 | 0 | 5 |
| China, Newchwang | Sept. 12–19 | 73 | 62 |
| Egypt, Alexandria | Sept. 12–18 | 8 | 4 |
| Damiette | Sept. 12–19 | 1 | 1 |
| Formosa | June 1–Aug. 31 | 164 | 142 |
| India, Calcutta | Sept. 6–12 | .. | 13 |
| Italy, Licata | Sept. 13–20 | 1 | 1 |

In the report to the journals for September 19, eleven cases of smallpox were accredited to Ogden, Utah, when there should have been only one.

# Medical Record

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## Original Articles.

### SURGICAL INTERFERENCE IN HYPERTROPHIC BILIARY CIRRHOSIS OF THE LIVER.*

BY DR. JULIUS ROSENSTIRN,
SAN FRANCISCO, CAL.
SURGEON TO MT. ZION HOSPITAL.

THE surgical opening of a new side-track for the blood of the portal vein has been performed for the relief of atrophic cirrhosis of the liver with ascites exclusively. Ever since Thomas Lens'[1] first publication, the fixation of the omentum to the peritoneum has been done to alleviate symptoms resulting from hepatic cirrhosis with vascular obstruction, and the consequent accumulation of the ascitic fluid in the peritoneal cavity.

In the first of the two cases I am about to bring before you, an erroneous diagnosis of adenoma of the liver was the reason for the second laparotomy, and when the true nature was discovered the operation of sewing the omentum, gall-bladder, and liver to the parietal peritoneum was made as an ultima ratio experiment only.

In the second case the diagnosis of hypertrophic biliary cirrhosis—Hanot's disease—was considered prior to the surgical interference and the operation planned deliberately and deemed justifiable by the successful issue of the first one.

CASE I.—Mr. Samuel Magnus, a native of Prussia, thirty-nine years old, a salesman, residing in San Francisco, came under my care September 22, 1902. The father died of some unknown lung and liver trouble; the other family history is negative. He is a moderate smoker, and drinks very little.

He had gonnorrhœa when a young man, but no lues. Suffered from hemorrhoids twelve years ago, from inflammation of the bowels eight years ago, and from muscular rheumatism four years ago. About three years ago the patient suffered from headache, constipation, and tenderness and pain over the liver. His stools were not clay-colored, but he passed a little blood with the fæces. He has been more or less jaundiced since that time and did not feel well since. He never had any symptoms of intermittent fever.

The present aggravation of his illness began two months ago, when he suffered from diarrhœa and passed a great deal of slimy mucus with his stool, became more jaundiced again, had poor appetite, and suffered from cramp-like pains over the right hypochondriac and iliac regions. The pain has increased in violence and is particularly severe between the angle of the costal arch and the umbilicus.

The examination shows his eyes to react normally to light and accommodation and the conjunctivæ of a deep yellow color.

The thoracic organs are normal. There is a pronounced tenderness on pressure below the right costal arch and over the appendix, and a marked bulging in the right hypochondriac region.

On palpation the right rectus is found more resistent than the left. A hard swelling in the abdomen can be mapped out, reaching down into the right hypochondrium to near the level of the umbilicus. The upper border of the liver-dulness extends along the superior edge of the sixth rib, its lower border in the mammary line is within one finger's breadth of the umbilicus. The surface of the swelling feels smooth and even. The spleen extends from the seventh to tenth ribs and is easily palpable. Temperature not over 100°, pulse between 70–90.

Diagnosis, chronic appendicitis and enlargement of the liver, probably due to gallstones or some obstruction in the gall-bladder or biliary ducts.

On September 22 the enlarged, inflamed, and adherent appendix was removed by the usual incision parallel to and about 3 cm. to the median line from Poupart's ligament. It had been the intention to extend the incision to the liver and remedy what would be found amiss there, but the patient did so badly during the operation, that it was decided to postpone it. Palpation of the liver at the time of the appendectomy showed it enlarged, especially the right lobe, which could be felt well down below the border of the ribs near the line of the umbilicus. A rather hard large growth, about the size of a large walnut, was found in the lower part of the right lobe. The gall-bladder was found somewhat enlarged, but no stones were palpable. The edge of the spleen could be felt below the margin of the ribs and seemed to be harder than normal. A diagnosis of adenoma of the liver was made.

The pain and tenderness in the right iliac fossa passed off after an uninterrupted recovery from the operation, but the pain and tenderness over the liver still continued, and the patient did not improve much.

On November 4, under chloroform narcosis, an incision was made along the outer edge of the right rectus, commencing at the margin of the ribs and going down 10–12 cm. In incising the peritoneum a small serous pseudocyst is opened and about one teaspoonful of clear watery fluid evacuated.

There were a few light transparent adhesive bands with delicate vessels between parietal and visceral peritoneum over the liver and gall-bladder. The latter was slightly enlarged, about the size of a small plum, rather yellowish-gray in color. Its contents could be easily expressed. There were no stones either in the gall-bladder or in the ducts.

The liver showed a yellowish-red color and a nodular surface, was much enlarged, reaching nearly to the level of the umbilicus, felt much harder than normal and had, in the middle of the right lobe, a little below the edge of the ribs, a hard nodule the size of a large walnut. There were several smaller nodules about the size of a hazelnut toward the left lobe.

The gastroepiploic veins along the large curvature of the stomach and in the omentum were much dilated. The spleen could be felt two or three fingers' breadths below the left costal arch.

The omentum was brought into the lower part of the wound and sewed for the extent of 4 or 5 cm

*Read before the California State Medical Society, at the annual meeting at Santa Barbara in April, 1903.

to the parietal peritoneum, so that the latter closed over it.

In the further course of sutures the gall-bladder with its fundus and the liver surface were taken in. In pulling the gall-bladder forward a small superficial tear occurred at its posterior attachment to the liver, and a profuse venous hemorrhage resulted.

An iodoform gauze strip was packed between the gall-bladder and the liver and the wound united around the strip with interrupted layers of chromicized catgut sutures. The skin was united with interrupted silk-worm gut, covered by silver-leaf dressing, and the patient was put to bed. At the end of three days the strip was removed and the remaining opening closed with three interrupted silk-worm gut sutures. The patient went on to an uninterrupted recovery. The stitches were removed on the tenth day. On his leaving the hospital, January 8, the pain and tenderness had entirely disappeared as well as the jaundice, and the liver boundaries were as follows: the upper border coincided in the parasternal line with the upper border of the sixth rib; the lower border was found at the free margin of the ribs in the mammary line. The spleen was still palpable, and no appreciable change in area of dulness was noticeable.

I was fortunate enough to secure his presence here (April 23, 1903), and you can verify by his excellent appearance the continuance of his improvement. He assures us that he never felt better in his life. He has been working steadily for the last three months and has gained about twenty pounds in weight. An examination will show you that the liver does not exceed now the normal boundaries while the spleen is still palpable.

Case II.—My second patient, Mr. Joseph Biber, a native of Roumania, merchant, thirty-six years old, residing in San Francisco, was admitted to the hospital November 8, 1902. His mother died of pneumonia, sixty-four years old; father is still living at an age of seventy-four years. One sister, when thirty years of age, was operated upon for a tumor of the bowels, no recurrence since the operation, five years ago. He is a moderate drinker of beer and whiskey, but very rarely drank to excess. During childhood he suffered from measles, diphtheria, nasal catarrh and supraorbital headaches, and from his seventh to eleventh years suffered from severe and frequent attacks of diarrhœa. In 1897, after eating pickles, he was taken sick with severe epigastric pain and constant vomiting. The patient was told that he suffered from ptomain poisoning. The attack lasted for two weeks and then passed off, but for the following year the patient suffered from frequent vomiting attacks and loss of appetite and a dull heavy sensation in his right side. About this time the veins of the right leg began to swell. Two years later the patient became slightly jaundiced and his urine very dark; the veins of the right leg also began to dilate. He sought medical aid and felt better periodically, but lost strength. Last year the urine again became dark, the jaundice increased and the patient suffered from a dull heavy pain in the regions of the liver and spleen. There was slight constipation at this time and severe pruritus. At present the patient suffers from loss of appetite, weakness and dull dragging pains in the region of the liver. Respiration, 18; pulse, 68; temperature, 98.2°.

The patient is 5 feet, 4½ inches in height, slightly emaciated, having lost 19 pounds since his sickness began, his skin is yellow, and he shows a deep yellow tinge of the conjunctivæ. The pupils react normally. The tongue is large and indented at the margin by the teeth. The mucous membranes are pale and slightly icteric. Thorax is funnel-shaped, bilateral prominence from the third to the fifth costal cartilages, sternum drawn in. Slight excursion of the chest on respiration. Anteriorly there is a slightly higher pitched note on the right side, extending from the apex to the upper border of the fourth rib; vocal fremitus and resonance slightly increased over high pitch area. Heart apex beat not visible, left border of cardiac dulness 5 cm. laterally from the left sternal line; upper border at costal cartilage, right border about middle of sternum not clearly distinguishable. Heart sounds are diminished in strength over all the valves.

Abdomen: Inspection shows epigastric pulsation and distinct bulging in the right hypochondrium. Palpation reveals a tumor in the right hypochondrium, reaching to near the level of the umbilicus, it moves with respiration, and is intimately connected with the liver, painful on pressure, smooth and nonfluctuant. The upper border of the relative liver dulness commences in the parasternal line at the upper border of the fifth rib, the absolute dulness at the lower border of the sixth rib. The lower edge of the liver in the midaxillary line is at the free border of the ribs, 4 cm. below the costal arch in the mammary and right parasternal lines. There is an excursion of 2 cm. on respiration. The edge of the spleen is easily palpable. The area of splenic dulness extends from the upper border of the sixth rib to the costal margin and anteriorly to a point midway between the mammary line and anterior axillary line. Both legs show varicose veins from the feet up to midways on the thighs. They are more pronounced on the right side.

The patient was put on light saline purgatives, full diet, and general roborant treatment, with rest in bed. There was no improvement. Examination on November 23 showed the lower border of the liver at the level of the umbilicus on a point midway between mammary and right sternal line. The other conditions were similar to those on entrance.

An operation was decided upon and performed on November 24. The incision began at the costal arch, at the outer edge of the right rectus muscle, and followed it in a straight line downward about 12 cm. Division of the fascia and muscle and opening of the peritoneum followed. The liver was much enlarged, extending almost to the umbilicus, distinctly granular, hard to the touch, and of a dark red color with a tinge of yellow. The gall-bladder was about normal in size and of a grayish white, slightly yellowish color. The large bile ducts were free from stones or other obstructions, the bile being easily expressed from the gall-bladder slight adhesions between the gall-bladder and pylorus and duodenum; there was no ascites. The omentum had a light yellowish tinge. The gastroepiploic veins along the greater curvature of the stomach and over the omentum were dilated. The spleen was much enlarged, extending to near the umbilicus, but free from adhesions. The omentum was sewed to the parietal peritoneum in the lower half of the incision with catgut. A very small Mikulicz tampon was introduced, as there was considerable hemorrhage from the easily severed adhesions of the gall-bladder, at its lower posterior surface. The hemorrhage was very profuse, so much so that the intended excision of liver tissue for microscopical examination was abandoned. The upper part of the peritoneal incision was also united with chromicized catgut sutures, which were carried through the gall-bladder and liver tissues. The fascia and muscle were united with interrupted chromicized catgut

sutures, the skin with interrupted silkworm gut. Silver-leaf dressing was applied.

The temperature never rose above 99° F. On the third day the Mikulicz was removed, and wound closed with sutures. Stitches removed on tenth day. Healing by first intention.

At the end of two weeks the patient's appetite improved and the jaundice began gradually to disappear. The liver began to grow smaller. On the date of discharge, January 8, 1903, there was no perceptible icteric tint to the skin, and but a faint yellowish tinge to the conjunctivæ, noticeable only on close examination. The upper line of dulness is the same as before operation. The lower border in mammary line about 2 cm. below the costal margin; from thence it extends outward in a horizontal line to the right sternal border. No appreciable difference was distinguishable in the splenic dulness, though the edge was not so easily palpable. The patient returned on February 15, and examination of the liver and spleen show the same condition as on January 8.

On April 13 he presented himself again at my office and was kindly examined by Dr. Henry Harris, formerly of Johns Hopkins, now assistant professor in clinical diagnosis in Cooper's College, who had also examined him and concurred in the physical and clinical diagnosis previous to the operation.

Dr. Harris dictated the following report of a the patients status: (1) Patient of good color, no sign of jaundice of skin or conjunctivæ. Nutrition is good, patient complains of no discomfort, feels well, complains of constipation, relieved by laxatives. Pulse 96, regular in force and rhythm, fair tension, small volume, artery walls just felt. Chest funnel-shaped. Lungs clear. Heart negative. Back shows no deformity. (2) Abdomen of normal contour; flank and inguinal lines symmetrical. In the right half 4½ cm. from the middle line is a linear scar extending from the costal margin 14½ cm. along the outer edge of the rectus muscle. No hernia. The skin of the abdomen is normal in appearance, there is no jaundice, no dilatation of veins, no protrusion of the navel. No caput medusæ. There are three very small cutaneous angiomata, pinhead in size, all of which are on the right side. Respiratory movements are normal and equal, no peristalsis is seen. Litton's sign present.

On palpation the abdomen is soft. Slight pain complained of on pressure over scar at the level of the navel. The areas adjoining the scar are somewhat thickened, more resistent than on the corresponding parts of the left side.

*Liver.*—No bulging on inspection. Percussion reveals absolute hepatic flatness to begin in the right mammary line at the middle of the sixth rib, extending 1½ cm. below the costal margin. The total vertical extent of hepatic flatness in the right mammary line is 11½ cm., being only about 1½ to 2 cm. or about ½ to ¾ of an inch more than normal. In the midaxillary line the vertical extent is 7½ cm. On deep palpation the edge of the organ is not distinctly felt. There is an impression of a round, descending body at the intersection of the costal margin and the right mammary line. The gall-bladder is not felt. There is considerable thickness in the right rectus adjoining the scar. On auscultatory percussion the lines determined previously by simple percussion are confirmed.

*Spleen.*—Inspection shows a shadow descending in the left hypochondrial and the left lumbar regions. On percussion the lateral borders are indefinite, but the vertical extent in the midaxillary line is 8 cm. On palpation the sharp notched edge of the spleen is distinctly felt, the lowest point reached on deep inspiration is 9 cm. below the costal margin.

*Stomach.*—Not dilated. The lymphatic glands are not enlarged. No hemorrhoids. Marked varicose veins on both legs, extending on the left leg to the knee only, on the right to the upper part of thigh. Patient presented himself again in July, 1903; improvement continues; spleen appears smaller.

Hæmoglobin examinations of both patients have unfortunately been lost, only one of Magnus, taken at the time of his departure from the hospital, has been found. With the exception of but 80 per cent. hæmoglobin, this shows normal conditions. Dr. Walsh, our faithful interne, who made the various blood counts, recollects, as I also do, that the first blood counts before the hepatocystopexiæ showed erythrocytes between 3,000,000 and 4,000,000 and hæmoglobin between 50 and 60 per cent., both conditions being markedly improved afterward.

I have also reason to regret that the severe hemorrhage in the second case prevented me from excising a small specimen of liver tissue for microscopical examination. I must confess that in the first case the idea of excision only occurred to me after the closure of the abdomen, but I doubt now whether I would have risked it at the time, as the hemorrhage was nearly as bad as in the second case.

A confirmation of the macroscopical diagnosis by the microscope is a circumstance devoutly to be wished for, to satisfy the scientific demands of such observations. However, the history and the long duration of the illness in both cases, previous to the operation, their pathologic-anatomical changes at that stage, the excessive hypertrophy with induration of the liver, the enlargement of the spleen, the long standing but variable icterus, the complete absence of ascites and anasarca, do not well admit of any other diagnosis than chronic biliary hypertrophic cirrhosis of the liver.

In view of the facts communicated to you, the question naturally arises how to explain the curative effect of the operation. In atrophic hepatic cirrhosis with accompanying ascites, the portal system being obstructed, the operation is done to open new lines of collateral anastomosis in order to carry off the venous blood from the abdomen. It is a simple physical proposition.

But in this hypertrophic form of liver cirrhosis, Hanot's[2] (or rather Todd's disease, for Todd[3] described it in 1857, as recorded in an abstract of a clinical lecture, and drew attention to the hypertrophic form without ascites), no such obstruction exists.

In Hanot's disease, as you know, the hypertrophic growth of connective tissue does not destroy the mass of the liver-cells proper, their quantity remains undiminished, and although the hypertrophic growth of the new connective tissue is not limited to the interlobular spaces, but penetrates at places into the lobuli between the rows of liver cells, these are left unchanged in quantity and quality, and their trabecular structure is well defined. Within these strands of new connective tissue run the interlobular biliary canals, their walls being thickened by highly cellular connective tissue to twice or three times their normal size. These strands also contain small colonies of very tortuous biliary canaliculi, in places dilated and cyst-like.

The blood vessels, hepatic veins, as well as vena porta and arteries, remain wholly unchanged in this disease. The walls of the smallest branches are not thickened, their lumen perfectly permeable, as demonstrated by artificial injections. Only very late

in the course of the disease the hypertrophy of the connective tissue may involve in some places the walls of blood vessels.

The theory of relief from obstruction in the blood circulation not being admissible here to explain the effect of the operation, we must turn to another, viz., the possibility of neutralization of a toxin furnished by the liver in this disease. We have gained some facts from experiments on animals to support this view.

In 1877 Eck[4] tried to experiment on dogs in which he established a direct anastomosis between the portal vein and the vena cava. Of the eight dogs he operated upon, seven died, only one lived two and a half months and then, with a criminal disregard for the result of scientific investigation, ran off without leaving his address. Hahn[5], with his associates, repeated these experiments in 1893 on sixty dogs, of which only about twenty survived the operation for any length of time. All passed through a period of great excitement, their nature was changed for the worse, they grew vicious and stubborn, and when the survivors partook of animal food it developed a nervous irritation that often terminated fatally. Hahn offered the explanation that the venous intestinal blood acts poisonously on the system, when introduced as freely as a direct anastomosis between the vena cava and vena porta would permit.

As the ammonia salts and carbamates are changed to urea and uric acid in the liver, it has been suggested that a study of the consequences of their direct introduction into the stomach under the new circulatory changes might be of interest. It is, indeed, possible to show that carbamates brought into the stomach of normal dogs had no effect, while the same or smaller quantities in dogs which have been operated upon developed these nervous symptoms which, if the dose does not exceed a certain limit (0.2 gm. per kilo of animal weight) may disappear again.

It is possible that there is in this disease primarily a hypertoxicity of the intestinal blood, which, passing through the liver, causes the new tissue growth around the biliary canaliculi. The liver, especially under these pathological conditions, is unable to cope with the increased toxæmia and to eliminate or neutralize the poison carried there by the blood. It is not unreasonable to assume that, with an obstruction in the biliary canaliculi, such as we know exists anatomically in this disease, and a consequent retention of bile in the liver, even the normal communication between the two blood vessels might prove such a free avenue for toxins to enter directly the cardiac circulation that they could not be successfully fought by the unaided natural antitoxic and eliminative tissue actions, except through a more roundabout circulation. This roundabout circulation may be materially helped by a firm and extensive adhesion between the omentum, gall-bladder, and liver on one side and the parietal peritoneum and the abdominal wall on the other, and a more successful fight may be waged with a smaller supply of highly toxic blood through the usual direct route, another part of that supply going through a circuitous channel, where it is possible that a greater or lesser elimination of its toxic qualities may be effected. We have an analogous condition in the splenic toxin, thought to be the cause of the primary enlargement of the spleen and secondary increase in size of the liver in Banti's disease, in which splenectomy has saved the lives of otherwise doomed victims of this malady.

We cannot very well extirpate the liver, but the success in these two cases encourages me to recommend this comparatively harmless operation for trial in hypertrophic biliary cirrhosis of the liver. I am the last one to shut my eyes to the many weak points of the theory advanced by me for the explanation of the successful results, but unless some one of you offers a better one I feel that you should pardon its defects, nor should they prevent you from trying in suitable cases this surgical procedure for a hitherto irremediable disease.

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## FILARIASIS IN PORTO RICO.

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While at Ponce in 1902-03, with Assistant Surgeon Joseph Goldberger, United States Public Health and Marine Hospital Service, I made an extended study of many cases of filariasis. From the wards of the Tricoche Hospital, a large civil institution of Ponce to which I had access by the courtesy of its chief, Dr. Luis Aguerrevere, I was enabled to obtain abundant material. To these may be added cases seen in the city and in consultation with its physicians. Struck by the decidedly large number of such cases, I was of the belief, from what had been seen, that about 10 per cent. of the people of Ponce were infected.

On change of station to Cayey these observations were furthered by study of the blood of the native soldiers in this post. Nightly a squad of from ten to fifteen men were examined, and not only did I find that thirty men in all were infected but that each company contributed about an equal quota. This number of men examined is insufficient to form a correct idea of the proportion infected here on the island, even without considering the possibility that mosquitos have fomented an epidemic from a few original cases. The latter objection, seems, however, to be not very valid, the personal histories from the lips of these men are true. Such histories, when considered in one or two cases, generally admit of doubt. Certain distinct suspicious attacks of phlebitis, with or without chyluria, and always with swollen and painful inguinal glands, are recounted by nearly all. These attacks in nearly every case preceded their enlistment, and when one considers that the soldier is unwilling to give a history of previous disease which might damage his record and which he himself is personally persuaded is of venereal origin, these histories may be given more credence. It is an additional note that mosquitos are not the pest here that they are in the immediately adjoining town of Cayey, owing to the strenuous efforts of the former post surgeon and commanding officer to rid the post of them as a general means of sanitation.

My conclusion is, therefore, that, broadly speaking, the troops of this command have not been the subject of an increasing epidemic of filariasis, but that those infected with the parasite brought it into the service with them.

It was extremely difficult to get family histories

of the disease, as, while generally willing to acknowledge the existence of " buboes " in themselves, they did not care, naturally enough, to thereby involve their parents or other relatives.

The type was, apparently, in all cases, filaria nocturna.

The method of blood examination was the familiar one described by Patrick Manson in his " Tropical Diseases." The squad of men reported at the hospital at some time between 9 and 10 in the evening, and both a fresh specimen with coverglass and a dry spread one-half by one inch were made on the same slide. Each slide was numbered, and this number corresponded to a number in a record book in which the names were kept. The taking of specimens for fifteen men consumed, on an average, about twenty minutes.

After the specimens had been taken, each fresh specimen, previously ringed with vaselin, was searched for the circulating embryo by the use of a mechanical stage, all of the fields being thoroughly inspected. This was done on the evening on which the blood was first prepared. The next day the dried specimens were stained and a similar procedure practised. The low-power objective and high-power eye-piece were used. The microscope was the excellent new portable instrument of Leitz. Whenever an embryo was found the high-power objective was used to establish, if possible, its species. If in a minute's rapid examination of the fresh specimen no filarial embryoes are seen, a further and more thorough search fails generally to find them. The microscopical examination of filarial blood is, therefore, not tedious and, it may be added, most easy, so much so, that I believe it is the simplest process that I have ever seen in which the use of a microscope is demanded.

A few remarks on the disease as it now prevails in Porto Rico may be of interest:

There have been several physicians on the island who have studied individual cases microscopically, but there have been but very few. The first to diagnose filariasis by the microscope seems to have been Dr. Jimenez Cruz of Caguas, P. R., who states that ten years ago he found the circulating embryoes in the blood. There has been no attempt whatsoever, previous to this paper, to determine the extent of infection among the people at large.

*Elephantiasis.*—The disease elephantiasis is well known here and is relatively frequent. From what I have seen I am persuaded that few who harbor filariasis ever come to this distressing stage. It is surely a fact that certain homes have the unenviable reputation of harboring several elephantiasis subjects. Yabucoa is noticeably full of cases of elephantiasis, as I have had opportunity to prove, and Humacao and Cayey, one a coast town and the other at an altitude of over 1,200 feet, are both but little better.

Clinically it is known as "erysipela," and by some "elephantiasis." Surgically it is the subject of instrumental interference. One of the surgeons in Ponce, Dr. Torrez, has operated many times for the relief of scrotal tumors of enormous size with most excellent results. His experience extends over many years, and he possesses a fine collection of photographs of his cases, taken both before and after treatment.

The chief deformity seen is elephantiasis of the scrotum, next of one lower extremity, generally the foot and ankle, next of one or both legs to the knee. Rare is it to see the penis, female breast, or upper extremity affected. Only one case of lymphatic varix has been seen by the writer. It was on the temple. Some tumors of the scrotum are immense, but the operation seems to be attended with but few fatalities.

The chief operations performed for relief of excessively large elephantiasis of the lower extremity are: (1) Amputation. (2) Ligature of arteries, and (3) Excision of longitudinal strips of skin and subcutaneous tissue.

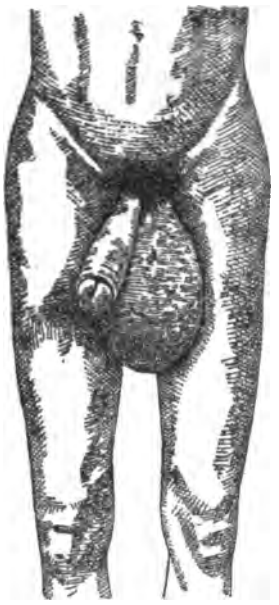
The first generally heals rapidly by first intention if done under aseptic technique. Even if infected there seems to be no special tendency to general septicæmia. It is the best method of treating with a greatly deformed extremity.

The second, ligation of the main artery, is entirely unjustifiable. I have heard of at least one case in which it resulted fatally and published reports bear out this conception of its danger.

The third method, that of excision of strips of skin and subcutaneous tissue. should be further tried, for it is more rational and if done under great precaution against infection it might be of value. One case treated in this manner in Ponce resulted fatally from septicæmia.

The operation done for elephantiasis of the scrotum is, practically, the same as the one described in Manson's work.

The usual procedure is an excision of all affected tissue. This is a most bloody operation as done here, but I have never heard of a death resulting therefrom. The wound seems to heal readily, and if only sound tissue is left no recurrence is probable. I have not observed fistulæ as a sequela of the operation. The great objection to the method employed here is that hæmostasis is imperfect and the patient is greatly weakened by the unnecessarily extreme hemorrhage. There is no valid objection to the figure-of-8 rubber bandage around the waist and the neck of the scrotum, and when it is considered that the size of the vessels in an elephantoid organ are large and troublesome, it is dangerous not to take advantage of this means of controlling hemorrhage, and especially when uncinariasis found in three-quarters of these cases has brought the patient into a severe grade of secondary anæmia.



It is also a matter of practice to open the hydrocele, which practically always exists, by a longitudinal incision, and to cut away a portion sufficient to allow of a close approximation of the walls of the tunica vaginalis to the testicle. The lips of the wound in the tunica are scrupulously sewn up afterward. As a matter of fact this tunica is so thickened in many cases as to be like parchment, and it would seem wiser to cut as much of it away as possible and not try to make a smaller sac by stitching it up again.

The writer has had but two operations for scrotal elephantiasis, one complicated by elephantiasis of the penis, as shown in the accompanying illustration. I removed a large diamond-shaped piece of skin and subcutaneous tissue, including all the affected portion of the scrotum, beginning at the base and underneath the penis and ending at the perineum. Especial care was taken to remove all blubbery subcutaneous tissue with scissors curved on the flat. No Martin's elastic band was available at the time,

so that hæmostasis was checked as rapidly as possible with hæmostatic forceps. But for this the bleeding would have been very profuse. Hot water controlled the oozing well. The tunica vaginalis was opened, the contents, a straw-colored serum, evacuated, and both testicles were examined to verify their condition. They were found to be healthy, but the sac was cut away entirely; the cutaneous flaps made a sufficient covering for the testes by drawing a little on the skin from the thighs. During the entire procedure a sound introduced into the bladder was used to prevent wounding the parenchyma of the penis. Recovery was uneventful and the part is now normal in appearance. Previous to operation the great deformity had prevented coition, and recurring attacks of lymphangitis had rendered steady employment impossible.

The other case was that of a man whom I operated upon here in Cayey. This was a lymph scrotum just passing into elephantoid tissue with frequent elephantoid fevers and a large hydrocele on the left side. The hydrocele was part of the lymphatic area obstructed, but neither were embryoes found in the fluid recovered nor was the parent worm discovered. The liquid found was simply a serum. The curious feature of this case was that embryoes in abundance were found both before and after operation, yet they were not found in this fluid. Although not cured of his filariasis the man's deformity has been removed and thus the object of the operation attained. Not only has the deformity been removed but also tissue which had repeatedly been the seat of a recurring lymphangitis with high fever and much distress.

*Filariasis.*—Fevers of filarial nature without any other noticeable manifestation are not uncommon. This fever is sthenic, very sudden in onset, characterized by chill, high temperature, vomiting, pain in back, abdomen, head, and limbs, and generally terminating in one or two days in a more or less profuse perspiration.

Hence the laity and most of the profession unite in a time-honored tribute to malaria. I was about to make the same error myself in the case of a Porto Rican Sergeant. This man appeared at sick call about 7 A.M. and was admitted to hospital with a high fever, etc., at 8 A.M. the blood examination in all cases of fever was made, when, to my astonishment, a filarial embryo wriggled into view. I searched most carefully for the plasmodium of malaria and failed to find it. Absolutely no enlargement of inguinal glands were perceptible, nor was there any sign of lymphangitis on any part of his body. His abdomen, however, was tender on pressure. No quinine was given and no repetition of his fever occurred. This is but one of several such cases which have since confirmed my belief in this group of symptoms. Here a blood examination is the only clue to the situation.

*Varicose Groin Glands with Fever.*—From the simple fever it is but a step to this form. In Porto Rico the disease is locally known as "secas" or dry buboes. The onset is generally caused by some trivial injury to the lower extremity, sometimes so slight as not to be noticed.

Here the glands of the inguinal regions, and almost always also of the femoral region are enlarged, exceedingly painful, but not tending to suppurate. Occasionally they do suppurate, when the name changes again and "bubon" is the designation applied. It is urged that there is great danger without a blood examination by night, of considering some soldier a venereal subject who has not been the recipient of a venereal infection. Not only this, but it is believed that in the "latent" or chronic forms of venereal disease a combination with filarial disease makes suppuration of the inguinal glands more likely. In fact, from the extensive exposure of many soldiers to the risks of venereal infection the enlisted man is apt to himself consider the matter venereal. These attacks of elephantoid fever with varicose groin glands are very severe at times with much pain, hard chill, high fever, obstinate vomiting, and delirium.

Going a little farther, the name changes again when a red inflamed line extends up the inner side of the leg and thigh. Here there is excessive pain and prostration, the attack lasts longer and fears of erysipelas are entertained with reason.

This is called "phlebitis." The native in the mountains attributes these outward manifestations to a cold he has taken from exposure to rain.

In one such case in Ponce Dr. King, Public Health and Marine Hospital Service, and myself were about to use antistreptoccic serum, as the symptoms were extremely violent. On another occasion, in consultation with several physicians of Ponce, I had the pleasure of seeing a case which was in truth a general septicæmia beginning with a phlebitis of filarial nature. The inguinal glands were hugely enlarged. The man died, but before death the filaria was found in the blood and the streptococcus likewise cultivated therefrom. No autopsy was permitted, most unfortunately.

Lymph scrotum seems to impress itself on all who see much of this disease as the border line between filariasis proper and elephantiasis. It is the strongest rational clinical bond between the two conditions. Here it is generally known as "Hydrocele," with which it is often confounded. Recurring elephantoid fevers are the rule. A physician of Ponce stated to me that on pricking one of the superficial lymphatic enlargements which appear as bullæ on the scrotum a stream of milky fluid shoots forth. Generally a thickening or roughening of the cutis with a characteristic elephantiasis appearance is found at the base of the scrotum, from which focus the whole scrotum often becomes involved. The case cited before is an excellent example of this.

Malarial orchitis has been diagnosed several times in my experience here, and has never failed to show a large number of filarial embryoes in the blood. It seems more rational to consider this filarial orchitis in absence of malarial organisms. Chyluria is rather frequent. I do not know to what cause it is attributed by the laity but the profession realizes its significance. In my only case, a woman, no sthenic symptoms developed, but "secas" and filarial blood left no doubt as to its nature. Urotropin was used after thoroughly washing out the bladder, both measures being entirely prophylactic in nature. It disappeared in about a week. It terrifies the uninstructed not a little. The urine in this case was of a salmon pink color and perfectly opaque. Under the microscope fat droplets and blood with fibrin were abundant. The urine was acid.

Treatment, as far as I know, is fruitless as to prospects of cure and the only means at command are those which alleviate symptoms and prevent a streptococus invasion. I have used methylene blue in doses of 20 grains daily for several months with intervals of rest without effect. Ichthyol ointment (10 to 20 per cent.) seems efficacious in recurrent lymphangitis.

The cases cited below are those of the thirty Porto Rican soldiers in whom I found filaria nocturna. A further report will be made if

any matter of interest is evolved at some future time.

Differential counts of leucocytes to determine the presence extent and periodicity of eosinophilia were not made, for only those who are not infected with uncinariasis should be taken, and this would be a hard factor to exclude, as most of them are infected. I have been convinced that eosinophilia exists not alone from the literature but from personal observation.

It is seen that while not always, perhaps not often, followed by great deformity, still this disease is a most serious menace to the future condition of the host of filaria nocturna. If such subjects are to be admitted to the service the fact of their infection should be noted before enlistment to avoid the inevitable pension claim when doubt arises as to time of onset of symptoms. The use of mosquito bars and the prevention of breeding places for mosquitos, the selection of posts in the open country, with good drainage and remoteness from standing water, are of prime importance, and should be covered by peremptory orders.

Sleeping out of quarters is a most pernicious evil, and when it exists it is at the risk of filarial infection. That Americans on the island, living in crowded towns, are exposed to infection is beyond cavil. As seen by the report below, one Spaniard who had lived but eight years here became heavily infected with filaria.

As to how rapid such infection may be in the presence of the infected mosquito is a question to be decided by a closer knowledge of the disease. Infection in those cases seem to me to be fairly sure but somewhat slow of development. All the foregoing prophylaxis has been practised here, and frequent and rigid inspections have been ordered by the commanding officer of the post, whose interest in the matter has not been less than that of the surgeon.

Cases of filariasis in the mounted battalion of the Porto Rican Provisional Regiment of Infantry:

Case I.—Cook P. S., aged twenty-four years and nine months, born in Manati, P. R., where he lived ten years; lived in Arecibo, San Juan, and Ponce the rest of the time. States that his father and aunt suffered from swelling of one foot and leg with fever. Has received slight injuries on feet and legs, which gave him chill, fever, pain, and a red line on one leg, with swollen and painful inguinal glands. Disease existed prior to enlistment.

Case II.—Private A. D., aged twenty-six years and nine months, born in Yabucoa, where he lived fifteen years; lived in Guayama four years, in Patillas three years, and in Fajardo four to five months. Has had chyluria, and frequently suffered with inguinal adenitis attended by pains, fever, and sweats. His father and brother many times had inguinal adenitis with "hydroceles." His filariasis probably existed prior to enlistment.

Case III.—Private A. L., aged twenty-two years and eleven months; born in Arroyo and has always lived there (this town is the port of Guayama). Has varicose groin glands. History of lymphangitis in left femoral region with chill, fever, pain, etc. Was sick eleven days. Mother has had lymphangitis of leg and chyluria.

Case IV.—Private P. M., aged twenty-nine years, born in Humacao, lived in San Juan the rest of the time. Gives history of repeated fevers with inguinal adenitis. Once a wagon passed over his leg without fracturing it or breaking the skin, when a violent attack of what he described as a lymphangitis ensued. Clear history of chyluria. Disease existed prior to enlistment.

Case V.—Private A. P., aged twenty-two years; born and lived all his life in Humacao. Had many attacks when a child of "secas" with fever and pain. Always had a red line on inner side of thigh in these attacks. Has had several attacks of chyluria. His glands are noticeably swollen and have a softer consistency than that found in other forms of adenitis.

Case VI.—Private J. S., aged twenty-three years, born in Coamo, where he lived all his life, save a short time in San Juan. Has had many attacks of "secas" on slightest injury to the lower extremity, accompanied by fever, pain, and a red line on inner side of thigh. One sister had a foot and leg much swollen. Inguinal and femoral tumors. Disease existed prior to enlistment.

Case VII.—Private G. T., aged twenty-four years; born in Humacao, where he lived all his life. Had many typical attacks of "secas" as above described. Disease existed prior to enlistment.

Case VIII.—Private A. H., aged twenty-four years; born in Humacao, where he lived nine years. From that time he went to sea and served as a sailor in a Spanish mercantile vessel twelve years. No history of "secas."

Case IX.—Private B. F., aged twenty-two years. Has been here in hospital with diagnosis of "acute phlebitis," right saphenous vein, following slight injury to leg at stables. He was twelve days in hospital. Born in Aibonito; lived there ten years; rest of the time in Coamo, Santa Isabela, and Ponce. Had "secas" with usual fever, etc., for the first time when twelve or thirteen years of age. Has thickened lymphatic trunks in region of femoral aperture. Disease existed prior to enlistment.

Case X.—Private J. J. D., aged twenty-four years; born in Aibonito, where he lived during the first decade of his life. Lived in Salinas five months, two and a half years again in Aibonito, Coamo two years, and rest of time in Aibonito. The first attacks of "secas" came on when he was ten years of age. Has had six or seven attacks; all came after some injury to lower extremity, and generally lasted two or three days. Disease existed prior to enlistment.

Case XI.—Sergeant R. B., aged twenty-four years; born in Bayamon, resided there four months and the rest of the time in Aibonito. Had an attack of "secas" once before enlisting. Inguinal and femoral glands enlarged and soft. Probably existed before enlistment.

Case XII.—Corporal L. C., aged twenty-one years, born in San Juan, where he lived twelve years; lived in Santiago, Cuba, six years, and in Ponce three years. Has had high fever with painful "secas" several times.

Case XIII.—Corporal F. L., aged thirty-one years; born in Yauco, where he lived twenty-two years. Has had fever, "secas," etc., since childhood. They occurred once a month on an average. Inguinal glands have a soft, doughy consistence and are enlarged.

Case XIV.—Cook C. M., aged twenty-six years; born in San German, where he lived eight years. The rest of the time he spent in Mayaguez. He received an injury in right inguinal region when a child, which gave him a chill, fever, sweats, and painful "secas." He was ill one month. Again, lately, he had the same kind of an attack, which lasted eight days. Inguinal glands enlarged.

Case XV.—Artificer P. M., aged twenty-eight years; always lived in Mayaguez, where he was born. Many times he has suffered from attacks of "secas."

Case XVI.—Private E. C., aged twenty-five years; born in Juana Diaz, where he resided up to

the time of enlistment. Has had many attacks of "secas." This man was admitted to hospital by me on the 13th of July and was ill seven days here. He had all the symptoms described above under the section "Elephantoid fever with varicose groin glands." The dusky red lines of lymphangitis were very prominent, leading up to the enlarged femoral varicose groin gland. Says he had several of these attacks before, identical in every way with the one in which I saw him and he himself diagnosed his complaint as "secas," which he says is the usual name applied to it in this island.

CASE XVII.—Private V. S., aged twenty-three years; born in Ponce, where he lived sixteen years. Thereafter he lived in Spain two and a half years. Has had typical attacks of "secas" with fever.

CASE XVIII.—Private F. R., aged twenty years; born in Morovis, where he lived sixteen years. Lived in Manati two years. Every now and then had "secas" with fever. Varicose glands of groin very perceptible.

CASE XIX.—Private R. L., aged twenty years; born in Ponce, where he always lived. Had "secas" with fever, etc., while a soldier, but did not report sick. Has never had them before in his life. Possibly contracted disease here.

CASE XX.—Private J. C., aged twenty-one years; born in Juana Diaz, where he lived always. Has often had fever, but no "secas." Has, however, varicose groin glands.

CASE XXI.—Private F. A., aged thirty years; born in Humacao, where he lived ten to twelve years. Is a negro. As a child had "secas" from time to time. Gives suspicious family history.

CASE XXII.—Private S. C., aged twenty-seven years; no history.

CASE XXIII.—Private H. B., aged twenty-one years; born in Ponce, where he always lived. Has had repeated atttacks of "secas" with fever, etc. Glandular enlargements in groin.

CASE XXIV.—Private J. R., aged twenty-four years; no history.

CASE XXV.—Quartermaster Sergeant B. C., aged twenty-four years; born in Ponce, where he always lived. When a child, received a blow on his foot which produced fever, painful "secas," etc.

CASE XXVI.—Corporal L. S., aged twenty-six years; born in Guadalajara, Spain. Came to Porto Rico seven years ago for the first time as a Spanish soldier. Has had, beginning two years after his arrival, typical "secas" and several attacks of chyluria. He is a very intelligent man and states that the disease elephantiasis does not exist in his province in Spain. He says that on reaching the island he allied himself with a woman of this place who had several typical attacks of lymphangitis of the lower extremity.

CASE XXVII.—Private F. Q., aged twenty-three years; born in San German, where he lived sixteen years; the rest of his life he spent in Mayaguez and Aguadilla. Has had blows on his legs causing painful "secas" with chill, fever, and sweats and a red line on the inner side of the thigh. This has occurred many times. Twelve years ago he had chyluria, which gave him a great fright.

CASE XXVIII.—Private V. V., aged twenty-three years; born in Caguas, where he lived five years. Has lived in Cayey since that period. Has had many attacks of "secas" with pain, chill, sweats, and a red line on the inner side of the thigh. Has also had chyluria, which he attributed to drinking too much milk. His mother had one leg chronically swollen with intermittent attacks of erysipelas.

CASE XXIX.—Private S. M., aged twenty-five years; born in San Juan and lived there. Has had typical attacks of "secas."

A summary of these cases disclose the following facts:

1. Twelve per cent. of the mounted battalion of the Porto Rican Provisional Regiment of Infantry present circulating embryos of filaria nocturna.

2. Presumably there is approximately a similar percentage among the people of Porto Rico at large.

3. All but three of these soldiers have presumptive history of filarial disease before entering the service.

4. In five cases there is strong presumptive proof of the disease in the families of these men.

5. All were thoroughly exposed to mosquitos in closely crowded towns before infection.

6. All are young men.

7. Most have been three years in the service without serious illness.

8. They come from all parts of the island.

9. All, save four, have had attacks of inguinal or femoral adenitis with chill, fever, pain, and a red line on the inner aspect of leg and thigh at varying intervals.

10. Six have had chyluria.

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## TREATMENT OF CANCER OF THE UTERUS.*

BY I. L. WATKINS, M.D.,
MONTGOMERY, ALA.

IN order to discuss, intelligently, the treatment of any pathological lesion, it is necessary to know something of its character and etiology. I am sorry to say that we are yet groping in darkness, so far as the etiology of the disease of cancer is concerned, whether occurring in the genital organs, or elsewhere in the body. This state of things certainly cannot last much longer, when such a large number of masterly intellects are devoting so much time to this subject, with the hope of discovering the pathology of this much-dreaded disease.

It is not my purpose to discuss this unsettled question, because you are all familiar with the various theories, since they have occupied very prominent places in recent medical literature. I desire to say, however, that the question of heredity occupies far too prominent a place with the average medical man in his efforts to eliminate any malignant process, in considering symptoms which point to cancerous conditions. While, in a few isolated cases it would seem that heredity possesses some influence in this direction, still statistics show that only from 15 to 20 per cent, of the cases give any family history of cancer. This is far too small a number to establish that theory. I have frequently been impressed with this fact, when discussing with the family physician the probability of a given case being cancer.

The great gravity of cancer makes it important that an early diagnosis be made. It is inexcusable on the part of any physician to fail to make a thorough investigation when suspicious symptoms arise. If I can sufficiently impress upon you the necessity of this precaution, I will have accomplished the purpose of this paper. It is not an unjust statement for me to make when I say that you are, as general practitioners, family physicians or medical advisers, in a large measure blamable for the high death rate in cancer of the uterus. The surgeon or specialist is, very rarely, the first to be consulted in the beginning of uterine cancer. As a rule, almost without exception, the woman applies to you for advice when she detects a daily loss from the vagina, with the probable loss of

*Read at the annual meeting of the State Medical Association, at Talladega, Ala., 1903.

flesh. What is the result? A little gratuitous advice, which, in fact, is worth nothing, or a prescription is given for an astringent wash and a tonic, with the request to report in a month if not better. I cannot be too emphatic in urging those of you who do family practice, to lay aside all idle thoughts on your part when these women, from forty to sixty years of age, come to you with symptoms characteristic of this malady, and make such investigations as will enable you to say positively that these cases have or have not cancer.

From several years' experience I have found that the average practitioner has excused himself from an early diagnosis on the ground of modesty on the part of the woman. It is my observation that when a woman is confronted with the statement that she probably has cancer, that she will not be long in making up her mind to submit to any intelligent management. I want to say that should one decline after the subject has been thoroughly explained to her, it is due to the fact that in your statement of the case you have attached far too little importance to the symptoms under consideration. The thing that frequently deters the physician, is the fact that he will probably be unable to make a diagnosis after the examination. That should have no influence whatever. If you cannot satisfy yourself that the symptoms are not caused from malignancy, it is your emphatic duty to so state to the patient, and to refer her without delay to some one more familiar with the symptoms. I urge that when these cases fall into your hands, you do not go on treating them for weeks, when there is a shadow of a doubt, and lose just so much valuable time. If you will not, we will be called upon less frequently to shield you from blunders, and to make the common statement, "You have come too late." Out of less than one dozen upon whom I have operated for cancer of the cervix or corpus and who yet survive, not one came with a suspicion that she had cancer.

The treatment of cancer of the uterus, as well as of other parts of the body, is essentially surgical. I come with no new operations for your consideration, but will discuss, in a brief manner, some of the various techniques that are in common practice to-day.

It is interesting to notice the improvements which have occurred in operative procedures during the last twenty-five or thirty years. Along in the seventies Schroeder and his contemporaries either curetted or amputated the cervix, and taught that in the majority of cases this treatment secured a longer life without pain. This treatment, though not radical, was at this time regarded as most rational. Hysterectomy so rarely resulted in recovery that it was condemned on the ground of causing more rapid spread of the trouble. It is not certain that a large number of our cases to-day would not live longer and suffer less if we followed a more conservative plan.

In 1878, with a more accurate knowledge of the manner in which the disease spreads, Freund was induced to try abdominal hysterectomy. With this a new era began, and has, with some modifications, continued until the present. His method was to include the broad ligaments on each side of the uterus in three ligatures, remove the organ, and bring these sutures down through the vaginal opening. This operation never became very popular, because of the large death rate following it. Forced by these results, Czerny revised the old method of colpo- or vaginal hysterectomy. It was customary to scrape away, as nearly as possible, all of the cancerous tissue, and cover the field with healthy mucous membrane. These operations were frequently followed by injuries to the ureters, and ureterovaginal fistula. A distinct advance was made when Pawlik of Prague, in 1888, first introduced the catheter into the ureter before beginning operation. By this method it was easy to locate these organs and thereby prevent injury to them. Strange to say, this preparatory catheterization of the ureters fell into disuse, and nothing more was heard of it until 1892, when Dr. Kelley, unaware of this work of Pawlik, commenced to catheterize the ureters as a routine procedure previous to performing the operation of hysterectomy for carcinoma of the uterus. In 1894 A. Mackenrodt advised the removal of the broad ligaments of the uterus. The method which he favored consisted in a long transverse incision above the symphisis. After separating the recti from the tubic attachments, the peritoneum extending above the bladder is stripped nearly to the umbilicus. The peritoneum is then opened transversely just above its vesical attachments, the round ligaments and ovarian arteries are ligated and divided. the peritoneal flap from the anterior abdominal wall is carried up over the uterus and sutured to the posterior peritoneal membrane. The uterus and part of the vagina are then removed by thermocautery. The extraperitoneal space below is easily drained through the vagina.

In 1895 Dr. Ries of Chicago, going on the theory that carcinoma of any portion of the body spreads along the lymphatics, attempted to apply this idea to operations for the removal of cancerous uteri. At the time his paper was written he had only as a working basis some anatomical researches of himself and a few others. As a result of these investigations he arrived at the conclusion that it must be possible to improve its efficiency by extending the extirpation of tissue not only to the broad ligaments of the uterus, but to the neighboring lymphatics. In May, 1901, in a paper before the State Medical Association of Illinois, he makes the following statement concerning his method of operating: "The operation has been ridiculed, praised, and condemned. One who first shrugged his shoulders when the operation was mentioned to him has become its most ardent advocate. Another who would at first have liked to be its godfather has abandoned it." Up to this time this operation had been restricted to cancer of the cervix, based on the theory that the lymphatic glands which drain the cervix are for the most part located in the broad ligaments, along the internal, external, and common iliac vessels over the obturator foramen, and on the anterior aspect of the sacral bone. The operation is one of great difficulty, and not to be undertaken by any one who is not thoroughly grounded in its technique.

About this same date, Dr. J. G. Clarke of Baltimore devised an operation whereby more of the broad ligament might be removed with the uterus. This is a more practicable operation and has met with greater favor. It necessitates the tying off of the ovarian artery, and dissecting out the uterine artery a short distance from the uterus. The ureters must be located and the broad ligaments ligated close to the pelvic attachment. This operation, though extensive and somewhat similar to that of Ries, does not include the lymphatics beyond what exist in the broad ligaments.

At the meeting of the Southern Surgical and Gynecological Association in Cincinnati in November last, I had the pleasure of listening to a paper by Dr. Chas. P. Noble, on the use of the electrocautery clamp in the

treatment of cancer of the uterus. The doctor referred to the cautery as used by Drs. I. Baker Brown, John Byrne, and A. G. C. Skene. The latter devised a set of electrocautery clamps to be used instead of ligatures, in tying off pedicles in the abdominal cavity. These instruments proved not to be practical and soon fell into disuse. It remained for Dr. John A. Downs of Philadelphia to perfect the technique and to develop a thoroughly practical set of cautery clamps. These Dr. Noble kindly presented to the society. The technique of hysterectomy by the electrocautery clamp method, as given by Dr. Noble, is as follows; in order that I may make no mistake I quote him verbatim: "The operation may be in either the vagina or abdomen. If the operation is begun below, the vaginal connections of the cervix are cut through with the electric cautery knife, and (in cancer of the cervix) the cancerous mass is amputated with the cautery knife without opening the peritoneal cavity, if this can be avoided. Bleeding vessels may be clamped with ordinary forceps, or, if desired, may be sealed with a small-sized cautery clamp. The septic cervix is thus removed, the vagina re-sterilized, and, if desired, packed with gauze. The abdomen is then opened, the bowels packed off as usual, with gauze, and the large sized cautery clamp applied to the broad ligament outside of the ovary. By drawing up on the uterus and pushing down the bladder, the clamps may be made to grasp the tissue up to, and sometimes including, the uterine arteries. If necessary, to avoid its inclusion, the bladder may be previously detached and pushed down. After the clamps are in position any blood is wiped away, and the clamps thoroughly surrounded with gauze to protect other tissues from burning. The current is then turned on for thirty seconds, a forceps is placed toward the uterine end of the broad ligament to prevent reflex hemorrhage after the tissues are separated, and the broad ligament is severed with a knife along the uterine side of the clamp. This step usually takes an additional half minute, during which time the cooking process continues, as the clamps retain their heat for some time. The clamp is then loosened and removed, and the cooked pedicle is allowed to retract. If no ligatures are to be used, great care must be taken not to handle or disturb this pedicle, as security against hemorrhage depends upon adherence to this rule. The opposite broad ligament is now treated in the same manner. This leaves the uterus connected with the broad ligament only by its cervical attachments. The bladder is now detached, and pushed down in the usual way, and the clamps are made to grasp the broad ligaments alongside of the cervix down to the vagina. This portion of the broad ligament is treated in the same way as the upper borders. After the lateral attachments of the uterus have been cooked and severed, there remains only the connection of the uterus to Douglas' pouch to be severed. This can be caught in the clamp and cooked before being divided, and the uterus is then removed." The doctor reports only four cases of hysterectomy for cancer by this method, with three recoveries, the death occurring from an accidental hemorrhage. This number is too small for the basis of a very fixed opinion as to the results of the operation, though it certainly must appeal to the surgeon as possessing some merit. Besides being able to remove more tissue outside of the uterus than by the classical method, the tissues are previously cooked by the cautery clamp—they are, including the lymphatic vessels, sealed even far beyond the line of incision by the cautery knife.

As to the danger of injury to the ureters, subsequent experience by this method will be necessary before it can be discussed.

Every year or so new operations are devised for the cure of cancer of the uterus. This fact is evidence of itself that no very reliable method has yet been discovered. It is very clear that with our present knowledge of the pathology of this disease we must recognize it in its earliest stage, before any marked improvement is made in our statistics.

Some general rule should be laid down for the guidance of surgeons as to whether a case belongs to either one or the other of the classes usually accepted, namely, operable or inoperable cases. Cases should be regarded operable when the disease is mainly confined to the cervix or corpus, and the organ freely movable, and inoperable when there is a perceptible deposit outside, and the organ fixed or immovable. In order to make these distinctions, it is necessary that the patient be examined under an an æsthetic. Even with this care there will frequently be differences among surgeons as to the extent of the lesion.

The prognosis in these cases is always doubtful. It has been truly said, that the treatment of cancer of the uterus is surgery's disgrace. It is the reproach to our art, nay, even to ourselves, that this page should appear year after year in our leading works on surgery. The compilation of statistics of 10 to 20 per cent. recoveries which we so frefrequently see in the books is a delusion and a snare. I assert without fear of successful contradiction that should these statistics be analyzed not more than 3 to 5 per cent. of recoveries would be found. The prognosis in the body is much better than that in the cervix. The only chance for improvement in this lamentable state of affairs lies with the general practitioner. When he sufficiently appreciates this fact and examines every woman who complains of a bloody discharge—which in the near future he certainly will—a much smaller number of inoperable cases will be presented.

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## INVESTIGATION OF RINDERPEST.

By J. A. GUTHRIE, M.D.,
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DURING my stay in Shanghai, I had an opportunity to visit the cattle yards, a short distance from the city, and became very much interested in the successive means employed for the prevention of "Rinderpest." In the first place, the cattle yards are divided up so that each drove of animals, in various stages of immunization, is separated and kept apart from the others, those which have the severest form of the rinderpest, contracted by the immune procedure, are placed in a covered yard, composed of numberless stalls and capable of containing as many as five hundred head comfortably. One section of this yard is called the "sick ward," and particular pains are taken in the methods used for disinfection of it; all the straw and other material after contamination, is burnt and a liberal quantity of lime is spread over the bloody stools, wherever deposited. Not only is all waste material destroyed by fire, and other means of absolute disinfection resorted to, but scrupulous cleanliness is observed in all matters whether pertaining to the care of the animals or to the appliances of this so-called "sick ward."

Those animals that recover from the inoculation during convalescence are placed in other yards according to the extent of recovery, and finally after they begin to enjoy their meals and take on what flesh and fat was lost during the two weeks of immunization, they are ready for shipment to the Philippine Islands. It may appear to the unpro-

fessional observer that such stringent means are unnecessary, but not so, although as great a percentage as from ten to fifteen die, while undergoing inoculation, the least deviation from the methods employed by the proprietors would result in failure to immunize with sufficient thoroughness to satisfy the United States Government officials.

The rinderpest serum for Chinese cattle is prepared by an expert, and the same veterinarian supplies serum for immunizing the large numbers of carabao that have been recently shipped to the Philippines. At present as many as fifty thousand carabao are being transported from China (at the expense of the United States Government) to make up for the loss in the islands (from the ravages of rinderpest) of this valued beast of burden.

It may seem strange, neverthtless it is a fact, that few people really know what rinderpest is: I have heard it described all the way from foot-rot to a chronic skin eruption, and I myself had been at a loss to describe it, until, on this recent occasion, I was afforded the pleasure of investigating its charactei person. I must say that I was surprised at my discovery, for I found a complaint that corresponds almost exactly with acute dysentery in the human being. The period of incubation is about five days, then the animal's temperature goes up from 100°, gradually increasing as the disease progresses, and sometimes, just before the final collapse and prior to death, the temperature reaches 106° or more. After five days of incubation there is a stage of bloody diarrhœa, and continued elevation of temperature which lasts about one week or ten days, when the climax is reached, and they either get better or die.

None but cloven-footed animals contract the rinderpest, no case, for instance, of a horse, having had the disease is on record. In South Africa many thousand sheep have taken the disease, while, singular as it may seem, none of the sheep in China will take it. Repeated doses of virulent blood have been injected into sheep in Shanghai without producing the slightest trace of the disease; Chinese goats, however, are not immune, the same experiment upon them produces all the characteristic symptoms.

The procedure for inoculation is simple. The animal is placed in bamboo stocks (in the West we should use something else), so that the feet are secure, otherwise in demonstrating his objection to having needles run into his flesh the bullock might naturally delay the process, which usually takes twelve and a half minutes.

Ten cubic centimeters of virulent blood from another animal with the disease in progress, and 50 c.c. of the prepared serum from an immune animal, are then injected into the subcutaneous tissues, just behind the forelegs (well down on the abdomen), and after about twelve and a half minutes the serum and germ-soaked blood begin a battle for supremacy in the system of the unfortunate bovine. Which will win remains to be seen. This inoculation is repeated in five days, sometimes in less time, and occasionally two or three extra injections are needed, depending on the animal's condition, then the amount injected, either of serum or of infected blood, according to circumstances, is increased. If the temperature rises markedly, only serum is used in the second injection, and this is decreased in amount for the subsequent injections.

It is to be hoped that by continuous inoculations and perseverance on the part of Government employees as well as private firms, at some time in the future a breed of cattle will be developed that shall be immune from birth, thereby removing one of the greatest curses the Filipinos have to contend with at present. Let us trust that the honest work of honest men may continue in this direction, and that science may soon be blessed with further discoveries for eradicating this fearful pest. There should be a most stringent law, as stringently carried out, to the effect that no animal, whatsoever, which is subject to the contagion, should be allowed within our recent possessions, the Philippines, and, moreover, those already there should be inspected by competent veterinarians, employed and guaranteed by the United States Government, otherwise the pest will never be entirely eradicated from these islands.

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## SOME PRACTICAL POINTS TAUGHT BY THE DISCOVERY OF B. DYSENTERIÆ IN THE STOOLS OF INFANTS SUFFERING FROM SUMMER DIARRHŒA.

By LOUIS M. WARFIELD, A.B., M.D.,
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In 1898 there was published in the *Centralblatt für Bakteriologie* the discovery of the cause of acute epidemic tropical dysentery. Shiga of Japan announced that he had found a bacillus allied to the colon-typhoid group in cases of dysentery occurring in the Japanese troops, and moreover that the serum of patients suffering from the disease agglutinated the bacilli in relatively high dilutions. The bacilli obtained from one patient not only were agglutinated by the serum of the patient himself, but also by the sera of other patients, presenting the clinical symptoms of dysentery. Confirmation of this discovery was not slow in coming forward. Kruse in Germany and Flexner in the Philippine Islands both found bacilli like those described by Shiga in the stools and at autopsy in patients with dysentery.

There were, however, certain minor differences in these several strains of bacilli which need not here be discussed. Suffice it to say that the most recent work goes to show that these various strains of bacilli are only very slight modifications, due no doubt to differences of environment, of one and the same organism. The discovery of the same bacillus in such widely separated regions led to the belief that the distribution of the organism must be very general, and various observers set to work to examine carefully into the epidemics of dysentery occurring in asylums and almshouses not only abroad but also in this country.

In 1901 Vedder and Duval succeeded in isolating the B. dysenteriæ in an epidemic of dysentery in the Almshouse at New Haven, Conn. It now seemed likely that the bacteriologists were on the track of the cause of the summer diarrhœas of infants, and in the summer of 1902 at the Thomas Wilson Sanitarium, near Baltimore, Md., Duval and Bassett succeeded in growing bacilli from the stools of forty-two cases of "summer diarrhœa" in babies. No bacilli of this type were found in normal stools or in the stools of infants suffering from other diseases. Later, however, in the winter of 1902-1903, Strong, in Portland, claimed that he found the bacillus in normal stools during an epidemic of dysentery in young children. Park and Carey, Wollstein, and others have since confirmed the work of Duval and Bassett, and the most recent work done leaves no doubt that this organism, if not the sole factor in the etiology of "summer diarrhœa," at least plays a very important rôle in its causation.

Now that the cause of the disease has been discovered, there remains the discovery of the specific treatment along the same lines as that used to treat diphtheria. Unfortunately the constitution and powers of resistance in the infant are relatively so

weak, and the chances of secondary infection so numerous, that no one remedy however efficacious can be expected to be specific, especially when we consider that it is the gastrointestinal tract that is diseased, and the problem of feeding, which in a well child cannot be called simple, is made infinitely more difficult, so that the question of the infant's nutrition becomes, after all, the absorbing element. One may neutralize the toxins of the dysentery bacilli by the introduction of antidysenteric serum and yet have no control over a secondary streptococcus invasion, for example, nor can one by specific treatment help a marasmic infant to assimilate food.

A specific antidysenteric serum has been prepared and used successfully by Shiga in Japan. Gay, in this country, has also obtained a serum from horses immunized against B. dysenteriæ which is of considerable potency and which in relatively small amounts protects guinea-pigs against many times the minimum lethal dose of virulent bacilli. This serum was given an extensive trial during the past summer (1903).*

Whether it is eventually found that the serum treatment is specific or not, much can be done now in the way of prophylaxis in summer diarrhœa. Let us take up very briefly a few points that strike one most forcibly in the questions of treatment and prophylaxis. First of all there should be no segregation of babies in one large ward. Rooms should be of good size, well ventilated, and not more than three or four babies should be put in one room. One has only to go through a ward of ten or twenty infants to appreciate how jarring to the nervous system of the babies the constant crying must be. Segregation is fatal to babies suffering from intestinal disorders.

The importance of careful nursing cannot be overestimated. Infants should be occasionally taken from the cribs, their position in bed should be changed frequently, enough water should be given them to drink, and the bottle should not be stuck in the baby's mouth and left there to get cold. It is highly necessary to see that every child gets its full amount of nourishment and that it gets it warm. This entails a large force of attendants, but it is unquestionably the only right way to handle the sick children Hospitals where mothers are allowed to remain with their babies are to be recommended, for in such hospitals every child gets the individual attention that is necessary.

It is understood that rooms must be airy and easily cleaned and fumigated. Dysentery is a contagious disease, and should be treated as such. Special metal receptacles with covers are necessary for dirty napkins. These vessels should be frequently sterilized and all napkins should be boiled

It seems to the writer that not sufficient stress is laid on the ease with which infection can be carried from baby to baby in a ward. This may occur in one of several ways: (*a*) by the attendants, (*b*) by bottles, (*c*) by flies. It is not uncommon to see infants suffering from other than intestinal diseases develop diarrhœa when placed in a ward along with cases of summer diarrhœa. Hence it is important that such children be kept separately and have special attendants who do not handle the cases of diarrhœa. Attendants who have many children to take care of are not sufficiently careful in the disinfection of the hands after changing and bathing the infants. The chances of carrying infectious material from one baby to another is greater in proportion to the carelessness of the attendants.

*A full report will be published by the Rockefeller Institute for Medical Research.

The tendency of infants to put everything within reach in their mouths should be constantly in the minds of caretakers, and steps taken to keep the surroundings as clean as possible.

The bottle may come in for some of the blame. How often one sees the bottle picked up from the floor where it has fallen, a fresh nipple put on and given back to the baby. The bottle is also dirty; why not give it another bottle as well as another nipple?

Then there can be no doubt that flies carry the contagion. It has been shown that flies are capable of carrying virulent typhoid bacilli on their feet. If typhoid, why not dysentery? Both kinds of bacilli are in the stools, hence it can be reasonably inferred that both can be carried by the same means.

The rôle that drinking water plays as a means of carrying infection is of considerable interest. It has been noticed that infants in their own homes, fed on sterilized milk, develop summer complaint. It seems possible that in such cases infection may come from unboiled water used to dilute the milk (as suggested by Bassett), when the dilution is made and allowed to stand some time. One dysentery bacillus could in this way infect a large quantity of milk. The similarity to typhoid infection is great and would argue in favor of the transmission by water, although as yet no one has succeeded in cultivating the B. dysenteriæ from water. But when we realize how difficult it is to show the presence of B. typhosus in water and the much greater difficulty experienced in the ordinary cultivation of B. dysenteriæ from stools than of B. typhosus, we might take it for ganted that B. dysenteriæ can and does occur in water used for drinking. It is not claimed that infection cannot occur through undiluted milk, but when the milk is raised to the boiling point all bacteria other than the spore bearers and possibly the tubercle bacilli are killed. Raw, unsterilized milk may be and possibly is an important means of conveying the organisms into the gastrointestinal tract of children, but it should be borne in mind that water also might be a means of infection. The proper methods for obviating the chances of infection follow naturally from what has been said, and may be summed up in the words "careful nursing" and "wire screens or mosquito netting." Under the former would be included attendance, feeding, proper hygienic management, isolation of babies so far as possible, and careful supervision of the milk. No child should have unboiled water unless it is known to be pure, and the milk should be procured from a place known to be conducted in accordance with the modern dairy methods. With wire screens in the windows and doors, or mosquito netting over beds, the babies are well protected from their enemy, the fly.

Such, in brief, are some of the lessons taught by the discovery of the cause of summer diarrhœas. We were vainly groping more or less in darkness until the light of modern bacteriological methods was thrown on this problem, and to-day, with our better hygienic measures, our better milk supplies, our more intelligent corps of nurses and better trained doctors, not only the infant mortality, but also the infant illness, should be markedly decreased.

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## HÆMOSPERMIA, WITH REPORT OF A CASE.

BY ARTHUR L. CHUTE, M.D.
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HÆMOSPERMIA, or the ejaculation of blood-stained seminal fluid, is an uncommon condition which is not in itself a disease, but a symptom occasionally seen in several diseases of the genito-urinary tract; it is probable, indeed, that it may rarely occur without any actual disease of these organs.

To most patients this symptom causes a degree of concern which is wholly out of proportion to its importance. Particularly is this true when it comes on, as it sometimes does, without apparent cause.

The following case, which I saw about a year ago, illustrates very well this particular type of hæmospermia. My reason for reporting a case which is so incomplete, from the standpoint of treatment, is the very small amount of literature, particularly in English, which I have been able to find on this subject.

The patient was a man of fifty years. His previous history was without bearing on his present condition, with the exception that twenty-five years ago he had a gonorrhœa complicated by a cystitis. Since his gonorrhœa, which did not run a protracted course, he has had no venereal disease, and has until the present trouble been apparently well.

For some weeks before he was seen he had noticed that his ejaculations had been of a reddish-brown color; they had not been attended with pain. He also had the feeling that there was a mass in his right inguinal region, though he could feel nothing. The patient had no diurnal frequency and did not have to get up at night to pass urine.

Examination showed no urethral discharge. His urine was perfectly clear; neutral in reaction. It contained no albumin, but did show a small amount of sugar. There was nothing to be felt in the right inguinal region where he had the feeling that there was a mass. His right epididymis contained a slight nodule which was suggestive of a former epididymitis; he, however, felt sure he never had epididymitis, and said the nodule followed an injury received in childhood. A catheter passed into his bladder without meeting any obstruction and showed no residual urine. There were no tender points in his urethra.

Rectal examination showed the prostate enlarged; it was rather difficult to reach the upper border; the right lobe was larger than the left; the gland was somewhat tender and boggy. After gentle massage of the prostate no material could be expressed from his urethra. No disease of the vesicles could be made out. The bladder was sounded for stone with negative results.

The only cause found for the hæmospermia was the chronic prostatitis. He was given hot rectal irrigations; a diet containing less sugar and starch than he had been taking; $\frac{1}{60}$ grain of strychnine three times a day.

At this examination I could get none of the reddish material, but some weeks later I received a piece of cloth which had been stained by a nocturnal emission. It was of a chocolate-color, and on soaking it in water I was able to find red blood corpuscles, but nothing else that I could distinguish. The examination was not at all satisfactory.

The patient lived some distance away and did not return for two months. At that time he said that his ejaculations were less deeply stained than they had been. His urine gave no sugar reaction, but in other respects his condition was as before. He was advised to continue the same treatment and to return for prostatic massage whenever possible. He, however, did not return and passed out of my knowledge until recently. In reply to a recent inquiry as to his condition he said that for a time last fall the trouble disappeared. It soon recurred, however, and his condition is now the same as when first seen.

In hæmospermia the color of the ejaculations is due to the mixture in varying proportions of blood and seminal fluid. This color ranges from red to chocolate; a rose tint has been noted; reddish-brown is, perhaps, the color most frequently reported.

Until recently it was supposed that the changes which took place in the extravasated blood accounted for the different colors; that the color was almost entirely dependent upon the length of time which elapsed between the hemorrhage and the ejaculation. It may be that in many instances this is so. Keersmaecker[1] has shown, however, that all the colors commonly seen can be produced by simply varying the amount of blood. He took the fluids gotten by massage from two cases of chronic prostatitis. One fluid contained a very large amount of blood, the other had none. By mixing these in different proportions the varying colors from rose to chocolate were produced.

Keersmaecker also cites a case by Gueillot in which a man had intercourse eleven times in one afternoon. Beginning with the eighth he had bloody ejaculations. The color varied from a rose tint at first to chocolate, and then to pure blood. This observation would also indicate that the color is not wholly dependent on the length of time which elapses between the pouring out of the blood and the ejaculation.

As stated before, quite a number of genito-urinary troubles have been known to act as the exciting cause of hæmospermia. The actual cause must always be, so far as we know, a lesion of the prostatic urethra, of the prostate, or of a seminal vesicle. I think no one has as yet reported any case in which the bleeding orginated in a vas deferens.

When the source of bleeding is a seminal vesicle, the mixing of the blood and seminal fluid takes place at once; this Feleki[2] terms "hæmospermia vera." When the bleeding is due to a chronic prostatitis or some lesion of the prostatic urethra the mixing takes place at the moment of ejaculation, and is what Feleki terms "hæmospermia spuria." It is said that in those instances in which the bleeding is from the posterior urethra or prostate, the ejaculation has a more streaked, spotted appearance, and that the mixture is of a less homogeneous color than when the source of bleeding is a vesicle.

I will cite briefly the opinions of several writers on this subject, and some of the conditions which they have found acting as the cause of hæmospermia.

Ultzmann[3] thought that the blood came, as a rule, from gonorrhœal lesions of the prostatic urethra, in the neighborhood of the caput gallinaginis. He says that in the fourth week of gonorrhœa one occasionally sees priapism with bloody ejaculations. He also says that hæmospermia may result from masturbation; that it is seen after sexual excess; in various diseases of the prostate and seminal vesicles, and likewise in malignant degeneration of the prostate.

Feleki speaks of the occurrence of hæmospermia

in diseased seminal vesicles.[4] He also gives an instance[5] in a boy of sixteen, in whom he attributed it to masturbation. Excessive coitus seems to have been the exciting cause in the case already referred to, as reported by Gueillot; also in one of three which Lichowetzer[6] has reported from Klemperer's practice.

Keersmaecker reports nine cases in which hæmospermia was due to chronic prostatitis. The report of his seventh case I think raises the question whether or not the bleeding may not have been due to a lesion of the prostatic urethra.

Finger[6] says that chronic prostatitis has a particular interest as being the cause of hæmospermia. He reports a case in which hæmospermia occurred in a patient with catarrhal prostatitis.

Lloyd[7] makes the statement that bloody ejaculations may take place in seminal vesiculitis.

Keersmaecker quotes Guyon as saying that hæmospermia is not infrequent in hypertrophy of the prostate.

Kroner[8] cites a unique case in which bloody ejaculations occurred in a man of forty-four, who, with the exception of an eczema, had been previously well. He had no syphilitic taint and did not come of a "bleeder" family. This patient some six months after the development of hæmospermia became "scorbutic," and died a little more than a year after his first bloody ejaculations. Kroner considered it a case of "sporadic scorbutus." The case was not reported in any detail.

While several writers refer to the occurrence of hæmospermia in cancer and hypertrophy of the prostate, I have not found detailed reports of such cases.

Keersmaecker, whose work on this subject is the most careful that I have found, believes that in nearly all instances the prostate is the source of the bleeding. He believes the cause of the bleeding is, in almost all cases, some type of chronic prostatitis. He feels that we must regard as exceptions to the rule the few carefully investigated cases in which chronic prostatitis has not been the cause.

Feleki, on the other hand, demonstrated with apparent certainty that in the case at least of his sixteen-year-old patient the source of the bleeding was a vesicle. He agrees that it is sometimes due to chronic prostatitis, but thinks that vesiculitis is a common cause.

In the two instances in which hæmospermia is supposed to have been due to congestion during excessive coitus, I feel that from the reports, at least, one cannot rule out the possibility of pre-existing disease of the vesicles or prostate. In these two instances, however, the condition did not recur, which decreases the probability of pre-existing disease.

From our present knowledge of this condition we may conclude that a transient hæmospermia may be due to excessive coitus, to a lesion of the prostatic urethra, and perhaps rarely to an acute seminal vesiculitis; that the persistent type is usually due to a chronic prostatitis, less frequently to a seminal vesiculitis; that rarely we may have hæmospermia due to cancer or hypertrophy of the prostate; that it has occurred in the hemorrhagic diathesis.

Most of the reported cases have been in young adults, the extremes of age have been sixteen and fifty.

In the great majority of instances the ejaculations have been painless. Keersmaecker quotes Kocher as saying that painful hæmospermia points to the lesion being in a vesicle. He does not, however, agree to this.

The [illegible] of the causal lesion in hæmospermio can usually be made by a careful examination of the patient. The presence of a lesion of the prostatic urethra, or the definite exclusion of such a lesion, can be made only by an endoscopic examination. The problem which presents the greatest difficulty is to determine whether the source of bleeding is in the prostate or a vesicle. The means most useful for this are those ordinarily employed to differentiate a chronic prostatitis from a seminal vesiculitis.

This procedure is as follows: The patient passes some urine to cleanse his urethra; the prostate is then carefully massaged; if possible, the fluid is massaged along the urethra and a specimen obtained from the meatus. If this last cannot be done the patient passes a second portion of urine, which contains the material expressed from the prostate. If the fluid gotten by either method is stained and shows, on microscopical examination, evidence of chronic prostatitis it is probable that the prostate is the source of the trouble. This is made positive if, after massaging the vesicles, we find they contain living spermatozoa, without blood or pus. If the conditions are reversed we may feel sure that the lesion is in the vesicles. If, after prostatic massage one finds spermatozoa in the material obtained, one has a mixture of prostatic and vesicle secretion, and the test is therefore not conclusive.

The prognosis in hæmospermia varies with the nature of the lesion on which it is dependent. As, in most instances, it is due to a chronic inflammatory lesion of either the posterior urethra, the prostate, or a seminal vesicle, the prospect for ultimate recovery is perfectly good. In those instances in which hæmospermia is due to malignant disease or hypertrophy of the prostate, the outlook is, of course, very different.

In a case of chronic prostatitis reported by Keersmaecker, bloody ejaculations which had existed for two years disappeared under massage and applications to the urethra. In the case which I have reported the condition has been present, with a short intermission, for a year, but this patient has had very little treatment, and is, therefore, not a fair example of what treatment can accomplish.

The treatment in this condition should be directed to the lesion on which the condition depends. If the lesion is in the prostatic urethra it should be treated by dilatation and applications of nitrate of silver, either by instillation or through an endoscope.

If the lesion is a chronic inflammatory condition of either the prostate or the vesicles, and the urethra is not involved, massage is the most important factor in bringing about resolution. This is oftentimes helped by hot rectal irrigations taken through a double-current tube. The massage should be repeated at intervals varying from a few days to a week. Where we have a lesion of the prostatic urethra as well as of the prostate or a vesicle, treatment must be directed to both lesions.

In the reported cases, treatment, when carried out faithfully, has given prompt and satisfactory results. Kroner's case, in which the hæmospermia was simply a sign of the hemorrhagic diathesis, is the only exception that I have found. It is improbable that hæmospermia in itself has any direct effect on the impregnating power of the seminal fluid. The lesions on which it depends may, however, be inimical to the vigor, or even the viability, of the spermatozoa.

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**Solitary Tubercle of the Stomach.**—Roy McL. Van Wart reports this case. The patient was a negro woman, aged eighty-eight. When she entered the hospital she was much emaciated, unable to stand from extreme weakness, and refused to answer questions. In about five days physical signs of a bronchopneumonia became evident in the right lung, and she died two days later. At autopsy the stomach was found to be small, with the surface smooth except at a point 6 cm. from the cardiac orifice along the greater curvature where an area of thickening of the peritoneum was seen. Corresponding to this a tumor could be felt lying in the stomach and occupying the greater part of its lumen. The tumor was semifluctuant and was completely covered by the ribs. The external contour of the stomach was unaltered. The stomach was opened along middle of the anterior surface, and the tumor was then seen to lie entirely in the stomach wall and was covered by a perfectly intact mucosa, which bulged into the lumen of the organ at this point. The tumor was 3.5 cm. in diameter and almost spherical. On opening, it was found to contain a quantity of thick, yellow caseous material which flowed with difficulty. The wall of the tubercle was found to consist of necrotic material. The mucosa of the stomach was slightly infected and covered with mucus. The tubercle showed the following structure: The mucosa covering it was perfectly intact. There was no evidence of ulceration, or of an active inflammatory process, and it in every way resembled that from other parts of the same region of the stomach. The submucosa showed no change beyond a slight infection of the vessels similar to that seen elsewhere in the stomach. The muscularis was split in two layers, between which lay a layer of connective tissue passing gradually into a layer of cells which gave place to the caseous material of the tubercle. The cells in the second layer were of three types: Cells with large, deeply staining nuclei and little protoplasm, so called endothelioid cells, which in some places were arranged concentrically around a few scattered multinuclear giant cells. The presence of non-striped muscle completely surrounding the tubercle leaves no doubt as to the primary seat of the disease in the stomach. The question as to where the original focus of infection occurred is difficult to answer. Clinically the case is of little interest, as the condition gave rise to no symptoms during life. To conclude: The case is one of solitary tubercle in the muscularis of the stomach in which tubercle bacilli were found in the tissues and recovered from an experimental animal with the production of the typical lesions of tuberculosis. It is impossible to state whether the lesion was primary in the stomach, but there is no definite evidence to the contrary.—*Bulletin of the Johns Hopkins Hospital.*

**Autointoxication in Appendicitis.**—Edward Harnibrook holds that a toxic condition of the intestines is a frequent cause of appendicitis as well as a potent factor in causing the high mortality of the disease. His son, while studying comparative anatomy, dissected a putrefying dog, and had his first attack of appendicitis two days afterward. Medical students, hospital internes, and hospital nurses seem particularly liable to have appendicitis. The most trifling lesions are sometimes followed by death, while cases with suppuration, extensive adhesions, and gangrene often recover. Is not this because, in some cases, the toxins are not eliminated? The author believes in interval operations, for he holds that inflammation lessens the vitality of the part, and renders it vulnerable to subsequent attacks. For treatment of the infection causing the trouble, he gives ½ gr. doses of calomel every hour for two days, or until there are copious evacuations, and during the same period orders antiseptic enemata to be repeated every six hours, whether retained or not. He does not claim that antiseptic treatment will surely cure appendicitis, nor that it has any effect upon the localized inflammation, but he holds that it neutralizes the toxins in the intestinal canal, which are both a cause and concomitant of the disease, and that, therefore, it should be used both before and after the operation as well as when the case does not come to operation.—*The Canada Lancet.*

**Röntgen Ray Treatment of Cancer.**—William S. Newcomb reports a series of thirty-one cases of malignant disease treated by the *x*-rays. In this number are a few cases treated for such a brief period that no results could be looked for; but it was thought better to give a complete list rather than a selected one, and the only cases not reported are some of tuberculosis or of skin disease that could not be brought under the head of new growths. The conclusions based upon the whole series of cases are as follows: Small surface carcinomas (epitheliomas), if not too far advanced, will heal easily with the production of little or no scarring. When the disease has involved the deeper structures healing is less likely to occur, although a fair proportion will recover. Recurrences are very common, but if not allowed to advance too far will yield easily to treatment. Deep carcinomas and sarcomas will yield to treatment in a certain proportion of cases, but complications and metastases are to be expected. In nearly all pain will be relieved and surface ulceration healed, and this alone will prolong the lives of these victims and add to the comfort of themselves and of those about them.—*Therapeutic Gazette.*

**Lipæmia in Diabetes Mellitus.**—Thomas R. Fraser reports a case of diabetic coma in which a remarkable production of fat in the blood was not only demonstrated at the post-mortem examination, but had also been determined during the life of the patient. From a study of the subject he states that there is strong evidence in favor of the view that in diabetes the sugar in the blood may, by causes which are not known, and by processes which cannot at present be explained, abruptly undergoes more rapid and more abundant chemical transformations than were previously occurring, with a result, in a considerable number of cases, of a sufficient acidosis to produce the peculiar intoxication which is distinguished as acetonæmia, and in a small number of cases, of the formation also of a large quantity of fat in the blood, constituting the condition of diabetic lipæmia. It is not improbable that in accordance with the amount of this fat in the blood the solvent capacity of the serum for oxygen would become reduced, and that thereby the death-producing power of the existing acidosis would be reinforced. The author urges that in patients suffering from diabetes the urine and blood should be examined at intervals of one or two weeks for B-oxybutyric acid and fat respectively, so that the earliest warnings of danger may be obtained, and the earliest opportunity afforded for treatment by a liberal administration of alkalies.—*The Scottish Medical and Surgical Journal.*

**A Granuloma of the Nose, Due to Iodide of Potassium.**—C. Percival Crouch reports the case of a man who was put on antisyphilitic treatment for disease of the nose and larynx. After a few weeks some spots appeared on his forehead like an iodide rash, and a small raised granuloma appeared on the tip of his nose and rapidly increased in size, while similar growths presented themselves on forehead and temples. It was decided that the growth was due to the action of potassium iodide on a syphilitic subject, to a great extent increased by an existing heart lesion, which prevented the proper elimination of the iodide. Iodide was discontinued, arsenic was given, and caustic

applied. The growth has not returned. Acne due to iodine is apt to become tuberous. Iodide rashes are more apt to occur if there is either cardiac or renal disease present. An iodide rash may begin within twenty-four hours after the exhibition of 5 grains of potassium iodide three times a day.—*The British Medico-Chirurgical Journal.*

**The Treatment of Cancer, Lupus, and Other Malignant Growths with Concentrated Sun's Rays.**—O. U. Thayer, more than thirty years ago, commenced this form of treatment on diseases of the skin and its appendages. He has operated more than two thousand times with the concentrated sun's rays and has never noticed any permanent injury from them. No other remedy can compare with it as a curative power. Unlike other caustics and cauteries, it can be applied with perfect success to the most delicate membrane or tissue; the general system receives it kindly, the irritation and inflammation following its application are surprisingly slight and of short duration. The pain subsides immediately upon removal of the lens. Blistering is avoided, as the tissues are carbonized. The morbid tissues, having less vitality than the normal or natural structures, succumb to the solar heat before the healthy tissues adjoining are injured. In the treatment of cancer and lupus, the remedy is at once safe and certain. Many less treatments are required than with the Röntgen rays, the cure is more certain, the wound remaining heals sooner, and the skin is restored in great measure to its normal condition.—*Pacific Medical Journal.*

**The Serum Precipitation Test for the Identification of Blood Stains.**—J. W. Mallet gave a chicken five injections, at intervals of a few days, of blood taken from negroes, and it was then killed by bleeding. The antiserum of this chicken's blood was then tested at various degrees of dilution, with samples of negro and Caucasian blood, also variously diluted, the samples being treated side by side. and precisely alike. In both cases a precipitate was formed, but there was a clearly perceptible difference: that derived from the negro blood was distinctly more marked in amount, and in the weaker dilutions formed more promptly than that in the sample of blood from a white man. Upon so slender a basis as this experiment, it would be rash to assume that a general conclusion of trustworthy character has been reached. But, as far as one experiment goes, it is interesting, and seems to render probable the future availability of the reaction for identification of the race source of a human blood stain.—*Virginia Medical Semi-Monthly.*

**Syphilis Considered in Its Ethical Relations.**—S. Seabury Jones says that, according to authorities who have investigated the subject and studied the question of a remedy, it is admitted that from 50 to 85 per cent. of cases of syphilis among females have been innocently acquired. This showing would suffice to justify us in any measures, not oppressive, which may tend to protect the innocent against the ravages of this disease. Much responsibility rests with the physician. It is extremely difficult to know how to protect a wife and children against contagion, without wrecking her happiness, but a husband can, perhaps confess the nature of the malady, concealing the nature of its acquirement. No physician is justified in treating a young unmarried man for syphilis or gonorrhœa without confiding to the father the nature of the disease and the measure necessary to protect the family from contagion.—*Medical Review of Reviews.*

**The Hygiene and Dietetic Treatment of Chronic Nephritis.**—Victor C. Vaughan states that recent investigations have shown that there is good reason for concluding that in certain forms of chronic nephritis, nephrolysins are found in the circulating blood of the patient. These nephrolysins are albuminous bodies, and when injected into the blood of experimental animals lead to degenerative changes in the renal structure, and to death. If this be the case, then the hygienic and dietetic treatment of chronic nephritis should be directed toward the possibility of profoundly altering the proteid constituents of the blood. The author has found a diet wholly vegetable, with the exception of cream and butter, to be the most serviceable. Meat in any form, eggs and milk are forbidden. Corn meal mush is the best cereal, with sugar *ad libitum* for the mush zwieback, butter, potatoes, legumins, green vegetables, fruits, and melons are allowed. The digestive organs need to be watched closely, and the bowels must be kept in good condition, but copious purgation is not desirable except during exacerbations or for the removal of dropsical accumulations, or in threatened uræmia. The skin should be kept in a normal, but not too active state—a hot bath three times a week and a Turkish bath once a month, as a usual thing. Flannel underclothing, medium to heavy in winter and light in summer, is prescribed.—*Northwest Medicine.*

**The Inter-relations of Diabetes and Other Constitutional States.**—George F. Butler says that it is a great error to fix upon glycosuria as the one test of diabetes, since it may occur in so many other conditions, such as various neroses, delirium tremens, febrile conditions, pregnancy, gout and insanity of the autotoxic types, etc. The author gives the various symptoms of diabetes which may tend to confound it with other diseases such as locomotor ataxia, epilepsy, etc. Clinical study demonstrates beyond doubt that most cases of diabetes are at first expressions of nutritional and assimilational instability. In consequence of the overstrain on the liver, adrenals, pancreas, spleen, and kidneys, what were at first merely biochemic changes in these organs become permanent pathological lesions, continuing constantly in excessive sugar manufacture without proper oxidation or elimination.—*The Canada Lancet.*

**Eyestrain and Functional Disorders.**—Charles A. Wishart holds that eyestrain bears a causal relationship to functional disorders of the brain and viscera. The so-called idiopathic epilepsy may have its starting point in ocular strain; Dodd reports forty-nine cases which were cured or benefited by the relief of the eyestrain. Chorea is also due to the same cause in some cases. The ill effects of this trouble are not confined to the nervous system; all of the visceral functions may be disturbed, as all the viscera depend on the brain. The author reports the cases of dysmenorrhœa relieved by correction of muscular error of the eyes. A claim that all functional derangement is the result of eyestrain would be absurd, but the claim that many derangements of functions of various organs is the result of reflex nervous irritation is easily susceptible of proof, and that eyestrain is one of the commonest causes of such reflex irritation can be demonstrated with almost absolute certainty.—*Pennsylvania Medical Journal.*

**Is the Urban Hospital Treatment of External or Surgical Tuberculosis Justifiable?**—A. H. Tubby draws the following conclusions from his investigations of cases treated in towns and in the country: The number of cures is by no means so great in towns, nor is the cure as complete; the number of relapses being far greater, as is shown by patients continually going the rounds of the hospitals. Operations are more frequently resorted to in the city, and are by no means always successful. Better results are obtained in those cases which are treated by rest from the first and when there is no excision or ablation of bone and wide cutting of soft parts. Tuberculous children should be placed in properly equipped establishments in the country or at the seaside. These hospitals should be devoted to one object only, just in the same way as sanatoria exist for the open-air treatment of phthisis alone. There should be no limits as to age, younger children being as eligible as older ones. Cases once admitted should stay until cured, or clearly proved to be incurable, and for the latter separate establishments should be provided, so that they cease to be a danger to the community.—*The Practitioner.*

MEDICAL RECORD:

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## THE TRANSMISSION OF BOVINE TUBERCULOSIS BY MILK.

DR. GEORGE M. KOBER, in the *Journal of Medical Sciences*, October, brings forward a mass of evidence in support of the view that tuberculosis can be caused in human beings by means of the ingestion of milk from diseased cows. Carmichael, in his "Essay on the Nature of Scrofula, with Evidence of Its Origin from Disorders of the Digestive Organs, London, 1810," referred to the part played by milk in the causation of scrofula. This writer quoted yet more ancient authors, Richard Wiseman (1626–1686), White (1787), and Leutand, to show that whenever the outward glands appear swollen, one may safely conclude the mesenteric to be so, too, they being usually the first parts to be attacked by scrofula.

Casper, in his "Characteristics of French Medicine, 1822," suggested the connection between the fact that the majority of milch cows in Paris were affected with nodular consumption, and the prevalence of scrofula among the young children of that city. Hencke, in 1846, was the first to advance the theory that scrofula was caused by the milk of infected cows. During the past two years experiments made by Ravenel de Schweinitz, Mohler Orth, de Jong, Stenstrom, Fibiger, Wollff, Nocard, Arlong, v. Behring, Dean and Todd "conclusively demonstrate," says Dr. Kober, "that cattle are not refractory to human tuberculosis, and that bovine tuberculosis may be transmitted to monkeys. The author has tabulated eighty-six cases of milk bovine tuberculosis, and states that "the statistical work of Gottstein shows that the mortality from tuberculosis in breast-fed children is but slightly more than half as much as among those otherwise nourished, the proportion being as 6:10."

Salmon has analyzed the vital statistics of Massachusetts and finds an increase of 36 per cent. in the forms of tuberculosis other than phthisis in the cases under five years of age, while there was a reduction in the mortality of phthisis at all other ages of about 45 per cent., and the vital statistics of Michigan from 1885 to 1900 show also an immense increase during the milk-drinking age.

Dr. Kober makes the following suggestion: "The opportunities for tracing bovine infection are much better in small communities and in isolated farm-houses than in large cities, and we should look to the country practitioner for help; he, in turn, unless properly equipped to verify the diagnosis, should apply to the Bureau of Animal Industry, or to the pathologist and bacteriologist of his medical school to check up his work."

The writer draws these conclusions: (1) Tuberculosis may be transmitted to man in milk from tuberculous cows. The danger from this source is real and cannot be measured by the actual number of recorded cases, but should be judged, in part at least, by the inoculation and feeding experiments, and the accidental wound infections which have established the intercommunicability of bovine and human tuberculosis. (2) The degree of danger may also be estimated by the prevalence of bovine tuberculosis and of forms other than phthisis pulmonalis in man, remembering that the infectious qualities of milk are greatest when the udder is the seat of lesions and that Gebhardt's experiments have shown that tuberculous milk when diluted with the milk of sound animals in the proportion of 1:40 lost its power. (3) The experimental studies also indicate that while the bacilli of human tuberculosis possess different degrees of pathogenic power and are often of feeble virulence for cattle, Koch's assumption that human and bovine tuberculosis are distinct and that human tuberculosis cannot be conveyed to cattle appears to be disproved, and his failure to secure similar results may be attributed to the use of human bacilli of diminished virulence. (4) Recent investigations have strengthened Smith's claim that there are two types of tubercle bacilli—the so-called bovine and human types—possessing certain morphological and biological differences; but it has also been shown that virulent cultures may be obtained from both of these types, which, when inoculated into animals, produce the disease in question. (5) Further research seems desirable with a view of determining the frequency of primary intestinal and abdominal tuberculosis in all cases which come to autopsy, whether the child perished from tuberculosis or not, and in these autopsies the bacteriological examination should be directed to the existence of the two types of tubercle bacilli originally referred to by Smith, and whether the bovine type predominates in the so-called scrofulous lesions. (6) Careful chemical analyses of the milk of tuberculous animals should be made with a view of determining the amount of phosphoric acid as compared with the quantity in normal milk, since it appears probable from Dr. de Schweinitz's biochemical researches that the excess noticed by the older chemists is really the result of bacterial activity in the udder of the cow. (7) In the meantime the pathologist has no reason to reverse his opinion as to the identity of human and bovine tuberculosis, and the sanitarian has no reason to assume that the human subject is immune against infection with the bovine bacillus, or is so slightly susceptible as to cause him to relax his efforts in preventive measures.

It would seem that the majority of scientific men are veering toward the belief that bovine tuberculosis can be transmitted to human beings, under certain circumstances.

The numerous experiments undertaken since the promulgation of Koch's views support—to a greater or less extent—this attitude. The sooner that the question is definitely settled the better it will be for the public at large, and for this reason it might be well that the advice given by Dr. Kober

should be closely followed. Pending this event, no precaution should be relaxed in the way of keeping the milk supply pure. A strict supervision of this necessary commodity is just as strongly indicated as it ever was.

## HOW IS CARDIAC DROPSY PRODUCED?

CONCERNING the method by which dropsy is brought about, there are three theories: (1) the secretory, that the cells of the capillaries have a specific secretory function, an abnormal increase of which (as a result of stimulation by the excess of waste products in the blood) results in dropsy; (2) a theory that a malnutrition of the tissues and accumulation of waste products are the most important factors, the blood vessels playing a minor part; and (3), the mechanico-physical theory, that dropsy must result when the lymph circulation is hindered both by a diminished *vis a tergo* (the outcome of diminished arterial pressure), and by an obstructed outflow into the veins, the results of increased venous pressure.

In the *Journal of Pathology and Bacteriology* for August, Dr. Charles Bolton examines the respective merits of these theories. The first question is: What, as a matter of fact, is the state of the arterial and venous pressures. The method employed consisted in the interposition of a mechanical obstruction to the heart's action, by constricting the pericardium by sutures.

As a result, the emptying of the veins into the heart is hindered. The experiments were all upon cats. Three groups of experiments were made, namely: those in which the animals were allowed to recover to see whether dropsy would result; those in which after the constriction was made and the arterial and venous pressures were noted, the animals were killed; and those in which the subsequent changes in arterial and venous pressures, while dropsy was being produced, were noted. In the first group the classical picture of uncompensated disease (with dyspnœa, diminished amount of urine and dropsy) was produced. Whether albuminuria resulted could not be decided with absolute certainty, as etherization sometimes results in a trace of albumin in the urine. The dropsy was much more frequently limited to the serous cavities, which shows that when the effect of gravity does not come in as a disturbing factor, the dropsy of heart disease first appears in these cavities.

The studies of the blood-pressures showed the arterial pressure everywhere diminished and the venous pressure everywhere (in the peripheral and portal veins, as well as in the large vessels of the trunk) increased. By increasing the volume of the blood (by the production of hydræmic plethora) it was impossible to restore the arterial pressure to normal. When, therefore, the heart fails to maintain the normal output, there results primarily diminished arterial and increased venous pressure. The latter, however, eventually passes off (probably owing to a yielding of the walls of the veins), and the venous pressure returns to normal. But when this return of the venous pressure to normal has taken place the arterial pressure is still below normal, and continues below normal while œdema is taking place. So that during the formation of the œdema the pressure in the capillary system is, as a matter of fact, below normal. The existence of this lowered pressure in the capillaries, and the simultaneous slowing of the circulation through them, renders it, the author thinks, much more probable that the production of dropsy is attributable primarily rather to impairment or other alteration in the function of the capillary wall, than that it is due to heightened function in the same.

## POISONED WOUNDS BY THE IMPLEMENTS OF WARFARE.

FROM an editorial review in the *Journal of the Association of Military Surgeons*, of a lecture by Major L. A. LaGarde, Surgeon, U. S. A., we abstract the following, both on account of it, practical as well as medicolegal importance. The literature of poisoned wounds gives ample evidence that the poisoning of projectiles has been practised from prehistoric times to the present day. It is also evident that not only vegetable but also bacterial poisons have been employed. The introduction of firearms about the fourteenth century, however, threw much doubt on the possibility of continuing the practice of the ancients. LaGarde's observations show now that the explosive and the ball are contaminated in 12 and 47 per cent., respectively, of the specimens examined, and also that they become contaminated by handling. The wad and wadding are always contaminated. Moreover, the heat generated during firing does not destroy bacteria existing in the powder, or the wad, or on the ball or the barrel of the gun, and bacteria placed anywhere in black or smokeless powder, or in the barrel, can invariably be recovered from media into which the missile is discharged. Thus it has been demonstrated for bacillus anthracis, when placed either on the bullet or in the powder (smokeless or black). Also the experiments proved that tetanus can be conveyed into an animal when the bacillus is placed anywhere from the powder to the point of impact on the skin.

An infected wound, however, need not necessarily come from an infected missile, as the latter may become infected *en route*, as from penetrating infected clothing. The character of the lesion, so far as it relates to the local resistance, is of prime importance. Hæmatomata in particular involve a special predisposition to infection, and as gunshot wounds often partake of the nature of a hæmatoma (in addition to lacerations and other injuries leading to necrosis), such wounds must be regarded as at least as liable to infection as hæmatomata; and Strick's experiments show them to be even more so.

Concerning vegetable poisons, such as curare and ricin, there is nothing in the act of firing to destroy their lethal properties, and they are readily conveyed when placed on the ball or barrel, or in the powder, and undoubtedly toxins and animal poisons, such as snake venom, could be conveyed in the same manner. With vegetable poisons the experiments showed that clean incised wounds absorbed the poison more rapidly than other wounds, and that death was more rapid. Respecting poisoned wounds as they actually occur to-day, taking tetanus as an example, its occurrence is very frequent both in civil and military life, as a result even of toy-pistol and blank-cartridge wounds. LaGarde also points out the medicolegal aspects of

the subject and the possibility of intentional infections of projectiles. In suspected criminal attempts the surgeon should make a thorough examination of the ammunition and weapon, including a chemical and bacteriological examination of the powder, bullet and barrel; powder grains found in the clothing or wound should be carefully collected; the projectile when recovered should be dropped into media, with sterile forceps; the inside of the barrel should be examined for specific microorganisms; and a thorough study made of all of the ammunition remaining in the weapon. If the shot was a ricochet, the initial point of impact should also be examined for the presence of poison. The same measures should be taken in the examinations for toxins and animal and vegetable poisons. Concerning the method of identification in these cases, Welsh says: "The only certain means of detecting toxins of the class of diphtheria or tetanus toxin, snake venom, and certain vegetable poisons of the same category, is their neutralization by the corresponding antitoxic sera. Occasion may arise when such detection is of practical and even medicolegal importance, as has been exemplified in India, where the criminal use of cobra venom is not unknown." When the evidence of poisoning has been shown, the prosecution should endeavor to establish the poison found: (1) On the instruments; (2) the dressings; (3) the hands of the attendants; (4) the clothing, and (5) the skin of the patient. This part of the evidence can be readily gathered if the surgeon in charge is on the alert and acts at once. In all the examinations for bacteria special attention should be paid to the identification of strict anaërobes by animal experimentation as well as by culture methods.

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### The Prevention of Tuberculosis.

The International Congress of Hygiene and Demography has recently held a meeting, and, naturally, one of the subjects most earnestly discussed was that of the most effective means of fighting tuberculosis. The opinions of the many eminent physicians present did not agree on all points relating to preventive measures. For instance, with regard to the good wrought by notification, the views expressed diverged considerably. Dr. Brouardel of France was not altogether in favor of the system. Dr. Moeller said nothing in praise, or dispraise, of notification, but was non-committal. Professor Pannwitz of Germany "was of the opinion that there ought to be obligatory declaration of change of abode by those having infectious discharges."

Dr. Newsholme of England described the success of the introduction of notification into many English towns, and was the most enthusiastic eulogist of what may be termed the American method.

The relation between alcoholism and tuberculosis was another matter which received much attention at the hands of those who attended the Congress. Dr. Brouardel recapitulated his well-known opinion, that alcoholism is, perhaps, the most fruitful cause of consumption, and Professor Landouzy concurred in these views.

The influence of social comfort and food upon the causation and prevalence of tuberculosis was also dealt with at some length. The belief is widespread —indeed universal—that good living, decent houses, and good sanitary conditions generally, will do more to check the dissemination of tuberculosis than any other means. At the Congress statistics were brought forward in support of these points. Attention was drawn by the English delegate to Sir Hugh Beevor's Hunterian oration in which he showed that the curves of price of wheat and mortality from phthisis followed each other almost exactly, but as Dr. Newsholme aptly pointed out, the price of bread is only one factor in the case, improved conditions of life must be considered as bearing upon the matter with equal weight. The members of the Congress, with scarcely an exception, were agreed that in order to wage a winning fight against consumption, special hospitals and sanatoriums for its treatment must be established. Isolation for the advanced cases, and sanatorium treatment in the country for incipient cases. Without these means a campaign against tuberculosis must of necessity come to nought.

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### Faith Healing in Great Britain.

It would appear from the account of recent happenings in Great Britain, that Christian Scientists, Faith healers, and others of a like ilk are gaining a foothold there. Until recently but little has been heard of fanaticism of that kind in the United Kingdom, and the United States has been regarded as preëminently the happy hunting ground of those who had stepped out of the beaten path, either as regards religion or medicine.

That Dowie has his followers on the other side has been proved, however, by a case which was reported by the Manchester correspondent of the *Lancet*, October 10. A man was charged in that city with wilfully neglecting and ill-treating his young daughter, and was tried on October 1. The child, on September 3, fell down some steps and broke her right collar bone. On returning home the father was told of the accident, and although the mother wished to send for a medical man, he would not allow it, and based his faith upon the curative efficacy of earnest prayer. On September 11 the Society for the Prevention of Cruelty to Children intervened, but it was not until September 21 that, by an order of the Court, an inspector of the society took the child and she was properly attended to. The defendant at his trial testified that one of the principles of his church was that "all cures were effected by means of faith and prayer." He is also said to have send a cablegram to "Dr. Dowie" at Zion City asking for his prayers, but had no reply. The man was sent to jail for a month with hard labor.

The progress of Christian Science, of Faith Cure, and of other quasi-religions is one of the most interesting features of the present time, and affords the student of human nature ample study. Whether to regard Mrs. Eddy or Dowie as fanatics is a moot-point. Probably, taking into consideration their methods, most people will be of the opinion that these are not disinterested, and that they are swayed by mercenary motives and vanity. Whatever, however, may be the guiding principles of the leaders, there can be little doubt but that the great majority of their followers are sincere in their beliefs, and are ready and eager to offer themselves as martyrs to their religious convictions. They are sheep to be shorn by their too astute shepherds. Be this as it may, the children of such people must not be allowed to suffer for the eccentricities of their parents. An adult has a right to go his own way—within certain bounds—but he has no right to insist that his child or charge should pursue the same course if it be to his or her physical detriment. Therefore the decision at Manchester should commend itself as wise to every reasonable person.

### The Causes of Physical Degeneracy.

At the recent meeting of the British Medical Association, Professor Herbert H. Tidswell Chester read a paper on this subject, which is now greatly exercising men's minds, particularly in Great Britain. Dr. Chester holds that overtaxing the mental capabilities of the children of the poor is the main reason for their deterioration in physique and stamina. He thinks that the children of the working classes nowadays commence school attendance too young, He says: "Children's brains are delicate organs and require gentler treatment than they often receive at the hands of their teachers. The cram system of the present day is both demoralizing and degrading, and is calculated to render the judgment unstable and capricious and to interfere seriously with the mental equilibrium. The development of the body is seriously retarded by a morbid condition of the cerebrospinal system. Dr. Chester makes the following suggestions as to remedying the existing condition of things: (1) If possible, remove the cause of mental strain and abolish the cram system. (2) Let all schools be under systematic medical inspection; let a medical officer be attached to each school, who shall inspect each class as it assembles, to detect infectious or other diseases in the early stages, who shall examine the eyesight, the hearing, and general condition of each child and keep a report of the same, who shall visit any pupil at home in case of sudden illness and give certificate to same.

Dr. Dawson Williams, editor of *British Medical Journal*, who took part in the discussion, concluded that the practical question appeared to be, whether the factors which tended to prevent adequate physical development could be removed. As he understood the matter, it was the defects in the diet of infancy and youth causing a condition of defective nutrition which produced not only imperfect physical development, but imperfect or retarded cerebral development, which was the cause of what was called overpressure.

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### Plague in Domestic Animals.

Among the papers read at the Tropical Section of the British Medical Association, the meeting of which was recently held, was a short but pertinent one on the above subject by Mr. James Cantlie. It appears a report was sent from Hongkong that several fowls, a duck, and a quail exposed for sale in the market of that city were found to be infected with plague. That domestic animals and birds may become infected with certain diseases, which they may transmit to man, has been suggested on several occasions, and has been stated as a positive fact more than once. However, little notice has been taken of these views, and for the most part they have been politely poohpoohed as visionary. Mr. Cantlie points out that the experiments undertaken by Prof. W. R. Simpson and Dr. Hunter in Hongkong cast more light upon the matter, and teach us new facts in connection with the infectivity of domestic animals. By vaccinating, inoculating, and more especially by feeding animals on plague cultures, or on the blood or organs of plague-infected animals, Professor Simpson showed that monkeys, sheep, calves, pigs, fowls, geese, ducks, pigeons, turkeys, etc., readily contracted plague, and one of the most telling results of his observations has brought home to us the fact that they more readily became infected when fed upon plague bacilli in any environment than by any other known means of causing infection. He proved, also, that the bacilli were found in the flesh, in the organs, and in the excretions of these animals, and the fact that skin parasites readily acquired the bacillus when fed on plague-infected animals has been long known to us. In China and Oriental countries domestic animals often live under the same roof with the family, so that whether animal or man contract the plague it is certain to spread, and if transmissible from animal to man, as seems probable, the disease will be disseminated among human beings. According to Mr. Cantlie, it has been, to a large extent, proved that a very large number of animals and birds of all kinds can become infected with plague. What is wanted, in his opinion, is a ready means of diagnosing plague in animals, "for," as he says, "to take the temperature of each pig of a large consignment, or to examine the blood for plague bacilli, is an ordeal the best equipped port officers could not go through. Could we tell by inspection that an animal had plague, we might hope to be able to control the disease in some measure, but until we discover a rapid means of diagnosing plague in animals, there is little hope of combating the spread of the malady."

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### Nursing as an Occupation.

An annotation which appeared in the *British Medical Journal*, August 8, on this subject has aroused much attention, and has led to a considerable amount of correspondence. The question of the status of the trained nurse, and the loose definitions of the qualifications which give a person the right to lay claim to that appellation, have been referred to several times in the Medical Record. It would appear that in some respects the situation as regards nurses is quite as unsatisfactory in England as in this country. The market there is overstocked, and individuals with little or no training are allowed to compete on equal terms with those who have gained skill and experience from three years of hospital work. The aforementioned annotation in the *British Medical Journal* contains a plaint from a physician with regard to the incompetence and ignorance of many of the self-styled nurses, and gives an instance of the lengths to which such lack of knowledge, joined with impudent assurance, can go. The correspondence called forth by this communication has been interesting and at the same time timely.

One writer declares that if medical men are content to trust their patients to any woman posing as a "nurse" without inquiring as to her qualifications for the work she undertakes, they must bear at least some of the blame for the resulting danger to the public.

The gist of the argument of all the writers is that the State should initiate a system of registration for nurses. One correspondent says, "Surely it is time that the minimum standard of nursing should be defined by authority, and that those who are endorsed by their training schools, and who have given proof that they have attained this standard should be enrolled in a register under the authority of the State." It is pointed out that registration of nurses is already in force in Cape Colony, Natal, New Zealand, and in four of the States of this country. Another correspondent draws attention to a saying of the late Sir James Paget. "In the same family one sister takes a medical qualification and is registered, another becomes a nurse and she cannot be registered. The contrast is becoming ridiculous as well as unjust, and must soon come to an end."

A medical man writes as follows: "We as medical men should do all in our power to help the nursing profession out of its chaotic state, and to put it on a firm and practical footing, because the two pro-

fessions have so much in common; secondly, we shall be doing a greater duty to our patients if we try all we can to prevent their being left in the hands of experienced persons posing as so-called 'trained nurses.'"

Finally it is stated that a bill is now being drafted in Great Britain by the Society for the State Registration of Trained Nurses, the object of which is to ensure that nurses are really trained.

The present condition of affairs is anomalous and unpractical as well as decidedly unfair to the well-trained nurses and the public at large. If the public could be made to realize the importance of having the services when sick of a thoroughly trained nurse, the question of registering nurses would not be long left in abeyance. Good nursing is a most essential factor in the treatment of disease, and for the sake of all concerned it is expedient that registration of nurses should be introduced as speedily as possible.

### Late Marriages and Cancer.

At frequent intervals within the past few years, announcements and surmises have been made as to the cause of cancer. Some of these have had a scientific basis, while others have appeared to be the result of a vivid imagination. They, however, all go to show the intense interest which is manifested in the subject, and tend to raise the hope that the time may not be far distant when the mystery of the origin of this dread disease will be solved. In the meantime the accounts of the various suggested causes will be read with attention, not, perhaps, unmixed with a certain degree of amusement.

In the July number of the *London Polyclinic*, of which Mr. Jonathan Hutchinson is editor, appeared a leading article, bringing forward the hypothesis that late marriages may have an important influence upon the causation of cancer. The article commences with the perfectly fair assumption that the offspring of middle-aged or elderly parents are not born with precisely the same proclivities and endowments as those of the young. After discussing the question of the transmission of physical and mental traits from parents to children, and through several generations, the writer proceeds to consider the subject in debate. He asks, if the later born children of a gouty parent inherit any greater liability to gout than the first born? and answers thus: "It is scarcely likely that a child born after his father has lived fifty or sixty years, and passed through many attacks of gout, will be in precisely the same condition as one born in his parent's youth. It is surely reasonable to believe—*pace* Weissmann—that he will in some way inherit the tissue proclivities which his parents had acquired." Taking it as more or less proved that the child of an elderly, gouty man will inherit a predisposition to the same disease, the theme is continued as follows: "If we now pass from gout to cancer it may be suggested as a primary proposition that the nearer to the cancer-period in the parent the child is begot, the greater is the risk that he may inherit a tissue proclivity to the cancerous process. Now the cancer period is that of middle age and commencing senility, emphatically it is not that of youth. The children born to young parents are begotten with very rare exceptions at periods long prior to the development of cancer, or of any special tendency to it." The assertion is made that the hypothesis is in accordance with facts. It is pointed out that cancer is far less common in the lower animals than in man, and they, as a rule, wed early, while in man the disease is far less frequent in lowly-civilized communities than it is amongst the superior nations of the world. The increase, in fact, has occurred almost solely amongst the people of the highest civilization, and with whom the marriage age has been steadily increasing for centuries. Of course many seemingly destructive arguments can be brought against the supposition as to the cause of cancer advanced in the Polyclinic, but, on the other hand, it has several points in its favor, and it is at least as plausible as several of the theories which have been thrust in our faces during the last two or three years.

## News of the Week.

**Dr. Bulkley's Lectures on Skin Diseases.**—Announcement is made of the sixth annual course of clinical lectures on diseases of the skin to be given by Dr. L. Duncan Bulkley, in the out-patient hall of the New York Skin and Cancer Hospital, Second Avenue and Nineteenth Street. The lectures will be given every Wednesday afternoon at 4.15 o'clock, beginning Wednesday, November 4. These courses are free to medical practitioners, and are always largely attended by out-of-town physicians here for post-graduate study as well as by residents of the city.

**Officers of the Public Health Association.**—The American Public Health Association, which was in session last week in Washington, elected the following officers to serve for the ensuing year: *President*, Dr. Carlos J. Finlay of Havana, Cuba; *First Vice-President*, Dr. J. R. Monjaras of Mexico City; *Second Vice-President*, Dr. William C. Woodward, health officer of the District of Columbia; *Secretary*, Dr. Charles O. Probst of Columbus, Ohio; *Treasurer*, Dr. Frank W. Wright of New Haven, Conn.; *Executive Committee*, Dr. A. H. Doty, health officer of the port of New York; Prof. F. C. Robinson of Bowdoin College, and Dr. John L. Leal of Paterson, N. J. It was decided to hold the next meeting in Havana.

**New Lebanon Hospital Ward Opened.**—A convalescent ward of one hundred beds was opened in the Lebanon Hospital, Westchester Avenue and One Hundred and Fiftieth Street, in The Bronx, on November 6. Admission to the convalescent wards will be from the other wards of the hospital and through the United Hebrew Charities, which will investigate and make recommendations upon all charity cases.

**The New York State Association of Railway Surgeons.**—The thirteenth annual meeting of this society will be held at the New York Academy of Medicine on Thursday and Friday, November 12 and 13, 1903, under the presidency of Dr. Henry Flood of Elmira. The Secretary is Dr. George Chaffee of Brooklyn. On Thursday, at one o'clock, there will be a luncheon in the grill-room of the academy, and on Friday clinics will be held by Dr. Joseph A. Blake at Roosevelt Hospital, at 10 A.M., and by Dr. Frederick H. Wiggin at City Hospital, Blackwell's Island, at 2.30 P.M.

**A Quarantine against Allegheny.**—The Pennsylvania State Board of Health has declared a limited quarantine against Allegheny because of the continuance of smallpox which has existed in the city for several months. The quarantine will be confined to the fumigation of outgoing mails, prohibition of the transfer of baggage from one portion of the city to another and the publication in the papers of western Pennsylvania of a formal notice from the State Board, calling attention to the danger of holding communication with Allegheny or receiving persons who have come from there.

**Poisoning of Asylum Inmates.**—The attendants at the Tewksbury, Mass., State Hospital dis-

covered at the breakfast hour the other day that eleven of the inmates had developed symptoms of belladonna poisoning. Prompt measures were taken to relieve the sufferers, and some of the men were soon out of danger, but one died. An investigation is being made by the State Board of Charities.

**The Yellow Fever** situation in Texas is improving. Cases continue to be reported from Laredo and a few from San Antonio, and the quarantine against these places is maintained despite the protests of their citizens. The quarantine against San Antonio has been absolute, the Governor of the State having issued an order mandatory upon all railroads not to operate trains in or out of San Antonio or to handle any freight or passenger business from that city in any shape whatsoever. The Louisiana Board of Health has quarantined against Laredo and San Antonio, and all railroads and other common carriers are prohibited under penalty from bringing into Louisiana passengers, household goods, and cars from those places unless they are first fumigated with sulphur by authorized health authorities. In fact, the precautions taken are practically the same as they would have been in the old days when nothing was known of the way yellow fever is spread. It is encouraging, however, to learn that the mosquito theory is winning popular recognition, and that the yellow fever outbreak has resulted in the use of a great deal of oil to get rid of the mosquitos. Beaumont has been giving the oil free and the result has been satisfactory. One of the latest applicants was the town of Rado, which got a large supply of oil from Beaumont, used it on all bodies of water around the town and is now absolutely free from mosquitos. That the oil gets rid of the mosquitos is proved by the fact that there is none in the oil fields, formerly infested by them.

**The Office of Coroner's Physician.**—Dr. Albert T. Weston, who has been coroner's physician in New York for several years, has been confirmed in his position by a decision of the Supreme Court in refusing to grant an injunction restraining the coroners from paying Dr. Weston his salary. Justice Barrett says that though Dr. Weston is a holdover from the last Board of Coroners, yet his title is valid and he can be removed only for cause and after a hearing.

**Tuberculosis in a Pennsylvania Penitentiary.**—A Philadelphia Grand Jury has condemned the management of the Eastern Pennsylvania and stated that the place is nothing more than a breeding place for tuberculosis. The plumbing was found to be bad, requiring the constant use of disinfectants. The report further stated that over 60 per cent. of the deaths among the inmates of the penitentiary during the past thirty years have been from tuberculosis, and a bacteriological examination has demonstrated the presence of tubercle bacilli in nearly every one of the prison cells.

**American Society of Clinical Surgery.**—The first meeting of this society is called for November 13 at Baltimore, and November 14 at Philadelphia, under the presidency of Dr. G. E. Brewer of this city. It is proposed that two meetings be held each year, each meeting to be divided between two neighboring cities. The provisional secretary of the society is Dr. J. G. Mumford of Boston.

**Alvarenga Prize of the College of Physicians of Philadelphia.**—The next award of the Alvarenga Prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about $180, will be made on July 14, 1904, provided that an essay deemed by the Committee of Award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in medicine, but cannot have been published, and must be received by Dr. Thomas R. Neilson, Secretary of the college, on or before May 1, 1904. Each essay must be sent without signature, but must be plainly marked with a motto, and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the college; other essays will be returned upon application within three months after the award. The Alvarenga Prize for 1903 has been awarded to Dr. William S. Carter of Galveston, Tex., for his essay entitled: "The Relation of the Parathyroids to the Thyroid Glands."

**The Craig Colony Prize.**—A prize of $200 is offered by Dr. Frederick Peterson for the best original essay on the etiology, pathology, and treatment of epilepsy. The conditions to be complied with are as follows: (1) The paper must show original research work. (2) The subject-matter of the essay shall not have been previously published. (3) The manuscript submitted shall be in English and be sent to Dr. Peterson at 4 West Fifteenth street, New York City, before September 30, 1904. The successful manuscript becomes the exclusive property of the Craig Colony. (4) Each paper submitted must be accompanied by a sealed envelope containing the name and address of the author, and bearing on the inside a motto or device which is also to be inscribed upon the essay. The award will be made by a committee of the New York Neurological Society, and the result announced at the annual meeting of the managers of the colony, the second Tuesday in October, 1904. Further information may be obtained from Dr. W. P. Spratling, Sonyea, N. Y.

**Dr. B. Franklin Stahl** has been elected Medical Director of St. Agnes Hospital, Philadelphia, in succession to the late Dr. Wm. H. Parish.

**Medico-Chirurgical College of Philadelphia.**—Dr. Judson Daland has been elected Professor of Clinical Medicine, in succession to Dr. Wm. E. Hughes, resigned; Dr. Hilary M. Christian, clinical professor of genito-urinary diseases, in succession to Dr. E. R. Kirby, resigned, and Dr. Geo. W. Pfromm, clinical professor of applied therapeutics.

**The Carmel Dispensary, New York.**—We are informed that a vacancy has been created in the department of diseases of the eye, in this dispensary, by the resignation of the former incumbent. Applications for appointment may be made to the secretary at the dispensary, 14 Delancey street.

**"Folia Hæmatologica"** is the name of a periodical devoted to hæmatology, the American editor of which is Dr. Charles E. Simon, 1302 Madison avenue, Baltimore, Md. American writers on this subject are requested to send two reprints of their article to Dr. Simon for abstract in the journal.

**"The Journal of Infectious Diseases"** is the name of a new publication established in connection with the Memorial Institute for Infectious Diseases in Chicago. It will be devoted to the publication of original investigations dealing with the general phenomena, causation, and prevention of infectious diseases both of known and of unknown origin. It will appear in numbers issued at irregular intervals, as the amount and nature of the available material will permit. The journal will be edited by Dr. Ludvig Hektoen and Edwin O. Jordan. The cover is ornamented with a device representing a free receptor seizing a wandering toxin molecule.

**A Hospital for Columbia University.**—The trustees of Columbia are considering the advisability of acquiring or building a hospital to be under the control of the medical department, where bedside instruction can be given to the students. At present the Vanderbilt Clinic affords ample opportunity of the study of such diseases as can be treated in outdoor patients, and the Sloane Maternity Hospital furnishes an abundance of obstetric material, but the need of a general hospital for a study of the graver medical and surgical cases is felt. To build and maintain such a hospital it is estimated that a capital of $2,000,000 must be secured.

**The Suppression of Malaria.**—At the recent International Congress of Hygiene, the following resolution introduced by Dr. Patrick Manson was unanimously adopted: "In recognition of the practical importance of the 'mosquito-malaria theory,' the congress shall bring pressure upon all governments in malaria districts for the purpose of, first, causing an examination of civil and military officers as to a practical knowledge of this theory before employing them in such localities; second, of compelling the educational establishments in such districts to add instruction concerning the malaria theory and its practical applications; third, to consider officers who know nothing of this theory or who systematically deny its practical application as unfit for service in malaria districts."

**Increased Rainfall and Lowered Death Rate.**—The London correspondent of *The Sun*, writing under date of October 31, says that the present year has been the wettest in England since 1824, and only two inches of rain are wanted in the remaining two months to break all records. The extraordinary rainfall has been accompanied by a remarkable fall in the death rate. In 1901 the death rate in London was 17.6; Birmingham, 20.5; Bristol, 16; Manchester, 22.1; Leeds, 19.3; Liverpool, 22.3; Sheffield, 20.4. Last week the average in seventy-six great towns dropped to 15.9, and in the two previous weeks they were 15.8. Last week in London there were only 1,333 deaths, against the usual average of 1,505. The deaths from zymotic diseases dropped from an average of 133 to 61.

**Newspaper Responsibility for Abortionists.**—At the October meeting of the Society of Medical Jurisprudence, held on the 12th of the month at the Academy of Medicine, a paper was read by Justice Julius M. Mayer of the Court of Special Sessions on "Criminal Procedure against the Unlawful Practice of Medicine." He gave instances of the difficulties which the prosecution has in convicting illegal and criminal practitioners, chief among which is the practical impossibility of obtaining corroboratory evidence against them. In conclusion he made a strong plea for a strict censorship of advertisements on the part of the great dailies. "The worst agency in New York today," he said, "that helps the man who sells either real or pretended abortion medicine is the newspapers, for they make it possible to ensnare the unwary, the superstitious, and the fearful. I suggest that in the new school of journalism in Columbia there be a chair of advertising, and let it be taught to the young men of the newspaper profession that the first duty of a great newspaper is to censor its medical advertising. If the decent newspapers will assist in the gradual uplifting of public opinion concerning the men and women who engage in these disreputable and criminal occupations, it will be only a matter of a short time until they are driven out of business."

**Philadelphia Neurological Society.**—At a stated meeting, held October 27, Dr. W. W. Hawke exhibited a case of hereditary chorea, occurring in a man about forty-eight years old, whose father, as well as two paternal uncles, had suffered from the same disorder in conjunction with insanity. Dr. Francis X. Dercum exhibited a case of primary neuritic muscular atrophy, occurring in a man twenty-eight years old, in whom the symptoms had developed after an illness attended with chills and fever and headache, and had been present for about eight years. There had been sharp attacks of pain, and subsequently marked disturbance in gait and in station, as well as slighter derangement of coördination in the upper extremities, abolition of the knee-joints, nystagmus and some indistinctness of speech. Dr. Augustus A. Eshner read a paper entitled "Some Graphic Observations on Ankle Clonus." The movements were recorded with the aid of tambours and a revolving kymographion, and a not inconsiderable variation in frequency was found under different conditions—namely, between 6 and 8 in the second, as extremes. In a healthy person the number was found to be between 7 and 7.6 in the second; in a case of hemiplegia between 6.6 and 7.2; in three cases of myelitis between 6.2 and 8; in a case of lateral sclerosis between 5.8 and 6.9; and in a case of probable porencephaly between 7 and 7.3. In some cases reinforcement was evident, both to the hand of the examiner and in the tracings in the form of an increase in the frequency of movement. Dr. Charles S. Potts exhibited a case presenting intermittent clonic movements principally in the right upper and the left lower extremity with weakness. The knee-jerk was enfeebled on the left, and the calf on this side was smaller than that on the right. Fibrillary contractions were evident also in other parts of the body than those named. The nature of the affection was obscure, but it seemed to be in part myelopathic and in part myopathic in origin. Dr. Alfred Gordon read a paper entitled "Tabetic Symptoms in a Girl of Seventeen, Presenting from Infancy Trachial Monoplegia, Probably of Poliomyelitic Origin, with Remarks on Juvenile Tabes," and he exhibited the patient. The association is a rare one, although it is probably only coincidental. It was thought that in the present case the two disorders might be in some way related to hereditary syphilis. Drs. Chas. S. Potts and W. G. Spiller read a paper entitled "A Case of Solitary Tubercle of the Pons Causing Paralysis of Left Lateral Conjugate Movements of the Eyes." The affection of the ocular muscles was thought to be characteristic of an intrapontine lesion and thus contraindicative of operative intervention. Dr. T. H. Weisenburg reported three cases of traumatic lesion of the spinal cord. He exhibited a patient who had been struck by a locomotive and presented symptoms of fracture of a lumbar vertebra or, perhaps, hemorrhage into the cord, and whose most conspicuous symptom, apart from the weakness in the lower extremities, was a steppage-gait. The sphincters and the sexual functions were uninvolved, and the reflexes were exaggerated. In another case a bullet-wound of the cord below the center for the knee-jerk was nevertheless followed by exaggeration of this reflex. In the third case the disturbance was due to a fall from a great height, but remarkable improvement in the symptoms took place. Dr. Weisenburg reported also a case of multiple sclerosis, in which the knee-jerks were abolished, although ankle clonus was present. Drs. Chas. K. Mills and Chas. H. Frazier presented a note on section of the fifth nerve for the relief of the pain in some cases of brain-tumor. The operation has been performed in one case with

satisfactory results, especially with reference to vertigo and vomiting, as well as the headache.

**Manufactured Invalids in the Russian Army.**—At a recent trial in Odessa an exposé was made of an organized plan for making unwilling conscripts in the Russian army unfit for service. This was done in a multitude of ways, by tampering with the ears or eyes, by inoculating with disease germs, etc. The price paid varied from a few rubles up to as much as four hundred, or about $200.

**Anti-corset Laws.**—Freak health legislation is evidently not confiend to America, for Dr. Maréchal of Paris is urging the passage of a law making the wearing of a corset by any woman under thirty years of age an offense punishable by three months' imprisonment if the woman is of age, and a fine of $20 to $200 imposed on her parents or guardians if she is under age. A woman who died suddenly in Buffalo a few days ago was found, on post-mortem examination, to have been killed by a corset-steel which had pierced the heart. This would probably be accepted by Dr. Maréchal as a weighty argument in support of his proposed legislation.

**Obituary Notes.**—Dr. JULIAN J. CHISHOLM died at his home in Petersburg, Va., on November 1, at the age of sixty-five years. He was a graduate of the Medical College of South Carolina in the class of 1850, and for many years practised in Baltimore, where he filled the chair of diseases of the eye and ear at the University of Maryland, and was surgeon-in-chief to the Presbyterian Eye, Ear, and Throat Charity Hospital.

Lieut.-Col. WILLIAM E. WATERS, Deputy Surgeon-General U. S. A., retired, died suddenly at his home in Washington on October 26, at the age of eighty-nine years. He was born in Washington and entered the Civil War at its outbreak as Assistant Surgeon of the District of Columbia Volunteers. Appointed to the Regular Army in 1862, he rose to the grade of Lieutenant-Colonel and Deputy Surgeon-General, with which he was retired in 1897. He was brevetted for faithful and meritorious services in the Civil War.

Dr. SIMON POLLAK, one of the oldest physicians in St. Louis, died recently at his home in that city, at the age of eighty-nine years. He was a native of Bohemia, and obtained his medical degree from the University of Vienna in 1835. He began the practice of medicine in St. Louis ten years later.

Dr. JOHN C. NEVINS died on October 27 at his home in Summit Hill, Pa., at the age of fifty-seven years. He was graduated from Jefferson Medical College in the class of 1873.

Dr. BENJAMIN A. ANDREASS died at his home in Bethlehem, Pa., on October 27, at the age of forty-four years. He was graduated from Jefferson Medical College in the class of 1888.

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**Health of Chicago.**—Dr. Arthur R. Reynolds thus defends the work of the present health department of Chicago. During the six years, 1891-1896, immediately preceding the present administration of the department, a total of 152,424 deaths were reported in Chicago; during the six years, 1897-1902, of the present administration, the total deaths reported were 145,907, or 6,517 fewer deaths in upward of 360,000 more population. The reduction is even greater among infants and young children—the acknowledged test of the efficiency of a sanitary administration. During the first period there were 68,008 deaths under five years of age; during the second period there were only 49,360 such deaths. This is a reduction of 18,648 deaths of the under five in the increased population above shown.

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

THE SOCIETIES—HEMORRHAGIC PANCREATITIS—GASTRIC ULCERATION—KING'S COLLEGE AND HOSPITAL REMOVAL—MR. CHAMBERLAIN'S GOUT—HOSPITAL SATURDAY—DEATHS OF SIR GEO. DUFFY AND MR. LAWSON.

LONDON, October 16, 1903.

THE societies are now in full work again. At the Medical the President, Dr. M. H. Hall, opened the session with an address giving a retrospect of papers communicated to the society from its beginning, on diseases of the respiratory and circulatory systems. This is a hint that others might follow up without necessarily going so far back. The plan would afford an excellent opportunity for a critical examination of progress. At the Gynæcological, the President, Dr. Heywood Smith, opened with notes of the cases of some specimens he brought. Specimens were also exhibited by other members who gave an account of their respective cases. The Harveian Society met last night and there are other meetings this evening. Sir Wm. Job Collins gave an address on Tuesday at the Society for the Study of Inebriety. He discussed institutional from an administrative rather than a therapeutical point of view.

The pancreas has not of late obtained much attention in comparison with that bestowed on other viscera, but at the opening meeting of the Clinical Society, the president, Dr. F. Taylor and Mr. A. Bowlby, each made a communication concerning it. Dr. Taylor's case was that of a man of sixty-eight years, the subject of emphysema and bronchitis, who had drank, instead of water, a solution of oxalic acid of unknown strength and had been given emetics which acted. Later he became collapsed, tremulous, and cyanosed. The next day he went home, but two days later returned to the hospital. He was then cyanosed, feeble, with rapid pulse and breathing. Bronchitis was worse and became the chief feature of his illness, which closed fatally twenty days later. At the post-mortem there was emphysema, purulent bronchitis and pleurisy; ten ounces of blood were found in the great omentum; the pancreas was in a state of interstitial, hemorrhagic pancreatitis, enlarged, hard, infiltrated with blood; no peritonitis; no fat necrosis; kidney slightly granular. The points in the case are the relation of the condition of the pancreas to the state of the chest and the oxalic acid poisoning and the complete latency of the pancreatic lesion which was, perhaps, masked by them.

Mr. Bowlby's case was in a man of forty-one years seized with abdominal pain and vomiting. For the next two days he complained of flatulency and constipation: the vomiting continued, abdomen tender, but no swelling perceptible. Bowels acted well to enemata. On the third day he became delirious, and from that time had delusions. Urine scanty. On the eighth day he had a sudden attack of pain with severe vomiting, followed by abdominal distension and obstruction. The abdomen was opened and showed some general peritonitis with old adhesions, but no mechanical obstruction. A coil of small intestine was opened to relieve the distension, but the patient died. At the post-mortem a very large hemorrhage surrounded the pancreas and extended down to the pelvis. The pancreas itself was engorged with blood and there was general peritonitis.

Mr. Barker said that in two cases he had noticed the amount vomited was enormous, and asked if this were so in the cases before the society. Mr. Bidwell had operated on a case he took for pus in the gall-bladder, but he found a large collection behind the foramen of Winslow, which escaped. The vomiting ceased and the patient was well in a month. Not long afterward he died with a temperature of 104°, so he thought a fresh collection had formed, but no post-mortem was permitted.

At the same meeting the indications for operating in gastric ulcer were the subject of comment arising out of the account of a case by Sir D. Duckworth. His patient was admitted with a history of severe pain after food for the previous three weeks and prior to that indigestion for about eighteen months. On the day of admission several attacks of bleeding occurred for the first time. Patient became blanched with abdominal distension and epigastric tenderness. Rectal feeding was tried and small doses of adrenalin chloride by the month. Whey was subsequently given in two-ounce and later four-ounce doses and a pint of saline solution daily per rectum. Later on it was clear that active gastric hemorrhage was going on, and the stomach was opened by M. Butlin. No ulcer was found, but in the greater curvature near the pylorus the mucous membrane for several square

inches was pink, markedly different from the other part, which was ivory yellow. At various points on the pink area were slight excoriations, fissures, and tiny points from which blood slowly oozed, nine of these points were ligatured with fine silk thread with a purse-string suture. The remainder of the operation need not be described. The next day temperature fell from 101° to 99°. The condition of the gastric mucous surface in this case is believed by Drs. F. J. Smith and Mansell Moullin to be the starting-point of most, if not all, gastric ulcers, and it is probable that if the hemorrhages from it prove fatal in any instance the actual lesion could not be detected after death.

Mr. Moullin, who brought the subject before the society three years ago, said he had operated in eleven cases. He discussed the appearances of the membrane during life and after death. Repeated severe hemorrhages, especially if associated with intense anæmia, were the indications for operation which should not be delayed until the patient was too exhausted. It was said only 3 per cent. of gastric ulcers were fatal, but no one proposed to operate on all. Not more than 10 per cent. were serious enough for surgical measures.

Dr. de H. Hall did not think 10 per cent. were serious. He had had many cases at the hospital but not one fatal. Only once had he advised an operation.

Mr. Barker recommended gastroduodenostomy, which tended to bring about cessation of bleeding, gave the stomach rest, and enabled it to empty itself.

Mr. Wallis advised an early opening to seek the bleeding spot.

Dr. Louis Pasteur spoke of the difficulty of diagnosing erosive from other ulceration when hemorrhage was actually going on. In erosion bleeding seemed continuous, in chronic ulceration it often subsided under treatment.

Mr. Keetley said it was often impossible to find the bleeding point. In one case he found the ulcer adherent to the diaphragm. He separated them and packed the cavity. A few months later gastroenterostomy was required. He advocated this operation, as it rested the stomach and made it aseptic. A bleeding ulcer might also be packed, or a simple jejunostomy done, as proposed by Ferner.

Mr. Butlin agreed that gastroenterostomy was often efficient. The difficulty of finding might depend partly on the surgeon and partly on the ulcer. In some cases small nævoid spots might bleed to a fatal issue. He advocated opening the stomach, and then if the spot could not be found, performing a gastroenterostomy. But it was always best to locate the spot.

Sir D. Duckworth thought erosion had a different appearance after death. He found pyrosis a common symptom in chronic ulcer. Prolonged anæmia was the chief cause, bad food and stays contributing their influence.

The question of removing King's College Hospital, which has been agitated for more than two years, has been decided in favor of the step. The council and the committee, as I have previously told you, are in favor of the change, and on Monday a meeting of the governors was held to sanction it. The Staff, too, is in its favor. It is not surprising that there should be opposition, and a letter signed by ten members of the committee has been circulated, deprecating the removal. Others regret for reasons of long association, but acquiesce on the necessity.

At the meeting the Hon. W. F. D. Smith presided and remarked that he fully shared the feelings of those who regretted the break in the many local associations which gathered round the present position, he was convinced that removal to a more suitable site would be fraught with benefit to the hospital, the medical school, and London generally. The question of removal had been carefully considered by more than one committee of inquiry. There must be a majority of three-quarters in favor of the scheme before the bill could go to Parliament.

Dr. Buzzard moved that "this court approves the proposal to remove King's College Hospital to a site in South London." The resolution would have been moved by Lord Lister and seconded by the Bishop of Exeter, but both had been prevented from coming. Fifty years ago, Dr. Buzzard said, he was a resident medical officer and the district was then vastly different. The existing buildings lacked many requirements, and it was in the interests of the public and the school to remove to the suburbs.

Mr. Awdry seconded, and held that in its present position efficiency could not be attained. Some had said the school was not necessary, but he maintained that where there was a school the patients benefited by the services and teaching of great professional men.

The opponents of the scheme took the line that there were still many poor in the district, and that the transformation was far from complete and would not be for two years. An amendment was proposed accordingly to postpone the decision for that time, but it was lost. The resolution was passed and a joint committee of the council of the college and committee of the hospital were authorized to acquire a suitable and adequate site. The council and committee were further authorized to apply to Parliament for such powers as were found necessary to carry out the scheme.

As a "memorial" of the hospital a picture just published seems opportune. It is a lithographed sheet, 3 feet by 2, the center occupied by a view of the exterior of the building. This is surrounded by drawings of the interior of wards, laboratory, and chapel. Then there are portraits of eminent members of the staff, past and present. *e.g.* Watson, Fergusson, Budd, Todd of the deceased, and among those still surviving, Lister, Beale, Rose, Watson, Cheyne, etc.

Mr. Chamberlain occupies so large a place in the country just now that his temporary illness seemed the medical news of the week. It was only a fit of gout, to which he is rather subject, keeping him in bed for a day or two. It was precipitated by his great exertions in the campaign he has begun. He was up again yesterday, but limping.

Hospital Saturday was duly observed on the 10th inst. The street collections have now been omitted for six years without injury to the fund. The usual collections took place in the workshops, public institutions, and various places of record. Many boxes were also placed outside shops, and passers by often availed themselves of the opportunity of contributing through them. Last year, as I lately told you, was the best year of this fund, which reached £22,964.

The new laboratory of the London School of Tropical Medicine is completed and is splendidly equipped for its work. The number of students entered this session is the largest the school has ever had. The new museum and lecture room will shortly be ready for use.

Sir George F. Duffy, ex-President of the Royal College of Physicians in Ireland, died on Tuesday, aged sixty. He was Inspector of Examinations for the General Medical Council, and at the last meeting of that body much regret was expressed at the illness which interrupted his work. On account of health he lately resigned his hospital appointments. Physician and Lecturer on Clinical Medicine at the Royal City of Dublin Hospital, Professor of Materia Medica at Red Cross Society, he served as examiner on the Conjoint Board and at University of Dublin, of which he was a graduate, a medical scholar, and a medical exhibitioner. He was author of "Suggestions for a Plan of Taking Notes of Medical Cases," which reached a second edition in 1890. He edited "Griffith's Materia Medica and Pharmacy," and contributed valuable papers to the journals and the Transactions of the Irish Academy. Among the latter I may recall his paper on the connection of acute diabetes with disease of the pancreas and another on stenosis of the valves of the heart.

Mr. George Lawson, surgeon-oculist-in-ordinary to Queen Victoria, died on Monday at the age of seventy-two years. His early qualifications date from 1852. In 1857 he became a Fellow of the Royal College of Surgeons, of which he has been one of the councillors. He acted as assistant surgeon to the Rifle Brigade in the Crimea, being present at the battles of the Almar and Inkerman and the Siege of Sebastopol. He taught anatomy at the old Grosvenor Place School, and surgery at the Middlesex Hospital. But his most important work was at the Royal Ophthalmic Hospital in Moorfields (now removed), of which he became consulting surgeon, as he did also of the Middlesex Hospital. His "Manual of Diseases and Injuries of the Eye" reached its fifth edition in 1885. His "Sympathetic Ophthalmia" appeared in 1865. His "Injuries of the Eye, Orbit, and Eyelids," which dealt with the immediate and remote effects in 1867. His Crimean experience gave rise to a work "On Gunshot Wounds of the Thorax," 1858, a subject also treated in a volume by the late Dr. Patrick Fraser of the London Hospital, who also went to the Crimea and subsequently returned to his position as physician to the London Hospital. Many of Mr. Lawson's most valuable contributions to Ophthalmic Surgery appeared in the Reports of the Royal London Ophthalmic Hospital from 1861 onward. As a teacher he was held in the highest esteem. As a man his friends mourn as those who do not expect to meet his like.

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**Hour-glass Stomach.**—Mr. B. G. A. Moynihan, Leeds, England, does not concur in the general view that this condition is "congenital" and acquired. He believes that there is no evidence whatever which will establish the claim of those who declare that the disease is often congenital in origin. Acquired hour-glass stomach may be caused by (1) Perigastric adhesions; (2) ulcer with perforation and anchoring to the anterior abdominal wall; (3) chronic ulcer generally at or near the middle of the organ—malignant disease

# Progress of Medical Science.

*The Boston Medical and Surgical Journal, October 29, 1903.*

**Pneumothorax Associated with Fracture of the Ribs.**—Fred. T. Murphy describes two cases of this nature. One was in a man, forty years of age. He had been thrown from a truck and run over by the hind wheel. His condition at first was a mild state of shock. In the right axilla there was some emphysema. The left shoulder was dislocated. His color and respiration were good enough to warrrant giving ether for the reduction of the dislocation. The next morning his condition was much worse. His face was cyanotic, the respirations rapid and labored. There was tympanitic resonance over the right side with loss of respiratory sounds and fremitus. The heart was slightly displaced to the left. The pulse was good. His state became alarming. The chest was punctured below the angle of the scapula. The extreme dyspnœa ceased with the outrush of air, and the color returned. Aspiration afforded even greater relief and was kept up for half an hour. Cyanosis was relieved, and the heart returned to its normal position. Five days after aspiration the lung had returned to the normal position. The emphyema cared for itself. On the ninth day he was discharged well. The second patient was a child nine years old. He had been thrown from a bicycle. He was in poor condition. Both sides of the neck and the left back were markedly emphysematous. The condition was rapidly becoming extreme, and a large trocar was inserted on the left at the angle of the scapula. A rush of air followed, and the dyspnœa was relieved and the cyanosis disappeared. All but a trace of the emphysema and pneumothorax had disappeared by the fourth day.

*Journal of the American Medical Association, Oct. 31, 1903.*

**Calcareous Degeneration of Corneal Cicatrices.**—H. Moulton reports two cases. The author says that all leucomata involving the iris, presenting a chalky area sharply outlined in contrast with the rest of the opacity, may be and should be cut into, even though the surface seems smooth. At the first examination in the cases reported it was evident that the deposits were areas of degeneration probably calcareous. They were not removed at first because, first, neither the probe nor magnifying glass revealed any break in the smoothness of the organic tissue overlying them; second, the symptoms were not such as usually are caused by a superficial foreign body, being in one case those of asthenopia, in the other more like those of glaucoma; third, there was some fear of exciting undue reaction by digging into an adherent leucoma, for merely exploratory purposes. Later, the deposits in one case became partially uncovered, and gave rise to foreign body symptoms, at once indicating the proper procedure.

**Talma's Operation in Cirrhosis of the Liver.**—The paper of M. L. Harris consists of the reports of four more cases in addition to those previously reported by him (two in number). Of the six cases five were dead inside of a month after operation and one was alive, but without improvement, five months after operation. The five cases that died were undoubted cases of alcoholic cirrhosis; the one that was living at the end of five months was in all probability due to syphilis. All of them were far advanced when operation was undertaken, and, it is not claimed that any material improvement followed the operation. The author believes that the congestion of the portal radicles is not the sole cause of the ascites, but that the changes in the peritoneum of a chronic inflammatory nature are instrumental in its production, especially during the terminal stage. In order to obtain the full benefit of the operation it should be performed early, at the first appearance of ascites, or even to anticipate the ascites, if possible. In cases showing jaundice or symptoms of cholæmia, cholecystostomy should be performed at the same time.

**The Morphology and Biology of the Parasite from a Case of Systemic Blastomycosis.**—F. J. Otis and N. Evans offer the following summary of their work based on the case reported by Ormsby and Miller (*Journal of Cutaneous and Genito-urinary Diseases*, March, 1903): (1) This case was one of systemic blastomycetic infection and belongs to a class of which but a very few instances have been reported. (2) Parasites were demonstrated in the blood post-mortem, and dissemination evidently took place through this medium. (3) The lymph glands were remarkably free from infection. (4) In the lesion the parasites were found in immense numbers, and the inflammatory reaction in the tissues were of a remarkably slight degree. (5) The leucocytes of the blood and certain tissue cells contained large quantities of round pigment granules. (6) Parasites grew in the tissue only by budding, the forms appearing from five to fifteen microns in diameter; in artificial culture by segmented mycelia, lateral conidia, and in very old cultures a few budding forms. (7) There was a definite order of development of the parasite in the tissue, the younger forms having a densely staining protoplasm undergoing active cell division by gemmation; the older forms not deeply staining and not actively dividing, and containing spore-like bodies. (8) From the findings in the tissue it seemed evident that sporulation occurred, five to fifteen spores developing in each cell where they were seen. (9) Organisms derived from teased tissues were observed in hanging drop to produce mycelia within a few hours after they were removed from the tissue. (10) The effect of exposure to the *x*-rays was negative. (11) The effect of the actinic ray was doubtful because the element of heat was not eliminated. (12) The cultures covered with cedar oil paper died within one month. Those exposed for one week were completely inhibited from growth, but were not dead. (13) The organism fulfilled the laws of Koch, guinea-pigs being more susceptible than rabbits. (14) The organism grew readily on all forms of artificial media used. (15) In gelatin liquefaction was produced after one month.

*Medical News, October 31, 1903.*

**Skin Lesions Associated with Rapid Growth of Long Bones.**—W. P. Northrup reports the case of a boy of seventeen years who, during a siege of typhoid fever, grew in height. For two years he grew to an unusual degree. His knees, were never swollen. There are scars across his knees which he is sure were not there during his convalescence. He cannot recall when they first appeared. When first seen they were pinkish, like wheals or welts made by a switch. There are no other similar scars on his limbs or body. The author quotes Jules Comby, Charles Norris, and Bradshaw, who have observed the same phenomenon. He believes that the skin cannot keep pace with the bones, and frayings result.

**Caffeine in the Treatment of Alcoholic Toxæmia.**—Arthur J. Hall declares that the physiological antagonism of caffeine and alcohol has been recognized. A most important fact to the therapeutist is the fact that caffeine, given in doses of one or two grains every one, two, or three hours, will usually, in twenty-four or forty-eight hours, so effectually quench the thirst or craving for alcohol that most confirmed habitué's will voluntarily abandon its use. The writer then cites several cases in point. He does not advocate caffeine as a specific in all cases of alcoholic toxæmia to the exclusion of all other remedies and measures. But he is strongly inclined to credit caffeine with a physiological antagonism to alcohol as clearly marked as that between belladonna and opium. When this is established, the contention that alcoholism is a disease will be abandoned, and the fact that it is a toxæmia must be admitted.

*New York Medical Journal, October 31, 1903.*

**The Treatment of Diseased Faucial Tonsils in the Adult.**—E. W. Davis counsels the removal of all the diseased tissue. There is no one operative procedure that suffices for every case. Personally he advocates the use of the tonsil punch, preferring the Freeman model.

**Conservative Gynecological Surgery: Its Practical Results.**—H. C. Coe reviews the changes of the last few years with reference to ideas as to the proper limits of pelvic surgery. His own aim has been to so operate as to preserve the function of menstruation in order to avoid the physical and psychical disturbances attending the artificial climacteric. In regard to remote results the author declares that the chances of a recurrence of the original pathological conditions vary according to the character of the adhesions and exudates found at the first operation and the extent of the denuded surfaces left within the pelvis. No certain method has yet been discovered of preventing the reformation of adhesions, or predicting in what cases they will give us future trouble. If pus is present and foci of infection are left, the result is even more doubtful, in spite of the gauze tampon. Coe regards resection of the tubes as a rather uncertain procedure. His practice in every doubtful case is to exsect the entire tube, suturing the uterine wound and broad ligament with continuous catgut. The ovaries are then dealt with separately, and are secured near the uterine corona in order to avoid prolapse and fixation in the cul-de-sac by fresh adhesions. But even then we have been obliged to remove them subsequently on account of persistent pain. The number of secondary operations, generally involving extirpation of the uterus, is a proof of the uncertainty of the prognosis. Results as to belief of symptoms following the various operations are uncertain. If pain is relieved the patient is generally satisfied and is little concerned about menstruation, ovulation, or pregnancy.

**A Consideration of the Pathology and Treatment of Cancer.**—L. Weber refers to various theories of the disease, declaring that certain pathological facts speak against its parasitic origin, especially the cases in which the growth starts from congenital inclusions or aberrant groups of cells. External causes do no more than excite cell proliferation, and consequently there must necessarily occur abnormal changes in the substance of the cell by which its physiological structure is changed. Such product of cellular action are both stimulating and toxic. The cells may lose from various causes some of their physiological influences. Such causes include hereditary or acquired weakness and disturbance of the finer nerve adjustments. In regard to treatment the author cautions against too hopeful statements as to probability of non-recurrence. The best surgical procedures will not guard against this. He is in accord with the general opinion as to the good effect of actinic rays on superficial malignancy. In general every operable growth should be removed early and radically. By rapid and skilful operating and the avoidance of all unnecessary bruising and of pressing into the affected parts, by which cancer cells may be driven and dispersed into neighboring tissues, the prospects of smooth healing and of non-recurrence are greatly improved. Following the recovery from the operation, the patient should return to the care of his regular medical attendant. Much can be done for him by proper diet, hydrotherapeutics, frequent exposure of the body to sun or electric light, arsenic, iron and quinine, etc. These all increase the constitutional resistance against the carcinomatous toxins and make a soil unsuited to the proliferation of degenerated cells, or to the growth of cancer parasites.

*American Medicine, October* 31, 1003.

**Volvulus of the Stomach.**—C. D. Spivak concludes: (1) The occurrence of volvulus of the stomach is a possibility beyond a doubt; this condition should be borne in mind when making a differential diagnosis between pyloric obstruction, occlusion of the bowels. poisoning, cyclic vomiting, cholelithiasis, peritonitis, etc.; surgeons should be ready to operate when necessary, and not forget to empty the stomach of its contents. Authors should devote some space to this condition in their textbooks. (2) Volvulus of the stomach occurs in all ages and in both sexes. (3) Digestive disorders may be considered as etiological factors. (4) From a pathological standpoint volvulus may be divided into that due to organic changes, and that in which no visible organic changes have taken place. (5) The characteristic symptoms are: Sudden onset; distention which begins in the left hypochondriac region and gradually increases in size; a tumor which gives, on percussion, a tympanitic sound; vomiting or regurgitation immediately following ingestion of food or drink; no belching, no escape of flatus; inability to pass a sound into the stomach. (6) When the condition is recognized, early operative interference is indicated, and recovery is almost certain.

**The Dietetic Treatment of Chronic Nephritis.**—J. M. Anders believes that there is no disease in which a judicious management of the diet is of greater practical importance to the patient than chronic nephritis. A dietary that fails to meet the requirements of nutrition, plus the loss of albumin which takes place through the kidneys, amounting to from 1 to 3 dr. daily, is inadequate, and certain to be followed by the evidences of malnutrition. Efforts to lessen the degree of albuminuria at the expense of the quality of the blood and general nutrition are not so much blessings as evils. The effects of insufficient diet react preiudicially upon the kidney lesions, hastening, rather than postponing, the fatal issue. Medicinal measures are of value only in a small minority of cases. Ordinarily an exclusive milk diet is not advisable. Milk does not furnish sufficient iron or carbohydrates to sustain the system. Foods which contain a large proportion of nitrogen, such as meats, must be somewhat restricted in amount. Fats in moderate quantity are allowable and often beneficial. So whole milk is, as a rule, better than skim milk. Many authorities think that red meats are not more injurious than white. Food should be selected that furnishes the smallest residuum to be eliminated through the kidneys Whole milk diluted should make up a considerable part of the diet, while, as a rule, meats should be restricted, and fruits. green vegetables, and rice should be given more freely. The meals should be small and taken at three-hour intervals. The writer then speaks of the value of chemical examination of the products of elimination, of cryoscopy and of systematic blood examinations.

*The Lancet, October* 24, 1903.

**On the Use of Pure Carbolic Acid in the Treatment of Smallpox.**—A. E. Brindley and F. W. Bonis have used the remedy in thirty-five cases, of which twenty-two were of a severe type, being mostly confluent, more than half of these being in unvaccinated subjects. Five of the cases proved fatal, two of which were children suffering from scarlet fever, while the third was one of malignant smallpox with minute subcutaneous hemorrhages and death during the papular stage. At first the authors confined the remedy to the face and hands, with the idea of diminishing the scarring, but in order to obtain the best results it is necessary to apply it carefully over the whole body, according to the following method: The pure acid in a liquefied state is applied to the vesicles over a limited area with a small camel's-hair brush, the application being made on successive days. On the first day the face and neck are selected for treatment, on the following day the hands and the arms, then the lower extremities, and, finally, the trunk. The effect of the acid is seen in the rapid shrivelling up and scabbing of the vesicles. A second or third application may be made, if necessary, over certain parts of the body. An important detail of the treatment is to secure the early removal of the scabs, either by an oil poultice or otherwise, as this tends to prevent subsequent abscess formation. A noticeable feature is the mildness of all the secondary symptoms of those coincident with the maturation of the pustules.

**On the Effect of Perforation of the Colon by Small Foreign Bodies, Especially in Relation to Abscess of an Epiploic Appendage.**—J. Bland-Sutton states that the amount of foreign material swallowed daily in the food is far greater than one would imagine. Many foreign bodies give no symptoms whatever as they pass through the bowel without lodgment. Many of the smaller ones lodge in the epiploic appendage, a result favored by the disposal of the fat in the subserous layer of the colon. The fatter the patient the less likely is a sharp foreign body to enter the general peritoneal cavity, and the more likely to enter an epiploic appendix where it may set up suppuration. Two illustrative cases are described. From results observed in these and other cases, the author is led to believe that there can be little reasonable doubt that in some instances at least the cause of the tumors of the abdomen which disappear spontaneously after operation is a minute foreign body which has perforated the cæcum, the colon, the sigmoid flexure, or the rectum. In many cases the foreign body becomes completely surrounded and isolated by hardened fecal matter, and this indicates very satisfactorily the way in which angular and dangerously pointed bodies may traverse the colon and be safely ejected without harm to the host—that is, they probably serve as a nucleus for the conglomeration of fecal matter, and, carefully isolated in this way, they escape through the anus without injuring the bowel wall in the neighborhood of the sphincter, for, common as anal abscess is, it stands numerically in very small proportion to the great number of small foreign bodies which are daily ingested and egested.

**On the Value of Saline Infusion in the Treatment of Enteric Fever.**—The patient of D. G. Marshall was a woman, aged twenty-five years, with a typical typhoid. In the third week, when she was evidently sinking from heart failure and there was no response to any of the usual heart stimulants, twenty ounces of saline fluid were injected into the areolar tissue surrounding the right breast. This was followed by some improvement and was repeated on several occasions, thirty ounces even being used. The patient passed through several crisis from hemorrhage, but eventually recovered. The author thus describes the apparatus used: To one end of a three-foot piece of No. 3 rubber tubing a trocar and cannula were attached, the other end being tied to the nozzle of an ordinary two-ounce glass male syringe from which the piston had been removed. The whole was rendered aseptic by immersion in a solution of biniodide and subsequent flushing with hot sterilized water. The fluid was prepared by adding salt to water boiled in a tin kettle, brought to boiling point, and cooled to 100° F. It was introduced into the areolar tissue round the breast, the time occupied for twenty-five ounces being about ten minutes, only one insertion of the cannula being necessary on each occasion. An assistant holding the syringe uncovered in his left hand kept it about two-thirds full from the kettle held in his right hand. The advantages of this method are: (1) The amount of fluid in the syringe can easily be seen; (2) by raising or lowering it the pressure can be increased or diminished; and (3) by firmly holding the syringe the temperature of the fluid is kept at, or about, blood heat. Any diminution in the temperature is at once noted and can be rectified by passing the kettle a few times over the flame of a spirit or paraffin lamp. No local irritation followed any of the injections.

*British Medical Journal, October* 24, 1903.

**High-frequency Currents in the Treatment of Some Forms of Deafness.**—J. C Fergusson explains that his method of treatment by "high-frequency" currents consists in keeping the patient for ten minutes in the large autoconduction solenoid and then exposing him for five minutes to d'Arsonval's bipolar effleuve with the brush electrodes held opposite both ears, but at such a distance as to preclude sparking. He reports several cases, in each of which the patients had been deaf for a long time. The hearing was improved in every case, and in the only one in which sufficient time had elapsed for a full course of treatment it was completely restored. The writer believes that this new method of treatment of deafness is full of promise and deserves a thorough trial at the hands of medical men.

**Pathology of General Paralysis of the Insane.**—W. Ford Robertson concludes that the bone marrow of the general paralytic presents chronic changes of a severe character. The bones show various forms of alteration, but are commonly thickened and sclerosed. The medullary part is usually diminished by overgrowth of bone. Various clinical facts, when taken together, tend to show that the general paralytic is suffering from a bacterial toxæmia. These consist in the rises of temperature, the leucocytosis, and the disorders of the digestive functions, and in the chronic sore throat and septic condition of the mouth, and in the evidence of chronic bronchitis. There are severe changes in the alimentary and respiratory tracts of the character of those that are produced by the prolonged action of bacterial toxins. These changes consist in chronic catarrhal conditions, shown by proliferative, atrophic, and sclerotic lesions. The stomach in some cases shows little or no alteration. The writer has always found the ileum affected. The tonsils are frequently enlarged and their crypts filled with purulent matter. Often they are very atrophic. Even then they often contain cavities filled with pus. The trachea and bronchi generally show distinct chronic inflammatory changes. The lungs often show evidences of long-standing bacterial infection. The writer makes no claim that this hypothesis has been established; he has merely stated a series of facts which harmonize with it.

*Deutsche medicinische Wochenschrift, October* 8, 1903.

**Heart Syphilis and Tabes.**—Schuster finds that in an overwhelmingly large proportion of cases syphilis of the heart affects the aortic orifice. The fact that tabes and aortic lesions are often associated leads him to conclude that in most cases the two conditions have a common origin in a syphilitic infection.

**Hemorrhagic Erosions of the Stomach.**—Elsner made microscopical examinations of the washings obtained from the stomachs of one hundred and twenty fasting patients in order to determine what degree of importance attaches to the finding of the bits of gastric mucous membrane described by Einhorn, and considered by him and others to be typical of a condition termed "hemorrhagic erosions of the stomach." Healthy stomachs did not yield the structures in question, and they were very infrequent in cases without inflammatory change. On the other hand, 35 per cent. of the cases of gastritis with diminished secretion furnished the bits of tissue with more or less constancy. In most of these cases the presence of the mucous membrane exfoliations was not responsible for any change in the clinical picture, and it does not, therefore, seem advisable to accept them as the groundwork for a new clinical division. In only three of the cases was the presence of the exfoliations accompanied by the characteristic pain, and the author considers it advisable to postpone the adoption of the term until its clinical identity has been proven by autopsy.

**The Etiology of Pulmonary Emphysema.**—Golubow discusses two factors in the production of this condition which are frequently overlooked by the clinician. Several cases of his own and from the literature have shown on autopsy that what was supposed to be simply a chronic bronchitis with emphysema was accompanied by a considerable dilatation of the thoracic aorta. A closer scrutiny of cases, apparently of similar type, has led him to conclude that the aortic lesion is much commoner than is supposed, and is the primary cause of many cases of emphysema. Even small dilatations of the aorta can produce severe spasmodic cough either through irritations of the vagus, the recurrent laryngeal nerve, or direct pressure on the trachea, and such a condition after a time can easily give rise to emphysema as well as to a chronic catarrh of the upper-air passages. A careful physical investigation, together with *x*-ray examination, will often reveal such a condition of the aorta in elderly persons, and the author believes that the tendency to require all the classical symptoms before venturing a diagnosis of thoracic aneurysm should be discouraged. Another condition often underlying emphysema, particularly in younger individuals, is a congenital anomaly of the ribs. Not rarely the seventh, sixth, fifth, and even the fourth rib, have the same form of attachment to the sternum as the false ribs, most of the front of the chest then being formed of a single cartilaginous plate. Under these conditions respiration is much impeded and emphysema often results.

*Deutsche medicinische Wochenschrift, October* 15, 1903.

**Influenza, Appendicitis, and Their Interrelation.**—Schultes reports three cases in which appendical symptoms accompanied influenza and appeared to form a manifestation of this infection. One of these was so severe that operation was seriously considered, but deferred in view of the favorable course run by the two preceding ones, with the result that the symptoms subsided and complete recovery took place. While the author believes that infection of the appendix through influenza bacilli can take place in the manner detailed by Adrian, who has recovered the organism from appendical pus, he is not in accord with the opinions of Faisans and other French writers who hold that appendicitis in most cases has influenza as its real cause.

**Pharyngeal Tuberculosis in Children.**—According to Schoetz, only seventeen cases of this condition have appeared in the literature, and he adds two more to the number. In one the condition at first exactly simulated diphtheria, and the diagnosis was made only after the long duration of the disease and absence of diphtheria bacilli had excluded this affection. In both cases there was pharyngeal ulceration with thick membrane formation and intense dysphagia. Pulmonary involvement speedily took place and death ensued in a few months. The author does not believe that tuberculosis of the pharynx occurs as a primary condition, but rather that careful inquiry will always elicit previous symptoms in the abdomen, ears, lungs, etc., and that the localization in the pharynx is only the expression of a general miliary invasion.

**Angina Vincenti.**—Hess describes this disease, which is a form of membranous-angina that has as yet received but little attention, though it is growing commoner and not rarely accompanies other infectious diseases. The disease is characterized by tonsillar exudate, cervical adenitis, dysphagia, and fever; it resembles diphtheria, but its course is short and benign. It also resembles syphilitic angina. The causative agent is the bacillus fusiformis, a spindle-shaped organism 6–12 $\mu$ in length, which occurs in symbiosis with a spirillum of about twice the length. Neither form has yet been cultivated. Two clinical types are observed. (1) The rarer croupous form, which is very mild and runs its course in from two to three days, and (2) the ulcerative form, which may last for weeks, and is accompanied by the formation of deep ulcers. Diphtheria and syphilis may exist conjointly with the disease, and must always be excluded before the diagnosis is made. The treatment consists of chlorate of potassium gargles, chamomile tea, local applications of Lugol's solution, 5 per cent. silver nitrate, balsam of Peru, and methylene blue.

*Berliner klinische Wochenschrift, October* 12, 1903.

**Angina Complicated with Acute Thyroiditis.**—Lublinski adds to the lately reported instances in which inflammation of the thyroid has appeared as a complication of such diseases as typhoid fever and pneumonia, four cases of angina accompanied by non-suppurative thyroiditis. All of these were in women from twenty to thirty years of age, and the complication appeared on the fifth or sixth day after the fever due to the primary condition had subsided. The symptoms were moderate rise of temperature, well-marked local tenderness, swelling, but no redness, and a considerable rise in pulse-rate, thought to be due to pressure on the vagi. From two to eight weeks were required before the swelling entirely subsided. The author assumes that the angina was of rheumatic origin, and the thyroiditis a metastatic inflammation. The benign course of the disease is in accord with Godlee's observation that rheumatic thyroiditis does not suppurate.

**Urticaria Following Endonasal Application of Adrenal Extract.**—Rosenberg placed a small bit of cotton saturated with adrenal extract in the nasal passage of a young girl to reduce the swelling of the turbinateds for diagnostic purposes. The preparation used was made according to his own formula previously published. The next day the patient returned saying that some hours after the application a rash had appeared over the arms and body, which had itched so intensely as to keep her from sleeping. It disappeared after about eighteen hours. A week later another application of the drug was made with a like result,

the urticarial wheals persisting till the following morning. Water and cocaine applied in a similar way failed to produce any symptoms. The author is in doubt as to whether the condition should be considered as a medicamentous urticaria or held to be of reflex nature. In favor of the latter view is the fact that, although the preparation was odorless, the patient said that its application was accompanied by a pronounced olfactory impression of disagreeable nature.

*Münchener medicinische Wochenschrift, October* 13, 1903.

**A Misadventure Attending the Use of the Electromotor in Operating.**—Grosskopff describes an accident occurring to him while draining the antrum with an electric drill. After entering the cavity he was about to enlarge the opening with a second larger drill when he received an electric shock of such violence as to throw his arm to one side with great force. The consequences, had the instrument been in use in the antrum, or about the mouth, can easily be imagined. Investigation showed that the insulation of the rheostat had become defective so that a short circuit took place through his body. To avoid such mishaps he advises periodical tests of the insulation of the motor, etc., and that both patient and operator be placed on some non-conducting body, such as a rubber or linoleum mat.

**The Effect of Alcohol on the Size of the Heart.**—Bickel's results confirm those of Moritz, who was not able to detect, by means of his orthodiagraphic method, the dilatation of the heart which Smith and Hofmann determined by the use of the phonendoscope. Bickel made his observations on dogs, in order to be able to control them by immediate autopsy. By taking a large number of tracings he obtained composite pictures of unquestionable accuracy, and then gave the animals large amounts of alcohol subcutaneously, or by the stomach. Another series of determinations made during the various stages of intoxication up to the animal's death, did not yield results differing in any respect from those obtained before the administration of the drug, and autopsy demonstrated the correctness of the tracings. He, therefore, concludes that alcohol does not modify the size of the heart.

**Hypæthesia in Appendicitis.**—Peiser publishes the results of tests of the cutaneous sensibility of the abdomen in eleven cases of appendicitis. Of this number nine showed clearly defined disturbances of sensibility; in one case the results were variable and in one no abnormality existed. In six cases hypæsthesia was noted, in two hyperæsthesia, and in one at first hypæsthesia later followed by hyperæsthesia. A large number of healthy individuals were examined as a control, with negative results. The area affected was usually about the size of the palm of the hand, with its center at McBurney's point, but the outlines were not constant. The author considers the number of his cases too small to permit any deductions, but suggests the following points for further study: In what proportion of cases does disturbance of sensibility exist, and how is it divided between hyper- and hypæsthesia? What do the cases exhibiting each of these conditions have in common? Is there a difference corresponding to extra- or intraperitoneal appendices, or to the presence or absence of pus? Does the number of previous attacks influence the state of sensibility, and how are the changes to be explained?

**Observations on Alimentary Albuminuria.**—Ascoli and Bonfanti report a series of investigations on the blood and urine of healthy and nephritic individuals to determine whether their previous conclusion that egg albumen in cases of alimentary and other albuminuria can be identified in the body fluids by specific precipitin reactions, also holds good for other forms of albumin. Inasmuch as test-tube digestion has been found to exercise an inhibitory effect on the formation of recognizable precipitins it was necessary first to determine whether the natural processes had the same action. Observations showed that peptic digestion in the living body has but slight effect on the precipitable bodies in albumins, so that their absorption is not interfered with to an appreciable degree. The albumin chosen for experiment was beef albumin, and the blood and urine of sixteen persons were examined after they had taken one hundred grams of roasted beef the first thing in the morning. Two sorts of immune sera were used, both obtained from rabbits, in the one case after treatment with human serum, in the other after treatment with beef serum. The results of the study of the blood of the subjects after the ingestion of the beef may be grouped in two classes. In some the serum did not previously react to beef immune serum; in these, during digestion, it may either remain inactive, or it may respond to the precipitins. In others the serum already was precipitable with beef immune serum; in these digestion caused the reaction either to become more active, remain unchanged, or even disappear entirely. The study of the urine showed that in healthy persons, even when kept in bed, the urine, which previously did not respond either to human immune serum or to beef immune serum, may, after ingestion of beef, respond to both, and sometimes albumen may even be recognized by chemical reagents (Jolle's). Frequently the urine of nephritics also becomes precipitable by beef-immune serum after a beef meal. In some instances the urine which, while fasting, reacted positively both with beef-immune serum and with Jolle's reagent, lost both properties after the ingestion of the beef.

*French and Italian Journals.*

**Uterine Infection from Constipation.**—Achille Capaldi instituted a series of researches on guinea-pigs, with the view of ascertaining whether the uterus could become infected from retention of fecal matter in the intestines. He proved that following prolonged intestinal stasis there was a migration of colon bacilli from the intestines to the peritoneum and the uterus. The blood remained sterile. The constipation which is so frequently present in pregnant women is of slow onset, and is, therefore, not analogous to the rapidly produced retention of the author's experiments. Yet the fact that the bacilli do emigrate to the uterus may account for some lesions of the endometrium which produce abortion. The latter occurs frequently in cases of obstinate constipation.—*Archivio di Ostetricia e Ginecologia, Anno X*, No. 8, 1903.

**Articular and Abarticular Tuberculosis.**—Charles Fernet states that tuberculosis gives rise to articular symptoms of an acute, subacute or chronic nature, which are in many details analogous to articular rheumatism. They have been described under the name of tuberculous rheumatism, tuberculous pseudo-rheumatism, etc. This is incorrect, because it seems to imply some relationship to rheumatism, which does not exist. It would therefore be better to speak of articular tuberculosis, just as one says pulmonary tubercusosis, peritoneal and meningeal tuberculosis, etc.—*Bulletin de l'Académie de Médécine*, October 6, 1903.

**The Disinfectant Value of Alcohol Vapor.**—Paolo Satta concludes that the vapor of alcohol has a decided disinfectant action, that it is rapid, and is non-injurious to tissues and hangings. It has no toxic action, and after a slight ventilation of a quarter of an hour to expel the fumes of alcohol which might produce a little headache, the rooms which have been disinfected can be at once occupied. Its odor is not unpleasant, it is not expensive, the apparatus to be used is within reach of every one. It might be used to advantage in the disinfection of railway carriages as well as rooms.—*La Rifornia Medica.* October 7, 1903.

**The Significance of the Coagulation of Albumose by Ether.**—As a result of his investigations, M. Piery concludes that the coagulation of albumose in the urine by ether occurs in certainly half the cases in normal subjects. Pathologically it is found in a great number of patients suffering from the greatest variety of diseases. The preliminary chemical treatment to which the urine has to be subjected in order to avoid error very decidedly favors coagulation in both normal and pathological conditions. The general conclusion is that the coagulation reaction can be counted on to separate albumose from the various fluids of the body but that clinically the value of the procedure remains to be determined.—*Lyon Médical*, October 11, 1903.

**The Surgical Treatment of Pulmonary Tuberculosis.**—A. Demmler holds that thoracoplasty, which has given such brilliant results in certain cases of pulmonary cavities, may be used with equal success in the treatment of stationary tuberculous caverns, without complications in the other lobes, in order to remove a cause of infection and of denutrition which opposes recovery. Unfortunately the cases so far operated on have not been observed for a sufficiently long time to allow of an opinion as to its value in the treatment of the tuberculous process itself. The author reports six cases, in all of which there was marked improvement in the general condition, and in the local condition so far as shown by cough and expectoration.—*Gazette des Hôpitaux*, October 13, 1903.

**Massage of the Intestines.**—M. Froussard gives full directions for abdominal massage adding the following general rules: (1) No matter how much force be used, the massage should never be painful. (2) Fatigue must not be caused, and therefore, the first treatments must be short, or interrupted by periods of rest. (3) The stimulus produced by the massage on the intestines must always be in proportion to the power of contraction of the organ. (4) The masseur must know the condition of the organ which he is treating. Mechanical apparatus is, therefore, useless. The masseur should be thoroughly acquainted with the topography of the abdomen, and used to palpation. (5) All massage should be in the direction of the natural fecal movements.—*La Tribune Médicale*, September 26, 1903.

# Society Reports.

## NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting, Held October 15, 1903.*

ANDREW H. SMITH, M.D., PRESIDENT.

**The Wesley M. Carpenter Lecture: "The Diagnosis of Fevers."**—Dr. JOHN S. THACHER was the lecturer. He said that some of these diseases had no constant characteristic symptoms. Most fevers were the result of infection, and most of the symptoms were of a toxic nature. Typhoid fever, malarial fever, acute miliary tuberculosis, and influenza in some of their varieties or stages came into this group. Malarial fever generally ran a fairly typical course, but this was often wanting, especially in the estivoautumnal variety. The lawlessness of influenza in its clinical picture only needed to be mentioned. When the infection was very mild, or ran a brief course, the attack might be entirely wanting in diagnostic features. That typhoid fever might run a brief and mild course had long been known. As we progressed in diagnostic skill the number of cases classified as "febricula" steadily diminished. It must be remembered that in syphilis a considerable fever might be present at a time when other evidences of the disease were not apt to be present. It was of various degrees and types, though commonly intermittent, and it might run for weeks. It had been mistaken for malaria, cerebrospinal meningitis, malignant endocarditis, miliary tuberculosis, recurrent fever, influenza, typhoid, and some other diseases. In cirrhosis of the liver there was sometimes a fever associated with jaundice, a condition which was apt to give rise to a number of errors in diagnosis. In his experience the diagnosis of malignant endocarditis often required the aid of a bacteriological examination. The fever associated with concealed abscesses was another source of confusion, and it was surprising what large abscesses of the liver, kidney, and other organs could exist in the human body and evade the efforts of skilled diagnosticians. In children many suppurations of the middle ear were overlooked. In such cases leucocyte counts often proved to be very helpful. We were learning much in these days of the different causes of joint inflammations associated with fever. A correct etiological diagnosis of dysentery had already saved some lives by indicating the appropriate serum treatment. Special difficulty was often encountered when fever developed after an operation or after delivery. Not infrequently supposed sepsis after an operation proved to be only malaria. Mixed infections would be riddles impossible of solution without our new microscopical and bacteriological tests. Infections with streptothrix, pyocyaneus and the colon group of bacilli, together with paratyphoid infection, belonged to this group.

**Bacteriological Examination of the Blood.**—The malarial germ and the spirillum of relapsing fever were easily found in fresh spreads of blood. Usually in bacterial blood examinations it was necessary to make cultures. This had been done frequently in late years by many observers. Whereas only a few years ago it was stated on high authority that the typhoid bacillus was rarely found in the blood, there were now observers who reported series of cases, in from 70 to 100 per cent. of which the typhoid bacillus was detected in the blood. The best method of obtaining the blood for cultures was from the median basilic vein at the bend of the elbow, using a sterile glass syringe for the purpose. The greater success from recent bacteriological examinations of blood was largely dependent upon the use of a larger quantity of blood and of the culture medium. The best results had usually been obtained from several flasks, each containing from 100 to 400 c.c. of bouillon and from 1 to 5 c.c. of blood. Splenic puncture was not much used in this country, because it was considered somewhat dangerous, and practically as good results could be secured by taking the blood from a vein in the manner described.

The difficulty of distinguishing and separating the typhoid bacilli from other bacteria was particularly great in connection with the examination of the fæces. In spite of all the work done in this direction, the difficulties were so great, and the proportion of successful results so small, that it could not compare with the examination of the blood.

These studies of the blood had brought to light an interesting group of cases in which the microbe occupied a position intermediate between the typhoid and the colon bacillus. This group had been given the name of paratyphoid. The bacillus differed from the typhoid bacillus in its growth upon potato, and it was not agglutinated by typhoid serum. The symptoms of the infection were the same as those of typhoid, including rose spots, enlargement of the spleen and intestinal hemorrhage. The disease, as a whole, was usually milder, and such autopsies as had been made showed, as a rule, no changes in Perer's patches.

The Bacillus coli communis was frequently found in the blood post-mortem or shortly before death. As it was always so abundant in the intestine, its presence elsewhere was naturally suspected to be accidental. Some years ago it was believed to have little, if any, pathogenic power, but it had been shown that in certain conditions, as in a strangulated loop of intestine, or when transported to the peritoneum, it may become virulent and be capable of doing much harm. It might assist other bacteria in doing damage, and had been thought to start the formation of gallstones.

In making blood cultures to detect the gonococcus it must be remembered that this germ does not grow readily on many of the ordinary culture media.

Infections with the bacillus pyocyaneus had been found frequently in connection with inflammations of the middle ear and the cavities about the nose. It was especially dangerous in young infants, and sometimes gained an entrance through the unhealed umbilicus. Before making a diagnosis of this form of infection it should be recalled that this microbe was comparatively harmless, and might be present accidentally in the blood, and play a part entirely secondary to some other bacterium that had eluded our search. Only when abundant and pure growths had been obtained more than once should a positive opinion be expressed as to the existence of this variety of infection.

**Rheumatism.**—There was still much discussion as to what was the real cause of rheumatism. A certain micrococcus had been isolated which had been found to be pathogenic in animals. It grew best in highly alkaline media, rapidly produced a considerable quantity of acid, and would grow in media in which streptococci had previously grown. The speaker said that many experiments had been made by him to discover the specific germ of rheumatism, but the results went rather to show that the organisms found were accidental contaminations.

**Syphilis.**—Evidence was accumulating which made it probable that the germ of syphilis had been isolated from the blood.

**Examination of Cerebrospinal Fluid.**—It was not a difficult matter to obtain the cerebrospinal fluid for examination, especially if it were in excess of the normal, and the prevailing belief was that the danger of this procedure was insignificant. The diplococcus intracellularis meningitidis, the tubercle bacillus and the pneumococcus had been found to be the chief agents in producing meningitis. Not only were the results of bacteriological examination of this fluid important, but also the pressure on this fluid and the general appearance of the fluid. A high lymphocite ratio in this fluid pointed rather strongly to a tubercular meningitis.

**The Widal Reaction.**—Without discussing the theory of this phenomenon, reference was made to the value of

this test. The general experience was that the Widal reaction, carried out with a proper technique and using a dilution of at least one to forty when positive was absolute proof of the presence of typhoid fever, but its absence did not by any means exclude typhoid. The percentage of positive Widal reactions in typhoid fever was between 94 and 100. These figures would, however, be materially changed if attempts to obtain the reaction early in the disease were included. One observer, who had applied this test in 334 cases, found it present in only 6 per cent. of the cases at the end of the first week, whereas it was obtained in 36 per cent. at the end of the second week, in 67 per cent. at the end of the third week, and in 92 per cent. on the thirtieth day. Certain experiments seemed to show that the Widal reaction could not be depended upon when jaundice was present. Apparently the agglutination test was of no clinical value whatever in tuberculosis.

**Ehrlich's Diazo Reaction.**—The exceptions to the proper working of this reaction were many, according to the experience of most observers it was present in miliary tuberculosis, typhoid fever and measles, in a great many cases of scarlet fever and in other forms of tuberculosis. It was found frequently quite early in typhoid. Billings found it more frequently present than the Widal reaction. This test seemed to be of some value in prognosis. If absent early, it was a good sign. In pneumonia it was said to be a bad prognostic sign. While there was some difference of opinion with regard to its prognostic value in tuberculosis, the weight of evidence was distinctly in favor of the view that its presence, and more particularly its continued presence, pointed to a distinctly bad prognosis. A continuous and strong reaction indicated a probably fatal termination within six months.

**Tuberculin Test.**—Whatever doubt there might be about the therapeutic value of the tuberculin test, there could be no doubt that it had been of assistance in diagnosis both in the human subject and in animals.

In conclusion, the lecturer said that the foregoing presentation gave one some conception of the many and important acquisitions to our knowledge of diagnosis. Often the physician might with advantage call upon the laboratory for assistance, not only for the good of the particular patient, but for those who came after.

## MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

*Twenty-ninth Annual Meeting, Held at Memphis, Tenn., October 7, 8, and 9, 1903.*

The general session of the first day was called to order by the Chairman of the Committee of Arrangements, Dr. John L. Jelks.

Prayer was offered by Rev. Hugh Spencer Williams.

Addresses of welcome in behalf of the State and in behalf of the City of Memphis were delivered by Senator E. W. Carmack, and William B. Henderson, City Attorney. The response was made by Dr. C. H. Hughes of St. Louis.

**President's Address.**—Dr. Edwin Walker, Evansville, Ind., delivered this address. He urged the necessity of careful, accurate observation and study of cases, and the correct diagnosis of each one as an indispensable requisite to advancement in the profession. Experience was valuable in proportion as it was founded on accurate observation. If physicians incorrectly diagnosed their cases, how could they draw correct conclusions from their observations and treatment? If their premises were faulty, so also must be their deductions. The average physician lost enough time by careless, slipshod methods to master any branch of medicine. A method suitable to the students in the laboratory or a clinician in a large hospital was not the one for the practitioner of the cross-roads. Each must fit his methods to his needs. The practitioner remote from large centers must evolve his own system. He must have help. If his practice was large, an assistant or competent nurse chould be obtained. It was his belief that in the near future the trained nurse would become, in fact, a clinical assistant, relieving the busy doctor of many details, as testing urine, stomach contents, and other minor manipulations. Even those who were so remote as to be denied these aids could generally find competent persons in the community who could be taught to relieve physicians of much of this drudgery. Physicians should learn to save time and apply it to the essentials, leaving the details to others.

**The Decision to Operate.**—This was the title of the Address in Surgery, delivered by Dr. Ap Morgan Cartledge of Louisville, Ky. The speaker said he would impress upon both physician and surgeon the eternal fitness of time and opportunity as they related to surgical operations. The first great responsibility in deciding that an operation should be performed rested with the physician, who was keenly alive to the alarm and perturbation his announcement would cause to both patient and friends. Therefore, he should be prepared to make such announcement with the greatest clearness and candor, mingled with as much encouragement and hope as the condition would justify. A note of warning was sounded against the too common practice of treating surgical operations as trivial affairs, free from danger and pain. It was an excellent practice to say to a patient or those entrusted with his welfare, "If I should operate on a hundred people afflicted as you are, 86 (or 98, as the case may be) would recover, and 14 (or 2) would die." They would fully understand such a statement, and while it might sound a little cold and unfeeling, it would usually give more comfort and reassurance in the end than the unfortunate and usual plan of saying, "Oh, there is no danger whatsoever!" In cancer of the uterus, if seen early, the surgeon should advise complete removal of the organ at once, yet promise very little as to return of the disease, for there was no chapter in the history of malignant disease as gloomy as this. The permanent cures were few, even when the operation was performed in the first stages of the disease. Cancer of the breast was more hopeful, but hopeless enough. In cancer of the maxillary bones he believed it was sound practice to advise operation in almost every case affecting the lower jaw, and to refuse operation in almost every case involving the superior maxilla. Cancer of the alimentary canal was slower of growth and extension than was generally supposed, and early operations promised much more than was usually accredited to them. This applied especially to the rectum and anus, wide excision by way of resection giving the happiest relief from an otherwise wretched death. Surgeons should be slow to decide upon operation in chronic brain troubles, such as suspected tumors. They should decide quickly, however, upon operation in cases of compression and infections within the cranial cavity. Time was of more importance in acute peritoneal infections than in lesions elsewhere in the body. The great danger to life from peritoneal infection was at the onset, during the first thirty hours. Very early operations in acute abdominal lesions of a suspected infectious nature were often truly preventive of a rapidly fatal issue. It was in such cases that the physician should exercise the boldest and best knowledge in the decision to operate. The happiest time to operate upon intestinal obstruction was when the physician suspected the patient had one of the organic forms of this condition.

**Relation of the Medical Department of the United States Army to the Profession.**—Major W. C. Borden, Surgeon U. S. Army, delivered an address on this subject. It might be said that members of the medical profession who entered the medical department of the army separated themselves from their brethren in the profession at large. This was in part true, in that their life-work lay along different lines. Their work was

more or less of a special character, and their interests were different from those of their brothers in civil life. Nevertheless, this was true in part only, and the relation of the medical department of the army to the profession at large was really a most intimate one. The medical department was recruited from the profession at large, and was in touch with all the great interests of the medical profession. Problems of national importance, affecting both the general profession and the army, had to be dealt with by them. Numerous instances were given. It was only by mutual assistance and support that the profession could attain its highest ends

MEDICAL SECTION.

**The Prevention of Heart Disease.**—This was the subject of the Address in Medicine, which was delivered by Dr. ROBERT H. BABCOCK of Chicago. He discussed in what manner the principles of prevention could be applied to various heart affections. The first step in this direction was the realization that most of the cardiac inflammations were of microbic origin. Not infrequently cases of acute endo- and pericarditis, especially in children, had their beginning in a sore throat or an acute tonsillitis. If such significance could be attached to tonsillar inflammation, it opened up a field in which to work for the prevention of cardiac inflammation. All chronically enlarged or diseased tonsils which were not removed served as atria of infection for pathogenic organisms of all kinds. The importance of healthy noses and throats in children could not be too strongly insisted upon. The speaker then mentioned syphilis and gonorrhœa, saying that these diseases sometimes attacked cardiac structures. Pneumonia, chorea, and scarlatina were sometimes accompanied or followed by acute or chronic endocardial mischief; influenza or diphtheria might attack the myocardium in an inflammatory way so as seriously to impair its integrity.

**Medical Organization.**—Dr. T. J. HAPPEL of Trenton, Tenn., in discussing this subject stated that when the American Medical Association had drawn into its folds the members of the medical profession who should legally belong to it, there would be no trouble to secure a department of public health, with an officer at its head as a member of the President's Cabinet; and reciprocity in medical licensure would no longer be an idle dream. Uniform medical laws could be passed in all the States of the Union, with only such variations as might be demanded by the constitutions or laws of the different States; and then all the requirements could be so nearly alike for license to practise medicine and the examinations made upon such an equal basis that a license issued in one State would be accepted in another without question.

Dr. J. N. MACCORMACK of Bowling Green, Ky., followed with a paper on the same subject, in which he said that it was only a question of time when every State medical society in the Union would adopt the plan of reorganization of the American Medical Association. The results thus far accomplished were very encouraging. Of 120,000 physicians in the United States, only 30,000, or 1 in 4, had ever been members of any kind of organization, either County, State, or National. Within the last two years, however, progress had been very rapid in many of the States. For instance, in Michigan the membership of the State society within one or two years had increased from 490 to almost 2,100 members. In Kentucky from three hundred and some odd up to nearly 1,600. A marked increase had been observed in the membership of other States.

**Hypodermic Use of Mercury in Syphilis.**—Dr. S. P. COLLINGS of Hot Springs, Ark., said that mercury was the only drug we had that was a specific in syphilis, that all others were adjuvants only, and included among these latter were the iodine compounds. He recommended a formula containing bichloride of mercury, sodium chloride, and an anæsthetic, the latter to render the operation painless.

**Specialism in Its Modern Significance.**—Dr. ALBERT B. HALE of Chicago said that specialism had changed from its earlier conditions when tradition sharply defined the work, because the surgeon the obstetrician, or the internist recognized that no real dividing line separated their activities. The young man of to-day was so well educated by his college and even by his post-graduate school work, that he was able to practise in many departments formerly exclusively held by specialists. But modern specialism meant time to devote to the delicate technique of diagnosis and of treatment.

**The Early Diagnosis of Mental Diseases.**—Dr. C B. BURR, of Flint, Mich., read a paper on this subject. The definition of insanity, "A prolonged departure from the individual's normal standard of thinking, feeling, and acting," would, he said, for working purposes ordinarily be found sufficient. A comprehensive definition would include mental defect of whatever cause and mental perturbation of whatever degree. Subjects discussed at some length were the distinction between confirmed inebriety and true insanity of alcoholic origin, the differential diagnosis of alcoholic pseudoparesis and paretic dementia, certain phases of hysteria, and the diagnostic difficulties pertaining to paranoia and recurrent mania.

**Therapeutic Value of Heat and Cold Applied to the Spinal Cord.**—Dr. W. FRANK GLENN of Nashville, Tenn., contributed a paper on this subject, in which he drew the following conclusions: (1) Nothing should ever be put into the stomach except such substances as form a component structure of the body. (2) If this rule were rigidly adhered to, there should be no digestive disturbances, and all would have normal blood. (3) Since the blood was the life, when the blood had its structural elements normal and every cell was receiving its proper supply, no more, no less, disease could not exist. (4) Since it was known that the amount of blood in any part was controlled by the action of the vasomotor centers of the spinal cord, and the sympathetic ganglia in close proximity to the cord when these centers were performing their functions properly, the blood circulation must be normal and no disease could exist. (5) When there existed any disease causing an increase of blood in the capillaries of an organ, the application of heat over the vasomotor centers presiding over that organ caused almost at once a normal flow of blood in them, and consequently a normal circulation in the organ affected. (6) When there existed any disease which lessened the normal amount of blood in any organ, then the application of ice over the vasomotor centers presiding over that organ would cause a normal amount of blood to flow to that organ, resulting at once in a normal circulation and a consequent subsidence of the disease.

**Brain Strain Dyspepsia.**—Dr. C. H. HUGHES of St. Louis, Mo., called attention to conditions that were altogether too much overlooked in dyspepsia, as encountered among the brain strain and brain weary and worn men and women of affairs, connected with defective innervation in the stomach. A study of the pneumogastric nerve in its relation to the stomach, as well as to the remainder of the intestinal tract and the abdominal and thoracic viscera, with reference to the important origin and functions of the vagus nerve, and due therapeutic attention to these important relations gave physicians a broader and better plan of treatment, one that might always prove successful. He said we should seldom fail to cure dyspepsia, except when it arose from exceptional mechanical or chemical damage to the stomach. The treatment of the usually encountered dyspepsia was not complete with lavage, hydrochloric acid, pepsins, and pancreatins alone. The neural relations must be strengthened by treating the patient neurotherapeutically, and with especial reference to brain rest and restoration, for

dyspepsia was a disease of brain strain origin and defective vagus gastroduodenal innervation.

**What a General Practitioner Should Do in the Early Stages of Mental Disease.**—In a paper with this title Dr. BROOKS F. BEEBE of Cincinnati, Ohio, said that in the treatment of mental diseases the intelligent physician should proceed in the same way as in treating other affections. First, the cause should be removed, if possible. A great step in prevention was the proper rearing and education of children, for insanity was appearing at an earlier age than formerly. Few diseases were more susceptible to cure in the early stages than mental diseases. As a rule, it was not best for the patient to remain at home. Many owed their lifelong affliction to the ignorant sympathies of those dearest to them. Yet it was very doubtful if these patients should be subjected to the exhaustion of a journey. They should be closely watched, on account of suicidal impulse. Medication must be constructive and symptomatic. There were no specifics. Feeding was of great importance.

**Masked Epilepsy.**—Dr. W. B. FLETCHER of Indianapolis, Ind., said that this disease was usually unrecognized until it had progressed to a degree dangerous alike to the patient and those about him. Little was known of the pathology. Among adults it was usually caused by alcoholic, syphilitic, and autotoxic conditions. Treatment should begin with the mildest symptom, and war be waged on the vicious constitutional tendencies. During an attack hyoscin hydrobromate in $\frac{1}{70}$ grain doses every half hour induced quietude. The adult sufferer was a dangerous character, and all the crimes in the calendar might be committed by him unwittingly, and an afflicted innocent might be punished for a crime of which he was in no wise guilty.

**Nature and Treatment of Infantile Paralysis.**—Dr. ALBERT E. STERNE of Indianapolis, Ind., read a paper with this title. He said it was essentially an infectious disease, and was regarded by some authors as the purest form of a true nerve tissue process. Unless epidemic, diagnosis was almost impossible before there was evidence of spinal involvement. When the child first became ill, almost all symptoms pointed to an affection of the stomach, usually a couple of days before paralysis set in. If evidences of profound nervous involvement were found associated with vomiting, it should serve as a diagnostic and prognostic warning. There was not the slightest ground to fear that too active measures might be employed. Delay was inexcusable. Practitioners were confronted with a problem of a deep-seated inflammation in the spinal cord itself, a region not easy to reach. Counterirritation should be used along the spine; antiphlogistic applications should be made, and dry cold should be applied constantly to the vertebral column. Perfect rest must be maintained. No specific was known to the profession. After paralysis had set in, the nerve cells themselves were the seat of the inflammation. As soon as possible, electric stimulation should be applied to the paralyzed members.

**Action and Therapeutical Value of Currents of High Potential and Frequency.**—Dr. CURRAN POPE of Louisville, Ky., stated that too frequently the mind associated danger with the question of voltage, but voltage without amperage produced a current freed from all such danger. The current induced in the secondary coil was one of great current alteration. The primary sources of energy from which the high-frequency current might be obtained were the static machine, the induction coil, the commercial alternating current, and the Tesla coil. Special electrodes had been designed for the administration of the current. The application was painless provided the tissues covering the bony structures were not too thin. The physiological action was productive of excellent results; though painless, however, it might not be harmless for it might destroy the life of small animals. Its influence over the circulation was marked and produced intense vascularization of the skin. In a case of neurasthenia an abscess developed in the left thumb. The pus was evacuated and a high-frequency current applied for five minutes. Pain was immediately relieved, and no pus was found afterward. In another case with symptoms of formation of bone felon prevention resulted. These experiences had been repeated in many cases. The author was satisfied that the high-frequency current had a germicidal effect upon pus-forming bacteria, and that this was in proportion to the presence of the ultraviolet ray.

**Local Lesions and Treatment of Amœbic Dysentery.**—Dr. JAMES P. TUTTLE of New York City said that amœbic dysentery was ordinarily considered a tropical disease, but it was not unknown in its acute form in the United States. In its chronic form it was very common in returning soldiers. In all acute cases the subjective symptoms were the same as in sporadic dysentery, but the onslaught was not so sudden and tenesmus was less. Over 200 cases had been reported during the past year. It is stated by Lambert that he had found the bacillus in many cases of so-called chronic diarrhœa in children. There could no longer be any doubt that there was a type of dysentery due to infection by the amœba dysenteriæ. Whether catarrhal, bacillary or amœbic, dysentery had its origin in the large intestine. In his investigations the speaker had found that the ulcerative lesions decreased as we ascended upward from the rectum into the sigmoid, and in several instances entirely disappeared at the length of the sigmoidoscope. The disease appeared to have its beginning in the rectum and lower colon, judging from local examinations in acute cases. Ulceration of the rectum was always present in cases of chronic dysentery in soldiers returning from the Philippines. Complications might be summed up in abscess of the liver and stricture of the bowel. The *modus operandi* of the old-fashioned treatment of salts and soda was watery flushing of the canal, carrying the pathogenic organisms out of the body. Good reports had been obtained by colon flushing with solutions of quinine, but medicated solutions did not penetrate the tissues and reach the buried organisms. Experiments had shown that whenever stools were allowed to get cold, the life of the organism became extinct. This suggested the experiment of flushing the bowel with cold water, and repeated experiments had proved its worth. Flushings were given three or four times a day from a fountain syringe. In winter water direct from a hydrant was used; in summer a little ice was introduced. At least one douche a day was continued for eight weeks. A summary of the author's experience was as follows: Total cases treated, 63; cured, 61; disappeared, 1; abscess of liver, 1; died, none.

**Neuroses of the Stomach and Intestines.**—Dr. FRANK P. NORBURY of Jacksonville, Ill., said that, in reviewing the principal neuroses of the stomach and intestines, it was evident that the background of all, so far as causation was concerned, was the neuropathic constitution. A study of the extensive literature on the subject impressed one with the fact that in treatment one must first consider this basis, and while doubtless, as investigations went on in the study of these diseases, a more definite pathology would be outlined, and, as Riegel says, "many diseases we consider nervous to-day will in time be found to be based on pathologicoanatomical changes," yet one would always have to consider the predisposition as a primary and important etiological factor. In treatment it was necessary to follow the methods which best combat this feature, and which best subserve the observation of the case and the carrying-out of the details of treatment. The rest treatment met these indications, and how well depended upon the thoroughness with which it was practised. Rest in bed was most important. It was easier to institute this

treatment away from home, and in serious cases it was most important that the patient be isolated from friends and relations. Inasmuch as diet was one of the principal questions to be considered, it must be investigated thoroughly. Massage was considered next as an adjunct to treatment, essential in building up the wasted condition of the patient, and in arresting perverted metabolism. Electricity was the feature of treatment which gastrologists had developed in a special way. The medicines to be used were to be determined after a study of the chemical conditions of the stomach, and the rule should be to give medicines only when indicated. The special disturbances incidental to the neurasthenic state, namely, insomnia and constipation, were to be treated carefully and judiciously.

**The Principles of Diagnosis of Medical Malingering.**—Dr. JOHN PUNTON of Kansas City, Mo., discussed this subject in a paper, which will be published in the MEDICAL RECORD.

**Castor Oil in the Treatment of Typhoid Fever.**—Dr. C. C. BASS of Columbia, Miss., reported last year thirty-two cases of typhoid fever treated with castor oil. This year he reported forty-seven additional cases, which he and his associate had treated in the same way.

**Infantile Spinal Paralysis.**—Dr. ALEXANDER C. WIENER of Chicago said that infantile paralysis improved spontaneously in the first four months after the attack. From the establishment of the paralysis up to nine months the use of electricity, baths, massage, and gymnastics was indicated. It inhibited the fatty degeneration of those muscles which were only slightly damaged and which by judicious stimulation usually recovered their tone. After nine months had elapsed any therapeutic attempt was necessarily futile. Good functional results were obtained by a brace which would put the paretic muscles of the leg at an advantage over the stronger opponents. The permanent restoration of the balance of two opposing muscle groups might be effected in two ways. First, by implantation of the paralyzed tendon into a normal one of similar function. This method was called the ascending or passive tendon grafting, as used by Goldthwaite. Second, splitting off a part of the belly of a healthy muscle with its tendon and connecting it with the tendon of a useless muscle. This method created two new muscular individuals, so to speak, and therefore was called the active or descending tendon grafting.

**Leukæmia.**—Dr. WM. BRITT BURNS of Memphis, Tenn., read a paper on this subject, and exhibited a patient. He discussed the two recognized varieties of the disease; also the etiology, morbid anatomy, and treatment. His aim was to show the certainty with which one with the proper technique might make the diagnosis of leukæmia.

**Syphilitic Manifestations in the Nose and Pharynx.**—Dr. PAUL TURNER VAUGHAN of Hot Springs, Ark., stated that in looking over the clinical histories of five hundred cases of nose and throat syphilis, he did not find a single instance in which the primary sore was situated in either of these localities. Erythema, mucous patches, ulcerations, and gummata might at various times be found in the nose of the syphilitic patient. Mucous patches and ulcerations were present in the vast majority of those affected with syphilis during some stage of the disease. Primary sores of the pharynx were not met with in Hot Springs as often as one would suppose, judging from the material that had come under his observation, for among his cases of nose and throat syphilis he only found four cases in which the sore was situated in the pharynx. The initial sore when found in the pharynx usually lasted from four to six weeks, and did not differ materially from the primary syphilitic sore occurring in any other part of the body. The pharyngeal manifestations of syphilis in its secondary stage were the same as those present in the nose during this stage—erythema, mucous patches, and superficial ulcerative conditions

**Cyclical Albuminuria.**—Dr. ARTHUR R. ELLIOTT of Chicago presented a paper on this subject, which will appear in the MEDICAL RECORD.

**Chronic Interstitial Nephritis.**—Dr. R. ALEXANDER BATE of Louisville, Ky., defined this disease, and referred to the anatomical changes occurring in the different forms of nephritis. The prognosis was favorable in direct proportion to the earliness of the diagnosis. Nephritic changes were the result primarily of altered circulation. The changes in the epithelium of the tubules were secondary to those in the arterioles. Death finally resulted because the epithelial cells failed to excrete toxic principles, more or less normally secreted within the system, and habitually eliminated by the kidneys. The changes which occurred in the vascular system were alluded to. In the many cases now reported in which cures resulted from surgical operations upon kidneys which were the seat of chronic interstitial changes, the author thought that probably the stage of cardiac and arterial hypertrophy had not been reached. Certainly few tubular changes had occurred.

**The Use and Abuse of Fresh Air and Over-feeding in Tuberculosis.**—Dr. W. H. PRIOLEAU of Asheville, N. C., said it was no longer a disputed point that the treatment which offered most to the patient with pulmonary tuberculosis was a combination of the hygienic and dietetic methods. The proper feeding of the patient was equally as important as fresh air in the treatment of tuberculosis. One was dependent upon the other, and the two working together effected a cure more often than any other plan of treatment. It was in the nourishing of patients that most practitioners erred. They were not sufficiently careful in telling patients what they might eat and how much they must eat; or else, without due regard to the digestive and assimilative powers of patients, they ordered a full tuberculosis diet, and insisted upon its disposal in twenty-four hours. Ordinarily the digestive powers of the consumptive were poor, and if the stomach was overburdened and consequently upset, the sheet anchor was lost. The most injurious of all foods for consumptives were the starches.

SURGICAL SECTION.

**Why the General Practitioner Should Understand the Technique of Mirror Sight, with a Few Suggestions How to Learn It.**—Dr. ALLEN DE VILBISS of Toledo, Ohio, said there were general practitioners who did not understand how to handle a laryngeal or rhinoscopic mirror, and he regretted to say that some nose and throat specialists did not understand the technique of mirror sight. Examination of the nose, nasopharnyx, and larynx was made by reflected light, as only the mouth and vestibule of the nose could be examined without it. To do this, all that was actually needed was a concave mirror, tongue depressor, nasal speculum, two different sized rhinoscopic and one laryngeal mirror.

**Principles in the Treatment of Chronic Otitis Media Purulenta.**—Dr. JOHN F. BARNHILL of Indianapolis, Ind., said a study of sections of the temporal bone, made through various parts of the middle ear and its neighboring connected cavities, would give the physician a necessary and wide opinion of the extent and importance of the hearing organ as a whole, which was too often ignored as trivial. Such study would teach (1) that the cavity of the middle ear was not and should not be regarded either as an anatomical or pathological entity, but that it was only a highly important division of the chain of cavities which comprised the conducting portion of the hearing apparatus, all of which cavities were directly connected and lined by mucous membrane. (2) That extension of disease from one cavity to another must not only be considered as a possibility, but more as a probability, either through contiguity of tissue or by the migration of pus-bearing fluids. (3) That the cavity of the middle ear was the only portion of the extensive irregular tract that was directly accessible to the view of the operator and to instrumentation. There-

fore, when disease existed in the mastoid antrum, or the maze of the cells beyond it, the same could not be reached through the external meatus and middle ear. (4) That both the antrum and middle ear were separated from the cranial cavity by only a very thin osseous partition, and that therefore fluid spent up within these cavities were as likely to rupture into the cranium as upon its surface.

**Nasopharyngeal Adenoids.**—Dr. J. A. STUCKY of Lexington, Ky., in discussing this subject drew the following conclusions: The obstructive and non-obstructive adenoid tissue, when diseased, was a menace to health, hearing, mental and physical development, and should be radically dealt with. It was far more serious in its effects than disease and enlargement of the faucial tonsils. Frequently when the pharyngeal tonsil was thoroughly removed, the enlarged faucial tonsils rapidly assumed normal size and function. While this was not the rule, he had seen it occur so frequently that it was safe to say that it was far more than the exception to the rule. The technique of adenectomy was simple, as compared with many other surgical operations, but should be just as conscientiously carried out. When carefully and thoroughly done, the results obtained were only equaled by some of the so-called major operations performed by the general surgeon.

**Penetrating and Perforating Gunshot and Stab Wounds of the Abdomen.**—Dr. JOHN YOUNG BROWN of St. Louis, Mo., in a paper on this subject, discussed the preparation of the patient, search for visceral injuries, control of hemorrhage, irrigation and drainage, closure of incision, and then reported nine cases of perforating wounds of the intestines, with six recoveries and three deaths. One death was due to shock. In this case the injury was so extensive that the patient never reacted. The second patient entered the hospital with general peritonitis, and while a perforation was overlooked it was probable that the result would have been the same if the injury had been repaired. The third patient he thought should have been saved. Of wounds of the liver, five cases in all, four patients recovered and one died. This one died three hours after operation from shock, which was the result of hemorrhage. The patient with wound of the pancreas recovered. To these cases he added eight in which laparotomy was performed and no injury to the viscera found. This made a total of 23 cases, with 19 recoveries and 4 deaths.

**Surgery of the Thyroid.**—This was the title of an exhaustive paper by Dr. B. MERRILL RICKETTS of Cincinnati, Ohio, in which he drew the following conclusions: (1) The thyroid is oftener abnormal than normal in size, shape, number of lobes, and accessory lobes more frequently on the left side. (2) The physiological function of the thyroid and its secretions and relation to other glands are not understood. (3) There may be but one lobe. It may be situated anywhere in the anterior, lateral, or posterior portion of the neck, or it may be intrathoracic, subclavicular, or postscapular. (4) It is the most constant of all the glands in animal life, and all vertebrates are subject to the same laws concerning it. (5) Absence of the thyroid at birth results in cretinism, and its destruction by disease, or otherwise, in adult life induces myxœdema. (6) Parenchymatous goiter, cause not known. (7) May develop in fetal, infant, child, or adult life. (8) All animal life is subject to it. Cause of exophthalmic goiter unknown. (9) Patient may or may not have protrusion of eyeball. (10) Lesions of restiform body in rabbits and dogs, and probably all other animals will induce exophthalmos and tachycardia, also tremor, polyuria, glycosuria, and salivation. (11) Medicaments are of no avail except to palliate. None cured. Animal extracts most satisfactory for palliation. Surgery offers the only means of relief. (12) Thyroidectomy is the operation of choice, is done more quickly, with less mortality, and better results. (13) Concretions may be osseous or calcareous. (14) Cysts should be removed by thyroidectomy, whether they contain blood serum, or pus of parasitic, benign or malignant origin. (15) Gangrenous and tubercular thyroid tissue should be freely excised. (16) Syphilitic gummata may be congenital or acquired, and should be subjected to syphilitic remedies to which they will yield. (17) Transplanted segments of thyroid tissue will, more or less, contain life. (18) Electricity in any shape is not only useless, but very detrimental, in that it causes the formation of adhesions, which greatly interfere with subsequent surgical operations. (19) The use of the seton, and incision into the thyroid are seldom indicated, except for the removal of concretions or foreign bodies. (20) Injections of crystals, solutions, or cautery of any kind should not be tolerated. Like local applications of any character, they should be condemned, and relegated. (21) Division or resection of the thyroid isthmus does not cure. It has no place in thyroid surgery, and should become obsolete. (22) Partial thyroidectomy is the proper term, as the entire gland is seldom removed. (23) Chloroform, local anæsthesia, and the use of cocaine for local anæsthesia are the most desirable. (24) The mortality is less than one per cent. in the general application of thyroidectomy. It is the operation of choice. (25) All thyroid tissue should not be removed unless malignant. (26) Regeneration of thyroid tissue, that will secrete thyroidin, is just as impossible as the regeneration of a finger. (27) Death from hemorrhage in thyroidectomy need not occur, as blood vessels of any size or in any location may be closed by ligature or forceps. (28) Litigation of the thyroid arteries is ineffectual and obsolete. (29) Compression of goitre sufficient to be beneficial would occlude the trachea and larger blood vessels of the neck. (30) Tracheotomy is indicated when the goiter presses upon the trachea, or blood vessels, producing alarming effects, and then it should be done only to palliate until thyroidectomy can be performed.

**Extrauterine Pregnancy.**—Dr. A. H. CORDIER of Kansas City, Mo., discussed the pathology, diagnosis, and treatment of this condition. In ten years he had had an experience of forty-four cases. Intraperitoneal was to extraperitoneal rupture in the proportion of three to one. When rupture took place between the layers of the broad ligament, the hemorrhage was limited by the resistance offered by the surrounding structures, death rarely occurring to the patient from the first rupture. The tubal mucous membrane played a very trifling part in the formation of the placenta in ectopic gestation. The placenta in these cases was derived almost entirely from the fetal structures. The diagnosis of ectopic pregnancy prior to rupture was attended with great difficulty and was rarely made. In many of these cases there was a history of some menstrual irregularity or deviation from the accustomed course in the case under investigation, such as the missing of one or two periods, or an irregular intermenstrual period or flow occurring in a woman previously regular, culminating in an attack of acute suffering in the region of either uterine appendage, accompanied by shock and symptoms of lost blood. The question of treatment of these cases was so thoroughly settled as to admit of very little discussion. The technique of individual operations varied according to the indications to be met in the midst of the operation. The operation of choice was a median suprapubic section, with removal of diseased structures. Vault drainage in ectopic gestation was an incomplete procedure, attended with much danger at the time of the operation, leaving the woman with a pathology that would in most instances continue to produce disagreeable or dangerous symptoms until it was completely removed.

**Ectopic Gestation.**—Dr. ANDERSON WATKINS of Little Rock, Ark., reported a case with complications. The points of interest were (1) the typical history; a long

period of sterility succeeding a normal pregnancy; the absence of menstruation for four months; enlargement of the breasts; morning sickness; shedding of the decidua, and finally a feeling on the part of the patient as though she were pregnant. (2) The evident repeated ruptures of small extent, followed by sepsis. (3) The impropriety of waiting a week after diagnosis to operate. (4) The use of drainage and irrigation. (5) The complicating nephritis, probably of toxic origin. (6) The intercurrent malarial infection during convalescence, and also the intestinal disturbances, which were a constant drawback to improvement. (7) The location of the pregnancy, primarily tubal, although much disguised after rupture and the exudation of plastic lymph.

**The Causes of Occasional Failure of Operation to Cure Gallstone Disease.**—Dr. Wm. J. Mayo of Rochester, Minn., said with a single exception, to which he referred later, all of the cases in which results were less perfect than were desirable were complicated cases, and it could be laid down as an axiom that delay in seeking surgical relief was the direct cause of the complication. It was the general experience that complicated cases had usually had symptoms during a period sufficiently long to have made a diagnosis possible before the development of serious lesions, and that an operation at that time would have been safer and the cure more certain. He referred to the clinical fact that a small number of patients who had had a cholecystostomy performed would have a colic or two following operation, and sometimes accompanied by transient jaundice. He had seen this most frequently during the first month or two after the patient was discharged from the hospital. The most common cause of future symptoms was incomplete removal of stones. Stones in the cystic duct frequently escaped attention, and it was only after several such misfortunes that he began to exercise greater care in exploring this canal. The parts were deeply situated, and as these patients were often obese, it was not easy to locate such a calculus previous to the development of the Robson technique. In most of the cases of stone impacted in the cystic duct, cholecystectomy was indicated. One source of failure of cholecystostomy to cure was secondary obstruction of the cystic duct, preventing free drainage of the gall-bladder down through the passages. This might eventuate in a mucous fistula or repeated attacks of colic, as the gall-bladder secretions were periodically forced through the strictured canal. In septic cases, drainage was necessary for a long period of time, and if the fistula was allowed to close too quickly, severe symptoms might ensue. He had twice had to reopen and re-establish drainage in septic cholecystitis. Both cases were colon infections. Stones were often overlooked in the common duct, as they might lie quiescent for years. The jaundice might be very slight, and in some cases not noticeable. The gall-bladder in the meantime might become obstructed at the cystic duct, so that this organ might be enlarged and cystic, with calculus at the neck and nothing to call attention to the common duct stone. Chronic pancreatitis might exist at the time of operation and to obtain a good result drainage must be long-continued. Cancer could also be said to be secondary to stone formation, and might take place after cholecystostomy or, being present, might be mistaken for inflammatory disease. All thick-walled gall-bladders should be looked upon as suspicious, and as they were functionally useless, cholecystectomy should be done rather than cholecystostomy, and in this way many early cancers would be found and cured. Persistent biliary fistula usually meant obstruction of the common duct. Everyone understood the importance of not attaching the gall-bladder to the skin. In the early days persistent biliary fistula was usually due to a mucocutaneous suture. This practice was now obsolete. The turning-in of the margins of the incision of the gall-bladder, and drawing a purse-string suture closely about the drainage tube in a similar manner to a Kader gastrostomy, enabled healing of the fistula to take place most promptly after removing the drain. Secondary operations had been comparatively safe in his experience. The patient had become accustomed to the condition, and the adhesions formed a protective barrier. Separation of the adhesions, particularly about the liver, resulted in considerable hemorrhage. Rather prolonged gauze pressure usually checked the oozing, as the blood pressure in the liver was very low, and enabled completion of the operation. Most of the cases required a light gauze drain protected by gutta percha tissue at points of contact with the stomach or intestine, to prevent troublesome adhesion to the gauze. Deep drains should be anchored with catgut to prevent displacement by movements of the liver, as affected by the diaphragm. The catgut became absorbed before the time for withdrawal. The drains should not be removed too early, six to twelve days being the usual limit as to the time of withdrawal.

**Diagnosis and Operative Treatment of Gallstones.**—Dr. W. D. Haggard of Nashville read his paper. The most valuable local sign was hypersensitiveness under the tip of the ninth costal cartilage. A distinct tumor was not often felt, and was therefore not diagnostic of gallstones. In long-standing cases of inflammation in and around the gall-bladder, an ill-defined tumor was present, but the tenderness precluded its exact definition. Hydrops from a stone in the cystic duct gave the typically enlarged gall-bladder, and empyema was also characterized by tumefaction. Stones in the gall-bladder without inflammatory or other complications were never attended by enlargement, and an enlarged gall-bladder meant there was no stone in the common duct, as enunciated by Courvoisier. This was a most valuable differential sign. In biliary obstruction manifested by chronic jaundice, an enlarged gall-bladder meant that the obstruction was not due to a stone. Jaundice following attacks of biliary colic was not necessarily due to calculous obstruction, but was usually caused by an inflammatory turgescence of the bile tracts that offered a certain resistance to the outflow of bile. The author reported a case which illustrated this point.

**The Prophylaxis of Tetanus.**—Dr. S. C. Stanton of Chicago contributed a statistical paper on this subject. He considered the prophylaxis under five heads: (1) The enforcement of existing laws regarding the sale of toy pistols and other dangerous toys; (2) the enactment of laws by Congress, State legislatures, and municipalities prohibiting the manufacture and sale of toy pistols, blank cartridges, dynamite canes and caps, cannon crackers, etc.; (3) the open treatment of all wounds, however insignificant, in which from the nature or surroundings there was any risk of tetanus; (4) the immediate use of tetanus antitoxin in all cases of Fourth of July wounds, wounds received in barnyards, gardens, or other places where the tetanus bacillus was likely to be present, or tetanus infection to occur; (5) the injection of tetanus antitoxin as soon as tetanic symptoms became manifest.

**Indications and Technique of Prostatectomy.**—Dr. G. Frank Lydston of Chicago, in a paper with this title, pointed out that the senile prostate was an atrophied prostate. Catheter life lasted for about five years, although Reginald Harrison had put it at four years. Operation should be performed immediately upon the discovery of prostatic enlargement, due deference being paid to inflammatory and congestive disturbances of the organ, which could be relieved in many instances without surgical treatment. In referring to the pathology of hypertrophied prostate, the author expressed the belief that it was glandular at the outset, the tumor being purely adenomatous. He exhibited several specimens of prostates which he had removed from time to time, and said that early operations on the prostate in otherwise healthy subjects were no more dangerous than

interval operations for appendicitis. The perineal operations should be performed whenever practicable, but the author was aware that there were cases which could not be dealt with successfully by this route; therefore, it might become necessary to resort to the suprapubic or the combined perineal and suprapubic operation.

**Surgery of Pulmonary Gangrene.**—Dr. L. L. McARTHUR of Chicago, after reporting three cases representing three varieties of gangrene, presented the following conclusions: (1) That since by medical treatment 80 per cent. die, and in those operated about 29 per cent., efforts should be surgical. (2) That while it was anatomically possible to separate the pleura from the chest wall, it was tedious, difficult, and often futile (due to puncture), and therefore not much valuable time should be lost in such efforts. (3) That circular suture combined with gauze pressure packing for forty-eight hours was the best means of inducing adhesions. (4) The *x*-ray might give valuable aid in localization. (5) Great care should be used in the selection of cases for operation, but when localized and single, the most desperate cases should be given a change, as they frequently recovered with drainage.

**The Present Status of Stomach Surgery.**—Dr. A. J. OCHSNER of Chicago said that in the diagnosis of surgical diseases of the stomach great difficulty was occasionally found in eliminating cases suffering from gastric disturbances due to general neurasthenia, because the latter condition was frequently the result of gastric disease which could be relieved by surgical means. Among the conditions which simulated stomach disease, gallstones undoubtedly stood first in point of frequency, and not infrequently the adhesions accompanying the presence of gallstones resulted in a distortion of the pylorus, which virtually caused an obstruction. One condition which the surgeon encountered occasionally was locomotor ataxia with marked pain in the region of the stomach. This condition was easily detected during a careful examination, but it had occasionally been overlooked. Of all the operations employed in stomach surgery, gastroenterostomy was the most commonly indicated, because it supplied drainage of the organ, and as the want of this drainage was the cause of most of the surgical diseases of the stomach, its accomplishment must necessarily be of the greatest importance. Pyloroplasty was still under observation. Mikulicz, Finney, and a few other surgeons had spoken well of the operation in selected cases of cicatricial constriction of the pylorus. The author's own experience had not been satisfactory with this operation. The method introduced by Finney was undoubtedly the best. The results of pylorectomy would undoubtedly be more and more satisfactory, because these patients were likely to come to the surgeon before the carcinoma had advanced to the hopeless condition usually encountered at the present time. The results of Mikulicz, Kocher, Czerny, and a few others were even at the present time sufficiently satisfactory to warrant the operation. Gastrectomy was indicated in only a very small number of uusual cases. Gastrostomy was indicated in all cases of obstruction of the esophagus due to carcinoma in which starvation was imminent. The patient received a great amount of comfort from this operation. As to gastroduplication, this operation would hardly again receive any prominence, because the same end could be obtained so much more certainly, safely and easily by making a gastroenterostomy.

**Treatment of Tuberculous Joints.**—Dr. DAVID C. PEYTON of Jeffersonville, Ind., said the surgical treatment of tuberculous joints presented for consideration the following operative procedures, according to the state of advancement of the joint involvement: Arthrotomy, arthrectomy, excision or resection, and amputation. By the early and free opening of the affected joint, thus insuring free drainage, and thoroughly irrigating it with a hot saline solution, the writer had obtained very satisfactory results. The irrigation should be repeated daily for a week or ten days, or even longer, according to the degree of involvement. Even when the process had proceeded to suppuration or beginning necrosis, one might expect most marked benefit from this plan of treatment, and which was especially to be commended in all patients under eighteen years of age, for by the more radical operations the surgeon might destroy the epiphyses, with consequent arrest of development or growth. However, in the advanced state of the disease, whether in the adult or the child, the more radical operations were not only advisable, but were imperatively demanded to save usefulness of limb, and sometimes life. When fistulæ had formed, their removal by arthrectomy or excision was insisted upon. It was especially in the smaller joints that the most satisfactory results were obtained by arthrotomy and arthrectomy.

**Treatment of Compound Fractures, Immediate and Remote.**—Dr. FREDERIC A. BESLEY of Chicago discussed the causes of these fractures, and the pathological conditions met with. He divided the treatment into the (1) primary treatment of the wound; (2) the application of an immobilizing dressing; (3) subsequent dressings of wound; (4) methods of procedure in the event of suppuration; (5) treatment of non-union of the fragments. These several divisions were taken up and discussed at length.

**The X-ray in Fractures.**—Dr. DUNCAN EVE of Nashville, Tenn., said that at present the *x*-rays were of more assistance in the investigation of the pathology of fractures than in the treatment and the more precise the knowledge of the pathology, the more satisfactory the treatment. The exact diagnosis of fractures of certain bones without an *x*-ray examination was always open to doubt. In order to secure the best results from the Röntgen rays, not only must the apparatus be good, but the man who uses it must have experience. Skiagrams produced by a beginner lacked clearness, and might lead to erroneous conclusions. He concluded by quoting from a well-known *x*-ray authority, who had said that "when the limits of error are kept clearly in mind, the actual value of the discovery of Röntgen to surgical science is immense. When there is doubt of the diagnosis of a fracture, no physician has done his full duty by his patient if he can command skiagraphic examination and has not used it."

**Officers.**—The following officers were elected for the ensuing year: *President*, Dr. Hugh T. Patrick of Chicago, Ill.; *First Vice-President*, Dr. Bransford Lewis of St. Louis, Mo.; *Second Vice-President*, Dr. Geo. W. Cale of Springfield, Mo.; *Secretary*, Dr. Henry Enos Tuley of Louisville, Ky.; *Treasurer*, Dr. Thomas Hunt Stucky of Louisville, Ky. The time and place for holding the next annual meeting were left to the president, secretary, and treasurer to decide.

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**Rheumatic Perichondritis of the Left Ear.**—I. Valentine Levi reports the case of a boy of ten years, whose history, physical signs, and symptoms led to a diagnosis of articular rheumatism. The peculiarity of the case consisted in the involvement of the left ear, which showed little alteration in conformation except disproportionate thickening, but which was greatly increased in size as compared with the right ear. The longest vertical diameter was 7 cm. as compared to 5.5 cm. in the right; the greatest horizontal diameter 5.5 as compared to 4.5 cm; from the tip of the tragus to the periphery, on a horizontal line, the left measured 4 cm. and the right 3 cm. This involvement of the ear occurred during an attack of acute articular rheumatism, and must be ascribed to the same agency that caused the other rheumatic symptoms.—*International Medical Magazine.*

## CONFERENCE OF STATE AND PROVINCIAL BOARDS OF HEALTH OF NORTH AMERICA.

*Eighteenth Annual Meeting, Held at Baltimore, Md., October 23 and 24, 1903.*

**Special Report to the Medical Record.**

THE Conference met in the hall of the Medical and Chirurgical Faculty of Maryland, and was called to order by the First Vice-President, Dr. John Guitéras of Havana, Cuba, in the absence of the president.

An address of welcome on behalf of the Faculty of the University of Maryland was delivered by Dr. JOHN F. CORDELL, who, in referring to the early medical history of Maryland, stated that the Medical and Chirurgical Faculty, organized in 1802, was the first body of the kind to give a formal endorsement to vaccination. As a matter of equal importance, he mentioned that papers were written in 1807 by John Crawford advocating and favoring the animalcular theory of disease. These papers were published in a non-medical journal, for the reason that the editor of no medical journal at that time would accept them. Crawford was erratic, but considered far ahead of his time. He was the first in any English-speaking country, so far as the speaker knew, to advocate the germ theory of disease. Crawford antedated Lister by at least fifty years, as a perusal of his writings would show this.

Dr. WM. H. WELCH of Baltimore followed with an address of welcome on behalf of the State Board of Health of Maryland. He said, among other things, there was another name which should be mentioned in connection with the medical history of Maryland that of John K. Mitchell, father of Weir Mitchell, whose book on the "Cryptogamic Origin of Malarial Fever" was really a classic. He thought Mitchell's name should be coupled with that of Henle, who forecast the doctrine of *contagium vivum*.

The First Vice-President responded briefly to these addresses of welcome.

**Etiology and Prevention of Infantile Diarrhœa.**—Dr. JOHN H. MASON KNOX of Baltimore read a paper on this subject. He said no single organism was considered to be the cause of infantile diarrhœa until the experimental work of Duval and Basset. Following Shiga's work in 1898 the dysentery bacillus was found to have wide distribution, and from year to year the distribution of the organism had been found to be more general. Reference was made to the investigations of Flexner in the Philippines in relation to dysentery among soldiers and the Shiga bacillus as a cause of it. Subsequent investigations made by bacteriologists in Germany, China, Constantinople, etc., disclosed the existence and prevalence of this bacillus in epidemic dysentery, so that its pathogenicity was now well established. At the suggestion of Flexner, the speaker and others undertook a series of investigations at the Wilson Sanitarium, and of fifty-three cases of diarrhœa carefully examined, the Shiga organism was found in greater or less number in forty-two. Careful clinical examination, however, showed definitely that no one type of the disease could be associated with this organism, and that intestinal diseases of all types, common among children in summer, were caused by the same organism. Laboratory investigation had shown two or three types of organism very closely related. Thus far the great majority of cases in babies had been the acid Harris type. It was found that not only during the summer, but in the winter, sporadic cases of infantile diarrhœa were associated with this organism. Wolfstein had reported thirty-seven sporadic cases of infantile diarrhœa occurring in winter, and Basset four cases, seen in the Johns Hopkins Dispensary, due to this organism. Shiga, by the serum treatment, had reduced the mortality of dysentery from 20 to 30 per cent. to 10 and even 7 per cent. In twenty-five cases treated by injections of serum at the Wilson Sanitarium, some betterment was noticed after the injection in the cases that were seen early, but the improvement was not brilliant or startling. In eight cases the serum had a beneficial action. In connection with the serum there were changes made in diet, and other medication was used, so that the results obtained were confusing in their interpretation. In cases of long standing, associated with an inflammatory condition of the intestinal tract, in which there was probably ulceration, blood in the stools, etc., the serum was of no avail. Although the serum treatment was not very beneficial, it was harmless, as no deleterious effect was observed in any of the cases.

**Are the Laboratory Methods of Diagnosis in Infantile Diarrhœa Applicable in Public Health Work?**—Mr. EDWIN G. SCHORER of Baltimore, in a paper on this subject, said that with the establishment of the etiology of infantile diarrhœa, a great step in advance had been made, yet under the present conditions the new methods of diagnosis were not practicable in public health work. This last statement might, however, be modified, inasmuch as a bacteriological diagnosis would undoubtedly be of value in the limited number of persistent cases of diarrhœa, and in those in which the antidysenteric serum was to be given. For this purpose the mailing case of Dr. Parks was to be recommended. The fact that, at the present time, the methods were not available for general diagnostic purposes, ought not to discourage any one from complying with any request boards of health might make. Much was still to be learned in regard to the dysentery organism and infantile diarrhœa, a good share of which could be furnished by statistics obtained and facts learned from local boards of health.

Dr. WILLIAM H. WELCH of Baltimore said it was a surprise to him that Dr. Knox had found the organism, which had been proven to be the cause of a prevalent group of cases of dysentery, to be the cause of summer diarrhœas of children as well. One did not think of the ordinary summer diarrhœa of children as belonging to the same group of cases as adult dysentery. The organism must be found in other localities than Maryland in order to demonstrate that it had any causal relation to infantile summer diarrhœa. The serum treatment of this disease, according to Flexner, was disappointing. The best results had been obtained in the treatment of adult dysenteries. Instances had been reported by Holt, Thayer, and others in private practice in which the serum seemed to have had a marvelous effect. Conditions in hospital and dispensary practice, however, were unfavorable for obtaining satisfactory results with serum.

Dr. HENRY M. BRACKEN of Minneapolis referred to the milk question, saying in the larger cities it was difficult to get a pure milk supply. What was generally known as certified milk was one of the best articles of artificial diet for children. At present much attention was being paid in some cities to securing a pure milk supply by excluding tuberculous cows from dairies. But even this would not insure a pure milk supply, by any means. The testing of dairy herds for tuberculosis might be satisfactory to the dairymen and seemingly protect the people, but there were more infants that died every year from impure milk than from tuberculous milk. More attention should be given to the sanitary aspects of the dairy than to the diseased animal. Certified milk and pasteurized milk were as satisfactory articles of diet as could be obtained at the present time.

Dr. JOHN N. HURTY of Indianapolis, Ind., cited an instance showing that typhoid fever and dysentery (epidemic) could be conveyed by flies as well as by polluted water.

Dr. CHARLES O. PROBST of Columbus, Ohio, considered it very important to disinfect the stools in cases of infantile diarrhœa, although Dr. Knox had not referred to it. He understood Dr. Knox to say that the Shiga bacillus inhabited the healthy intestinal canal, and that under certain

conditions of environment it might take on pathogenic properties. He asked whether this was so or not.

Dr. GARDNER T. SWARTS of Providence, R. I., understood that the Shiga organism was easily killed in the presence of other bacteria, as the colon bacillus, which was a common inhabitant of the intestinal canal. If the Shiga organism was so easily killed in the presence of other bacteria, why did it prevail so extensively?

Dr. S. R. TOWN of Omaha cited an epidemic of diarrhœa which occurred in Chicago many winters ago, which was caused apparently by the discharge of a large quantity of surface material into Lake Michigan.

Dr. JOHN N. HURTY cited a similar epidemic which occurred in Michigan City, Ind. There were no less than three thousand cases of diarrhœa from polluted water.

Dr. HENRY D. HOLTON of Brattleboro, Vt., thought that infantile diarrhœas were considered gastrointestinal diseases, and that dysentery simply applied to bloody flux, which was not common in infants, but was sometimes seen.

Mr. FRANK WELLS of Lansing, Mich., said the Michigan State Board of Health had published a leaflet on the subject of infantile diarrhœa as the result of a report made by Prof. Victor C. Vaughan. This leaflet, which had been given wide circulation, advised that all cow's milk given to infants shall be pasteurized. The leaflet was furnished to all of the teachers of public schools in Michigan. It was the duty of boards of health, he thought, to furnish such information to the people.

Dr. HENRY MITCHELL of Asbury Park, N. J., urged repeated inspections of cases of diarrhœa in children and adults, as in cases of typhoid fever. The New Jersey Legislature had given the State Board of Health authority to make such inspections. A law had also been enacted that no milk shall be sold from premises on which there was an impure water supply. He pointed out how this law could be so interpreted as not to be effectual in its administration.

Dr. Knox, in closing the discussion, emphasized the importance of good milk and pure water for children, as well as adults. Common house flies were carriers of disease; they were a source of contamination in many instances. Proofs of this were abundant. Replying to Dr. Probst, he said the disinfection of stools in cases of infantile diarrhœa was as essential as in typhoid fever. In speaking of dysentery he had not meant to confound it with bloody flux, as intimated by Dr. Holton. He used the term dysentery to include those cases in which the Shiga bacillus was found to be present. He could not answer satisfactorily the question of Dr. Probst relative to the Shiga organism inhabiting the healthy intestinal canal, but hoped Professor Welch would do so.

Dr. Welch said the Shiga organism was not present in normal stools. If it was, it was in such small numbers that it required the most painstaking investigation to find it.

Mr. Schorer cited an instance explaining why the colon bacillus killed the Shiga organism. The organism of dysentery was found in the mucous coat of the intestine, while the colon bacillus might be found in any part of fecal matter.

**The Duty of Sanitarians Regarding Venereal Diseases.**—Dr. HENRY D. HOLTON of Brattleboro, Vt., read a paper with this title. He emphasized the duty which should be recognized by sanitarians as resting upon them, of doing something to restrict the venereal diseases which threatened society as no other communicable diseases did. The vital statistics of New York City in 1900 had a record of 31,145 cases of contagious diseases, with 11,368 deaths, of which only 177 were from syphilis. Blascho claimed 150,000 syphilitics for Berlin, and the Committee of Fifteen, 200,000 for New York City. To get an approximate idea of its prevalence the Prussian Government requested that all physicians should report on August 30, 1900, every case of venereal disease coming under treatment. These reports proved that three-quarters of a million people were afflicted yearly with venereal diseases in that country alone. He said the foregoing statements would prove that venereal diseases stood next to in prevalence tuberculosis and alcoholism, if they did not surpass them. They were permeating the very root of the population, tainting those yet unborn, maiming those born with the virus already in their blood, deteriorating the race, and devitalizing the individual. Instruction should be given in high schools and colleges, having reference to the prevention of these diseases. Dr. Prieto, in a paper read at the International Medical Congress at Madrid, suggested the following regulations to be enacted into laws: (1) The law to declare the infection of any person with any form of venereal disease to be a crime. (2) That such crime against the person be punished by indemnification and imprisonment for a period of two years. (3) When the offender could not indemnify the injured person by bearing the expenses of treatment, that the term of imprisonment or transportation be increased. (4) That the brothel-keepers be made to indemnify any person infected on their premises or by any of their licensed women, and in case of insolvency of the brothel-keeper, imprisonment or fine should be enforced. Dr. Holton thought the rules of Prieto stringent enough to control the evil. However, to enforce them would require an enlightened and educated public sentiment. He would educate the medical profession and educate the public, and follow this work by the enactment of wise laws which the educated public sentiment would insist should be thoroughly executed.

This paper was discussed by Drs. John S. Fulton, George R. Dean, G. P. Conn, Frank Wells, E. W. Cooper and Charles O. Probst. The general trend of the discussion was the necessity of educating the medical profession and the public in regard to the terrible ravages of venereal diseases and the practicability of limiting their spread by legislative enactment.

Dr. PROBST, then offered the following preamble and resolution, which were adopted by the Conference:

*Whereas*, The great prevalence of venereal diseases, which is indirectly the cause of many deaths, is a matter of much concern to the public health; and,

*Whereas*, The communication of these diseases to innocent persons must be largely due to ignorance, be it

*Resolved*, That a committee of three be appointed by the President to prepare a leaflet that would be acceptable to physicians to give to their patients, setting forth the precautions to be taken by one suffering from a venereal disease to prevent its communication to others, and to make such other suggestions as it may deem proper. Such instructions, when adopted by this Conference, to be recommended to State and Provincial Boards of Health for dissemination among the medical profession, and said committee shall report at the next meeting. (Committee unannounced.)

**Another Year's Test of the Mosquito Doctrine of the Transmission of Yellow Fever in Havana**—Dr. JOHN GUITÉRAS of Havana, Cuba, said there had not been a case of yellow fever in Havana for the past two years except those that had been imported from other countries, chiefly Mexico. He then detailed the methods employed in combating this disease in Havana, which are familiar to our readers.

**Report of Committee on Promotion of Uniformity of Reports upon Vital Statistics.**—Dr. CRESSY L. WILBUR of Lansing, Mich., presented this report. In the division of labor between the committee representing this Conference and the committee of the American Public Health Association, American Medical Association, and others interested in the improvement of vital statistics, the special task had been selected of examining and reporting in regard to the forms of tables and general manner of presentation of statistical data employed in the annual, biennial, weekly, monthly, or other reports of States and

cities.[1] In this the U. S. Census Bureau had coöperated and had collected samples of the forms at present in use in nearly all of the registration offices of this country for the purpose of analysis and study by this committee. It was a difficult task to consider all of the forms in a comparative way, but it seemed desirable to do so before formulating a report as to the absolutely essential tables that were to be recommended for use in the various reports. The committee, therefore, reported progress and requested that additional time be granted for making a final report, which could probably be prepared before the next session of the Conference. In addition to the work outlined above, the committee had coöperated, on behalf of the Conference, with the committees of the American Public Health Association and of the American Medical Association, the U. S. Census Bureau, and the Public Health and Marine-Hospital Service, in the preliminary work for the coöperative study and improvement of the international classification of causes of death, a report upon which would be presented at the session of the American Public Health Association next week, and also for the extension of adequate registration laws. The report was accepted.

**Transportation of the Dead.**—The conference adopted a set of rules, which it was proposed should be established by legislative action, to govern the transportation of dead bodies.

**Officers.**—The following officers were elected for the ensuing year: *President*, Dr. John N. Hurty, Indianapolis, Ind.; *Vice-President*, Dr. John S. Fulton, Baltimore, Md.; *Secretary*, Dr. Garnder T. Swarts, Providence, R. I.; *Treasurer*, Dr. James A. Egan, Springfield, Ill.

The time and place for the next meeting were left to the officers of the Conference to decide.

## Medical Items.

**Contagious Diseases — Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending October 31, 1903:

| | Cases. | Deaths. |
|---|---|---|
| Measles | 193 | 6 |
| Diphtheria and croup | 274 | 29 |
| Scarlet fever | 84 | 7 |
| Smallpox | 1 | ... |
| Varicella | 23 | ... |
| Tuberculosis | 278 | 167 |
| Typhoid fever | 100 | 18 |
| Cerebrospinal meningitis | ... | 3 |

**Coffee-Drinking.**—A recent number of the *Lancet* contains a philosophic dissertation on coffee-drinking, pointing out that coffee seems to suit some individuals, while it injuriously affects the digestion of others. The article proceeds as follows: "The excessive drinking of coffee is, in any case, an evil. But it is often forgotten that coffee can be taken in other ways, and in none better than in the form of jelly. A clear coffee jelly after dinner is every bit as good as the hot infusion, while it is free from some of the drawbacks of the latter. Coffee, unlike alcohol, diminishes organic waste, rouses the muscular energy without the collapse which follows alcoholic inhibition and gelatin in the form of jelly is cooling, assuages thirst, is soothing, and has a tendency to absorb any excessive acidity of the stomach. Gelatin is what is known as a 'proteid sparer'—that is, it saves the destruction of proteid such as albumin. Having regard to these facts, therefore, coffee jelly should form a very suitable sequel to dinner, and an excellent substitute for the infusion. Moreover, the astringent principles of coffee, which, however, are different in kind and degree from those present in tea, are nullified by the gelatin. In short, gelatin is an excellent vehicle for coffee, but, as is necessary in making the infusion, the quantity of coffee in the jelly should not be stinted. Coffee serves an admirable purpose in dietetics, and those with whom it disagrees when taken in the form of a hot infusion will, very probably, find the jelly quite satisfactory.

**Nutritive Value of Sugar.**—M Dastre writes in the August number of the *Revue des Deux Mondes* on this subject. He shows that instead of being a kind of relish making other foods palatable, sugar performs an important function in making good the losses caused by muscular exertion and in maintaining the human body in health and vigor. M. Dastre endeavors to prove that the processes of life in the higher vertebrate animals must be carried on in a sugary solution of 1½ to 1,000. He also takes the view that glucose, which is supplied to the body by means of sugar, is the source of muscular energy.

**Health Report.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended October 31, 1903:

SMALLPOX—UNITED STATES.

| | | Cases. | Deaths. |
|---|---|---|---|
| Illinois, Belleville | Oct. 10–17 | 4 | 2 |
| Chicago | Oct. 18–24 | 1 | .. |
| Maine, Bangor | Oct. 10–19 | 50 | .. |
| Brewer | Oct. 10–19 | 10 | .. |
| Massachusetts, New Bedford | Oct. 18–24 | 1 | .. |
| Michigan, Detroit | Oct. 18–24 | 1 | .. |
| New Hampshire, Manchester | Oct. 18–24 | 6 | .. |
| New Jersey, Jersey City | Oct. 19–25 | 1 | .. |
| New York, New York | Oct. 18–24 | 2 | .. |
| Ohio, Cincinnati | Oct. 17–23 | 4 | .. |
| Cleveland | Oct. 18–24 | .. | 1 |
| Dayton | Oct. 18–24 | 1 | .. |
| Pennsylvania, Altoona | Oct. 18–24 | 4 | .. |
| | | (1 case imported.) | |
| Johnstown | Oct. 18–24 | 14 | 3 |
| Philadelphia | Oct. 18–24 | 9 | 8 |
| Utah, Salt Lake City | Oct. 18–24 | 1 | .. |
| Wisconsin, Milwaukee | Oct. 22–28 | 2 | .. |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Austria-Hungary, Prague | Oct. 4–10 | 9 | .. |
| Colombia, Barranquilla | Oct. 5–11 | .. | 1 |
| Great Britain, Birmingham | Oct. 4–10 | 6 | .. |
| Bradford | Sept. 26–Oct. 10 | 5 | .. |
| Glasgow | Oct. 10–16 | 5 | .. |
| Leith | Oct. 4–10 | 1 | .. |
| Liverpool | Oct. 4–10 | 3 | .. |
| London | Oct. 4–10 | 2 | .. |
| Manchester | Oct. 4–10 | 2 | .. |
| New Castle | Oct. 4–10 | 4 | .. |
| India, Bombay | Sept. 16–29 | .. | 3 |
| Italy, Catania | Oct. 9–15 | .. | 1 |
| Netherlands, Amsterdam | Oct. 11–17 | 3 | 1 |
| Russia, Moscow | Sept. 20–Oct. 3 | 4 | 7 |
| | | (new cases.) | |
| Odessa | Oct. 4–10 | 2 | .. |
| St. Petersburg | Sept. 27–Oct. 3 | .. | 1 |
| Spain, Barcelona | Oct. 4–10 | .. | 5 |
| Venezuela, Bolivar | Oct. 4 | Present | |
| San Felipe | Oct. 14 | Epidemic | |
| Tucuyo | Oct. 3 | Prevailing | |

YELLOW FEVER—UNITED STATES.

| | | | |
|---|---|---|---|
| Texas, Laredo | Oct. 22–28 | 95 | 10 |
| Minera | Oct. 21–23 | 3 | 1 |
| San Antonio | Oct. 21–26 | 7 | .. |
| | | (1 at Fort Sam Houston.) | |
| Dewitt Co. | Oct. 26 | 3 | 1 |

YELLOW FEVER—FOREIGN.

| | | | |
|---|---|---|---|
| Costa Rica, Limon | Oct. 1–15 | 1 | .. |
| Cuba, Habana | Oct. 6 | 1 | .. |
| | (On American S.S. *Monterey* from Progreso.) | | |
| Habana | Oct. 9 | 2 | .. |
| | (On German S.S. *Prinz Adalbert* from Vera Cruz and Tampico.) | | |
| Mexico, Citas | Sept. 27–Oct. 3 | 16 | 5 |
| Linares | Sept. 27–Oct. 3 | 555 | 46 |
| Merida | Sept. 27–Oct. 3 | 13 | 4 |
| Nuevo Laredo | Oct. 22–27 | 12 | 4 |
| Tampico | Sept. 27–Oct. 3 | 5 | 4 |
| Vera Cruz | Oct. 10–17 | 58 | 18 |

CHOLERA—FOREIGN.

| | | | |
|---|---|---|---|
| India, Madras | Sept. 19–25 | .. | 3 |
| Japan, Kobe | Sept. 26–Oct. 3 | 2 | 1 |
| Turkey, Hama | Oct. 3 | Prevailing | |
| Homs | Oct. 3 | Prevailing | |
| Nabeck | Oct. 3 | Prevailing | |
| Tripoli | Sept. 15 | 15 to 20 cases daily | |

PLAGUE—FOREIGN

| | | | |
|---|---|---|---|
| Australia, Queensland, Brisbane | Sept. 12 | 2 | 2 |
| Townsville | Sept. 4 | 1 | 1 |
| Chile, Iquique | May 15–Aug. 17 | 170 | 101 |
| Valparaiso | To Aug. 24 | 9 | 2 |
| Japan, Yokohama | Sept. 13–26 | 2 | 1 |

# Medical Record

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## Original Articles.

### GONORRHŒA IN INFANTS, WITH A REPORT OF EIGHT CASES OF PYÆMIA.*

BY REUEL B. KIMBALL, M.D.,
ATTENDING PHYSICIAN TO THE BABIES' HOSPITAL, NEW YORK.

ALTHOUGH gonorrhœa has probably been as widely studied as any disease during the past hundred years, and it is now almost a quarter of a century since Neisser first isolated the micrococcus gonorrhœa, the medical profession is only on the threshold of its knowledge of the manifold forms which this infection may assume. The importance of the gonococcus as a pyogenic organism has long been underestimated. It is of interest to note how our conception of this disease has widened with our knowledge of the different forms it may assume. It has been studied as the cause of a specific urogenital infection, of ophthalmia, of pelvic inflammation in women, of arthritis, of peritonitis, and of endocarditis.

Gonorrhœa, as a medical term, has been raised from the title of a local inflammation of a mucous membrane to the dignity of a systemic infection. The gonococcus is now feared as one of the most dangerous of microorganisms, whose presence in the human body may be attended by serious and uncontrollable results.

Gonorrhœal infection in infants is a field that of late years has been particularly open to investigation. Medical journals, and especially journals of pediatrics, are full of articles on this disease in children. Much, however, of the literature deals with infection in the newly born, in which the disease in the mother is the obvious cause of the ophthalmia or vaginitis in the offspring. Vulvovaginitis, urethritis, and arthritis are also reported in infants and in older children in whom such a source of contamination cannot be shown. But we do not believe that the medical world at large realizes the extent to which gonorrhœa occurs in children and in infants, nor the different and peculiar forms which the disease takes in these little ones, nor the danger and comparative ease of contagion.

There can be no doubt that there exists in infants a remarkable predisposition to infection with the gonococcus. The satisfactory explanation of this is still in doubt. It may be due, in part, to the imperfect development of the mucous membrane in infants, but it is certainly also to be explained by the relative prominence of the unprotected vulva in in females, and to the constant handling of infants which is necessary for cleanliness. In girls the susceptibility is inversely as the age of the child, very young infants being more liable than older infants or children. This predisposition is not confined, however, to females, being observed also in males, in whom it can be less satisfactorily explained.

Vulvovaginitis is the bane of all institutions in which infants and children are grouped together. The infection once introduced, spreads with incredible rapidity, attacking practically all the females, and unless great precautions are taken, some of the males. This is the experience of all who have charge of infants' wards in hospitals or institutions; and applies equally to schools, public baths, asylums, etc. One of the worst cases of gonorrhœa I ever saw was in a child eight years old, and was acquired in a fashionable school in this city.

The record at the Babies' Hospital during the past twelve months substantiates the truth of this statement. During the last year there have been six hundred admissions to the public wards, and among these patients we have had seventy cases of vulvovaginitis, and ten cases of arthritis, due to the gonococcus. Only one case of gonorrhœal ophthalmia has arisen in the hospital. A large proportion of the vaginitis cases were infected while in the hospital. Possibly one-tenth of the entire number were admitted with the disease and in every case became the source of a small epidemic.

The infection has been stamped out half a dozen times, and has reappeared after some weeks of immunity in a most discouraging fashion. We hope that now our preventive measures are such that no such patient can enter the hospital, and that if in any unforeseen manner we should admit a case, it would be impossible for the disease to spread. For three months every girl admitted has had a smear taken from the vaginal secretions and examined microscopically for gonococci before she is received into the wards. On the slightest suspicion of a vaginal discharge occurring in a ward patient every female in the hospital is reëxamined and another microscopical examination is made from every child. By this means we exclude chronic cases of vaginitis without local symptoms and cases in which the discharge has not yet appeared. We are especially careful in admitting cases from other institutions and day nurseries. Also cases of simple non-specific vaginitis should be carefully watched, as there seems to be more danger of inoculation when a local inflammation exists.

In dealing with cases in the hospital we have found that only complete isolation can absolutely prevent the spread of the disease. It may be possible to keep older children with gonorrhœa in a general ward and have no unfortunate consequences, but with infants, in whom constant handling is essential to cleanliness, our experience does not justify this. We now isolate infected children, whether the trouble is vaginal or arthritic, in a separate room, and with separate nurses. Even if utmost precautions are taken to keep apart all clothing, wash cloths, thermometers, nursing bottles, etc., the carelessness of a single nurse, with insufficiently sterilized hands, may undo, in an instant, the value of these regulations. If, however, it is necessary to keep such an infectious case among other children, the sterilization of the napkins is an essential feature of the prophylaxis. But even this often fails, and recently we have adopted the plan of using sterilized opera cloth for all of the girls, and having it immediately destroyed. With

*Read before the Clinical Society, May 22, 1903.

infants, however, in whom frequent changing is required, this becomes a serious item of expense.

We have found that in children under one year of age, gonorrhœal vulvovaginitis yields readily to treatment, ten days being the duration of an ordinary case. In older children the disease is much more persistent and less amenable to treatment. After trying a number of antiseptic douches we have found that protargol, from 2 to 5 per cent., gives the best and most uniform results.

Among the cases of arthritis or pyæmia which have been mentioned before, eight are worthy of further consideration. In enumerating these cases we exclude all those in which a general systemic infection has followed a local catarrh, either of the vagina or of the conjunctiva. The literature furnishes numerous examples of such extension of the disease, and in no way does such an infection differ from similar instances in adults. The important point is that *in these eight cases of pyæmia there was no local infection which could be considered to form a starting point for the disease*—that is, these joint inflammations and abscesses developed, as it were, out of a clear sky, having been discovered in children who were not suspected of harboring the gonococcus, who had no inflammation nor discharge from any mucous membrane, and in whom the most careful scrutiny could not fix the portal of entry of the organism. So far as we have been able to learn, no similar instances have been reported in the literature, and in view of the seeming importance of the subject, we will give a detailed report of the findings in these cases, in addition to the histories appended.

Case I.—Female, aged three months. Family history negative; personal history negative. Admitted to the Babies' Hospital, June 18, 1902, for an acute attack of enterocolitis. On admission: weight, 8 pounds 1 ounce. Physical examination negative. No vaginitis nor conjunctivitis. Until June 28 child showed only the symptoms of a mild enterocolitis, with slight temperature.

On June 28 the temperature rose to 105°, and then fluctuated between 104°-101° until July 11, when it became subnormal until just before death.

June 29: Left knee and hand swollen, red, hot, and painful. Wet dressings applied.

July 1: Both knees and both hands enlarged, red, and tender. No fluctuation. Leucocytosis marked.

July 2: On outer side of both ankles over malleoli there is a reddened area of intense heat. General œdema of entire body.

July 3: Knees less swollen.

July 4: No redness of joints, except right ankle.

July 5: Fluctuation obtained over right ankle. Ankle aspirated, and a drop of thin yellow pus obtained. Examination of urine negative.

July 7: Ankle-joints still swollen and tender, inflammation of other joints subsiding.

July 9: Swelling of ankle-joints increased.

July 10: Aspiration again of right ankle, and about ten drops of thick yellow pus obtained.

July 12: General œdema extreme. Patient died at 8.45 A.M. The child never at any time had any discharge from the vagina or eyes, or any symptoms of inflammation of these mucous membranes.

*Bacteriological Report by Dr. Berry.*—Smears made from the pus obtained from aspiration of right ankle, on two separate occasions, showed, microscopically, diplococci, both free and grouped, in cells which decolorized by Gram stain. No cultures made. Smears made from the vagina were negative for gonococci.

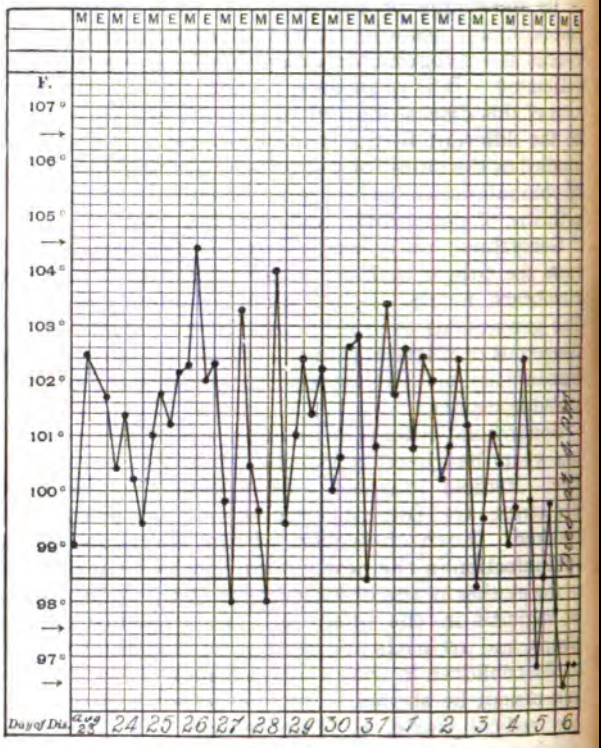
*Autopsy by Dr. Berry.*—Marked general œdema. Lymph nodes of right cervical region enlarged and congested.

*Joints.*—The right shoulder on deep incision yielded about 4 c.c. of thick green pus. Left shoulder, a few drops of pus in deep tissues about joint. Both wrists, drops of thick pus between the muscles of dorsum of hand, and in tissues about articulations, but the joints were apparently not involved. Elbow-joints free. Hip-joints not incised. Right knee, no pus in joint, but between the muscles a few flecks of pus obtained. Left knee free. Right ankle, fluctuation over external malleolus. Incision opened up an abscess cavity 2 by 2 cm., base formed by the periosteum of small bones. Contents a thin greenish purulent fluid. The muscles and ligaments of the foot infiltrated with pus. Left ankle-joint free.

*Thorax.*—On the posterior surface of the sternum, at second rib, a small ragged ulcer. 1½ by 1 cm., covered with greenish pus. Heart and pericardium normal.

*Lungs.*—Showed scattered areas of bronchopneumonia and atelectasis. Bronchial lymph nodes not enlarged.

Other organs practically normal.




Case II.—G. McG., æt. 2 months.

Case II.—Male, aged two months. Family history negative. Personal history not obtained. Admitted to the Baby's Hospital August 11, 1903. On admission physical examination negative. Weighed eight pounds ten ounces. No discharge from eyes or urethra; child suffered from colic and indigestion.

August 23: The forefinger of the left hand, the right great toe, and the right wrist swollen, red, and painful.

August 26: Œdema of right side of face. Regular elevation of temperature for past three days.

August 30: Left ankle and foot much swollen, fluctuation above the ankle-joint.

September 1: Left ankle incised and about a drachm of thick yellow, tenacious pus evacuated. Incision made over the dorsum of the right hand, and an abscess opened up which extended to the little finger-joint. Considerable pus in abscess.

September 5: Second joint of the forefinger opened, and several drops of pus pressed out. General œdema marked.

September 6: Child died.

*Microscopical Report by Dr. Berry.*—Smears of pus obtained from joints showed gonococci within the leucocytes.

*Autopsy.*—Forty-four hours after death. Marked general œdema. Brain normal. Beginning bronchopneumonia in lungs. Fibrinous pleurisy. Other viscera normal.

All the large joints were opened, and pus was present in the right ankle, elbow, and hip. There was a purulent infiltration in the muscles of the left foot.

Cultures were made, but were not satisfactory, owing to removal of the laboratory from the country to the city.

Case III.—Male, aged three months. Family history negative. Personal history: always delicate; nursed two weeks; since then fed on condensed milk. Has steadily lost weight for one month. Stool normal. Admitted to the Baby's Hospital, December 4, 1903. On admission, weight five pounds. An undersized poorly nourished child. Eyes normal. No urethritis. Physical examination negative. For two weeks the child showed no symptoms other than those common in marasmus.

December 20: Temperature was 101°; first since admission.

December 22: The right knee-joint was much inflamed, swollen, and hot to the touch.

December 26: The right-knee was aspirated and about 2 c.c. of thick, greenish pus obtained. There was a slight fever up to December 28, but after that the temperature was subnormal until death. No other joints involved.

January 2: The child died, with the symptoms of inanition.

*Microscopical Report by Dr. Cordes.*—Films from the pus obtained by aspiration showed extra and intracellular diplococci which decolorized with Gram stain. Cultures made on ascitic fluid-agar showed, in forty-eight hours, small, round colonies on the edges of the collections of pus. The growth was scant and short-lived. Transplantations from the growth to other media did not succeed. Film from the cultures showed large numbers of decolorized diplococci, by Gram stain.

*No autopsy* was permitted.

Case IV.—Male. Age ten weeks (on admission). Family history negative. Personal history: normal infant, nursed seven weeks, then fed on milk and water. Mother in hospital (operation). Admitted to the Babies' Hospital December 12, 1902, for neglect. On admission, weight nine pounds. Physical examination, with the exception of Erb's palsy, negative. Child has been circumcised. Urethra normal, no discharge. Eyes normal. No conjunctivitis. During first two weeks in hospital, no especial symptoms. Child had had *considerable thrush* in mouth.

December 25: Right knee became enlarged, inflamed, and painful. Temperature 102°—before this normal.

December 26: Right knee more swollen. Aspirated and several c.c. of thick, yellow pus drawn off. Temperature still elevated.

December 31: Right knee and thigh greatly swollen. Temperature slightly elevated every day.

January 3: Right knee still swollen, again aspirated and no pus obtained. Leg put up in splint.

January 21: Splint removed, leg stiff, slightly swollen. No fluid in joint. Temperature now normal.

From February 1 on the child gradually lost ground, took food badly, stools fairly normal.

March 1: Died. Symptoms of inanition.

*Bacteriological Report by Dr. Cordes.*—Smears, from pus aspirated from right knee December 26, showed numerous intracellular diplococci, which decolorize by Gram stain.

Cultures made from the pus in the ordinary glycerin, and glucose-agar media did not grow..

Culture made on ascitic fluid-agar, in forty-eight hours, showed numerous small, almost translucent, colonies on the surface of the media. Smears from these colonies showed similar diplococci which decolorize by Gram stain.

Case V.—Male, age two months (when admitted). Family history: Father has had syphilis. Mother healthy, denies gonorrhœa. Personal history: Has always had the snuffles. Breast-fed. Vomits a good deal. Stools normal. Admitted to the Babies' Hospital, December 19, 1902, for syphilis. On admission: Weight, nine pounds and eleven ounces. Child had a syphilitic rash and *mucous patches* in the mouth and about arms. No conjunctivitis or urethritis. The child lay in a bed next to a severe case of gonorrhœal vaginitis.

December 28: Left knee slightly enlarged. Temperature very high for past two days (103°), though before this there had been irregular fluctuations.

December 29: *Thrush in mouth.* Mucous patches have disappeared under treatment. Left ankle swollen and painful.

December 30: Right ankle red, swollen, and painful.

January 3: Temperature still irregularly elevated. Ankles fluctuating. Incision made below both outer malleoli and about 1 c.c. of creamy pus evacuated.

January 15: Left shoulder painful and swollen. Child is vomiting and taking food badly, temperature still high.

January 18: Both shoulders enlarged and fluctuating, swelling running down under the bicipital muscles. Ankles have healed.

January 19: Abscesses on arms opened by an incision over bicipital insertion. Large amount of thick, yellow pus pressed out of shoulder-joint.

January 21: Small fluctuating mass over the occiput.

January 22: Occipital abscess opened and evacuated. Temperature still elevated.

January 29: Temperature normal. Incisions all healed. Takes food well. Stools normal.

February 10: A large swelling noted to-day on inside of left thigh, above the middle. Swelling is hot, hard, and painful. Temperature still remains normal.

February 16: Swelling below left hip is growing smaller.

March 1: No new joint involvements on abscess. Child is failing, vomits a good deal. Stools normal.

*Bacteriological Report by Dr. Reed.*—Pus from the ankle-joints and shoulder-joints showed in smears degenerating leucocytes, many of which contained small, slightly biscuit-shaped diplococci which decolorize by Gram. No other organisms observed.

Cultures made from thick pus from these joints on the plain agar and glucose agar did not grow. Cultures made on ascitic fluid agar showed, after forty-eight hours' growth, very small, pin point to pin head, almost translucent colonies. In one specimen a transplantation of the growth was successfully made on ascitic fluid-agar. The growth in every case was delicate, scarcely visible in twenty-four hours, and most satisfactory after four or five days' growth. Smears from these cultures showed in every case a diplococci, occasionally in tetrads, never in chains, which decolorize by Gram stain.

January 9: Microscopical examination of exudate in mouth showed typical thrush.

*Microscopical examination of smears* from the eye and urethra failed to show diplococci.

Smears made from the mouth and tonsils showed, on staining, numerous leucocytes containing biscuit-shaped diplococci which decolorize by Gram stain. It was impossible to isolate the organisms in culture. The presence of cocci in the normal secretions of the mouth, which have the same morphological and staining reactions as the gonococci, make it impossible to lay any stress on this finding, although it is quite possible that the organisms here observed were true gonococci.

Case VI.—Male, age ten weeks. Family history negative. Personal history: delicate from birth, no history of ophthalmia. Nursed one month. Then fed on boiled milk and water. Vomits a great deal. Admitted to the Babies' Hospital January 14, 1903. On admission, weight nine pounds. Physical examination negative. Eyes normal. No conjunctivitis. Child had been circumcised. No urethritis For the first two weeks the child showed only symptoms of a severe feeding case.

January 29: Temperature rose to 103°. Previous to this no fever. The right ankle was swollen, red, and painful. The right great toe was also inflamed.

January 31: The left ankle became involved, the temperature remaining elevated.

February 1: The right wrist was swollen and red.

February 2: Temperature still irregularly elevated. Stools frequent and contained mucus. Second toe on right foot conspicuously red and tender.

February 8: Second toe on right foot opened and several drops of creamy pus squeezed out of second joint. Ankles and wrists still swollen and painful.

February 11: Fluctuation obtained in left ankle joint, which was superficially incised below outer malleolus. A small amount of pus was squeezed out of pockets, presumably in the tendon sheaths. The joint was not opened.

February 13: Right shoulder-joint swollen and painful. Right toe has healed completely. Ankles and wrist less swollen. Temperature still high.

February 14: Incision made over right bicipital insertion, almost half an ounce of thick, stringy pus pressed out of arm. Shoulder-joint apparently not involved.

February 18: Joints less swollen. Left ankle healed. Temperature falling.

From this date on temperature was normal. The joints previously noted as inflamed subsided. The right shoulder-joint on March 2 was found full of fluid, enlarged and painful.

The general condition of the child is poor.

Takes food badly. Losing weight. Stools normal.

*Bacteriological Report by Dr. Reed.*—Pus from toe joint and abscesses about the ankle-joints and shoulder-joint show, in smears, intracellular diplococci in great numbers, decolorizing by Gram. Cultures made from these joints, on the ordinary agar, glycerin-agar and glucose-agar failed to grow. Cultures on ascitic fluid-agar showed, in every case, small, almost translucent colonies, very slow in growth, which in smear consisted of diplococci, decolorizing by Gram stain.

Microscopical examination of smears made from the urethra, eyes, and mouth in this case failed to show any diplococci which were Gram negative.

Case VII.—Male, age two and one-half months. Family history: father consumptive. Mother denies gonorrhœa. Personal history, born at the New York Lying-in, which reported the child as perfectly well at birth and for first two weeks. Positively no ophthalmia. Nursed only two weeks. Then fed on various kinds of milk preparations, none of which agreed with him. Admitted to the Babies' Hospital, January 28, 1903, as a case of malnutrition. On admission, small, poorly nourished, pale infant. Weight seven pounds, three ounces. Physical examination practically negative. Eyes normal. No conjunctivitis. For the first ten days after admission the child showed no remarkable symptoms—began to take food well, stools normal.

On February 9 the child's temperature rose to 102°, the first elevation since admission. Considerable thrush was found in the mouth.

On February 11 the left wrist was noticed to be red, swollen, and painful.

On February 12, both ankles, right knee, left wrist, and little finger were swollen and painful.

Up to February 14 the temperature was irregularly elevated from normal to 102° each day.

From February 14 until death there was no fever.

February 16: Both knees were swollen and fluctuating.

February 16: Left wrist and little finger were opened—creamy yellow pus was found in large quantities, apparently from the tendon sheathes in the wrist and from the joints of the little finger.

February 18: Child died, temperature normal. No especial symptoms. Joints still swollen.

*Bacteriological Report by Dr. Reed.*—Smears from the pus obtained from the finger and wrist showed numerous intracellular diplococci, which decolorized by Gram stain. Cultures made from wrist abscess on glucose agar, acid agar, milk and plain bouillon showed no growth. Cultures made in ascitic fluid bouillon in twenty-four hours were cloudy, and in smears showed numerous diplococci decolorizing by Gram. Cultures from finger-joint would not grow on glycerin agar, but on ascitic fluid agar showed the typical delicate growth of small, almost translucent, colonies, which in smear preparation consisted of small diplococci decolorizing by Gram. Smears from the urethra and eyes under microscopical examination were found negative for gonococci.

*Autopsy by Dr. Wollstein*—in thirty hours after death: The body was emaciated and œdematous. There were small abscesses in the scalp, under the skin of the chest wall, and between the larynx and the hyoid bone. On incising the larynx, there was a purulent infiltration in the posterior wall between the mucous membrane and the thyroid cartilages. There was pus in the right wrist and left little finger. The viscera were normal, with the exception of a beginning bronchopneumonia.

*Bacteriological Findings.*—A Gram negative diplococcus was found in smears from the abscesses in the skin and about the larynx and from the laryngeal mucus. No films were made from the joints. Cultures from the heart's blood and kidney were made on ascitic-glucose agar, no growth obtained. Cultures made from the pus outside of the larynx—on ascitic-glucose agar, developed a few fine bluish-white colonies. This growth was transplanted successfully to serum agar, but failed to grow when transplanted on neutral glycerin agar. Films from these cultures showed a diplococcus, decolorizing by Gram stain. Cultures made from the outside and inside of the larnyx on glucose agar failed to grow. Cultures from the lung showed staphylococcus pyog. aureus.

Case VIII.—Male, age five weeks (on admission). Family history negative. Personal history: healthy at birth. Did not have ophthalmia. Nursed two weeks, then fed on an artificial food. Losing weight, vomiting all food. Admitted to the Babies' Hospital January 28, 1903. On admission, weight

seven pounds two ounces. Physical examination negative. Child has been circumcised. No urethritis or signs of inflammation, no discharge. Eyes normal. No conjunctivitis.

February 10: Temperature elevated for first time.

February 11: Left wrist swollen and painful. Temperature 102.4°.

February 12: Slight conjunctivitis of left eye. Both knees and left wrist swollen and painful.

February 14: Left ankle swollen and hot.

February 15: Eye apparently healed. Temperature still irregularly elevated.

February 16: Left wrist incised—stringy yellow pus pressed out of pockets, probably from tendon sheaths.

February 18: Right knee greatly swollen, joint aspirated several c.c. of greenish, thin pus withdrawn. Left knee and temperomaxillary joint swollen.

February 23: Stools thin and frequent. Temperature now normal. Right temperomaxillary joint opened—several c.c. of pus pressed out.

February 26: Small swelling over tendon of left biceps. Other joints have subsided.

February 27: Abscess on left arm opened and considerable pus evacuated. Shoulder-joint apparently not involved. Bloody discharge from right ear. Stools normal. Temperature practically normal.

March 3: Small abscess over prominent point on left parietal bone. Center fluctuating.

*Bacteriological Report by Dr. Reed.*—Smears from the pus from abscesses about wrist and arm, from knee-joint and temperomaxillary joint showed numerous intracellular, biscuit-shaped diplococci, decolorizing by Gram. Cultures made on ascitic fluid-agar, ascitic fluid-bouillon, and placental blood-agar in forth-eight hours, showed a growth of typical diplococci decolorizing by Gram. The colonies on the blood-agar were larger and appeared sooner than those on ascitic fluid-agar. Microscopical examination of smears from the urethra, mouth, and ear failed to show any diplococci. Gram, negative. Smears from the left eye, February 13, showed typical gonococci. This eye developed after the joint involvement.

To summarize briefly the preceding eight cases: all were in infants under the age of three months. Seven were males and one was a female. It seems to be a very remarkable fact, that so many males should be affected, whereas out of over seventy females with well-marked vaginitis there was but one case of secondary gonorrhœal arthritis.

In six of these cases there was a purulent polyarthritis, periarthritis, and myositis, the disease being apparently a general pyæmia. In two cases only one joint, the knee, was involved. The ankles and wrists were the favorite seat of inflammation. In two cases the temperomaxillary joints were involved, and in three cases toe or finger-joints. In one case, which came to autopsy, eleven joints were found to contain pus.

The treatment in every case was incision (arthrotomy) or aspiration, wet dressings being applied to the affected parts. The rapidity with which the incisions healed and the joints were restored to normal was remarkable. The joints usually developed one after the other, the first healing often before the last became affected.

In none of these cases was there any urethritis, vaginitis, or conjunctivitis, with the exception of an ophthalmia in one instance (No. 8), which developed after the joint involvement. The mucous membranes of the eye, urethra, and vagina were apparently normal.

No history was obtained of gonorrhœa in the parent, nor of ophthalmia at birth, nor of other gonorrhœal manifestations in the child.

Microscopical examination of the pus obtained from the various joints affected in these eight cases showed, in every case, numerous diplococci somewhat biscuit-shaped, situated within leucocytes or free in the serum. These diplococci decolorized by the Gram stain, No other organisms were ever seen. Cultures were made from the pus obtained from the various joints in all the cases. No growth was obtained on any of the ordinary culture media, *i.e.* plain agar, glucose agar, bouillon, milk. In the last six cases growths were obtained by using media made from human sera, *i.e.* ascitic-fluid-agar and bouillon, and small colonies appeared in about forty-eight hours. Smears from these growths showed the same diplococci which decolorized by Gram's stain. In the first two cases no cultures were made on the special media, but no growth was obtained on the ordinary media. The organism was never transplanted successfully more than one generation.

Blood cultures were made in two cases, on serum media—but no growth was obtained. Animal inoculation was attempted intraperitoneally in one case. The animal still lives, four months after the injection.

Six of the cases have already terminated fatally; four of the deaths occurring during the acute stage of infection. The two other children died of marasmus several weeks after the joint affection had subsided. The two surviving children have now no signs of pyæmia, but their general condition is so poor that their final recovery is extremely doubtful.

Autopsies were obtained in three cases. The arthritic lesions, previously described, with purulent infiltration of the muscles about the joints and a slight bronchopneumonia were found in every case. In one case (No. 7) there was a purulent infiltration in the posterior wall of the larynx and two small abscesses between the larynx and the hyoid bone. Biscuit-shaped diplococci decolorizing by Gram were found microscopically in the pus and in the smears from the laryngeal mucus. Cultures from the abscesses were made on ascitic fluid-agar and on the ordinary media. A similar diplococcus was grown on the first medium; there was no growth on any of the other tubes.

The organism isolated from the abscesses and joints during life and from these autopsy cases were undoubtedly the gonococcus. Every possible effort has been made and every control used to establish the truth of this fact. Both the smears and the cultures from the pus were finally sent to the Johns Hopkins Pathological Laboratory and our diagnosis confirmed by Prof. W. H. Welch. During the epidemic these cases were under observation by Dr. Holt, in whose service many of them occurred, and to whom I am greatly indebted for the privilege of using them.

A remarkable feature of this series of cases is that we apparently have eight cases of gonorrhœal pyæmia without any perceptible involvement of a mucous membrane to afford a point of entrance for the organism to the general circulation.

Reviewing the possible portals of entry to the body, we believe we can exclude the skin and umbilicus in these cases, as there was no lesion of surface epithelium or sign of cord infection in any case.

The urethra and eyes in these pyæmic cases were invariably normal, and the microscopical examination of the secretions was negative.

The anus in one case (No. 5), which was syphilitic, may have been the source of infection. In no other case was there evidence of any rectal or gastrointestinal disease.

A stomatitis, like thrush, was present in the mouth of three of the children, and in one of these syphilitic mucous patches also existed. In one case intracellular diplococci, decolorizing by Gram, were found in the mouth-scrapings; but it was impossible to isolate the organism and prove it to be the gonococcus by culture. The findings in this one case were so suggestive that a hasty search was made through the literature to find if the aroused suspicion that the gonococcus could cause a stomatitis, and from this a general pyæmia was substantiated by similar cases.

Gonorrhœal stomatitis in the new-born and in infants is a disease of which we have numerous instances reported in this country and abroad. Dr. Kraus, in the Nothnagel-Series, discusses the subject briefly, describing the characteristics of the inflammation. He pointedly remarks that as yet there are no cases reported of visceral manifestations following this form of gonorrhœa, as in the urethral and vaginal infection, but that the cases on record are still few and were easily cured.

These cases of pyæmia in which the only inflammation of a mucous membrane was in the mouth are certainly suggestive of such a mode of general infection.

The possibility of a respiratory portal of entry is strongly indicated in one case (No. 7) in which the infiltration of the trachea was found at autopsy, and the gonococci were grown in cultures from the mucous membrane and from the abscesses in the adjacent tissues. During life this case had suffered severely from stomatitis. The infection undoubtedly must have occurred in all severe cases through a mucous membrane; and the evidence, such as it is, points to the mouth or larynx as the most likely point of entrance for the organisms. The evidence is principally negative—the mucous membrane of the mouth and respiratory tracts only exhibiting lesions in three cases, and not of such severity as to be perceptible on ordinary examination; but no other mucous membrane of the body showed evidence of disease, except in the one syphilitic case. This mode of infection, which has hitherto been thought impossible, we believe to have occurred from contamination by the nurse's hands during the necessary cleansing of the mouth. In the usual routine observed in washing children in the Babies' Hospital, the mouth and eyes have been the first parts attended to and the lower part of the body the last; a rigid adherence to this order would, of course, make a mouth infection impossible. We regret to say, however, that there is strong evidence that this is not the order always observed, careless nurses sometimes washing the mouth last. This is another example of the extreme ease with which slight negligence may lead to serious results in starting an epidemic of an alarming nature.

### Conclusions.

1. Gonorrhœa prevails among infants and children to an extent not fully appreciated by the medical profession at large, and has become a common epidemic in institutions where numbers of children are placed together.

2. The ordinary clinical forms which the gonococcus infection assumes in children are ophthalmia, vulvovaginitis, and pyæmia.

3. A series of cases of pyæmia, reported in this paper, occurred in infants, in whom no local lesion could be found to explain the mode of entrance of the organism to the general circulation.

4. The suggestion is made, that from a stomatitis due to the gonococcus such a systemic infection may arise. Gonorrhœal stomatitis in infants is a disease that needs further study.

5. Only by careful exclusion, by microscopical examination, and by complete isolation can this disease be absolutely debarred from a hospital where infants are cared for.

6. There is urgent need of public enlightenment on this subject. Those in charge of institutions for children, trained nurses and even parents, should be taught the frequency and virulency of this infection and the ease with which it is spread. It should be the duty of health authorities to include gonorrhœa among the acute infectious diseases of children.

The writer is indebted to Dr. Dorothy Reed, resident physician at the Babies' Hospital, for the bacteriological work and other valuable assistance in the preparation of this paper.

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## TERMINAL SYPHILIS AND TABES.

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There is probably no organic disease of the nervous system which admits so readily of diagnosis as does typical tabes dorsalis, locomotor-ataxia, or as it is sometimes called posterior spinal sclerosis; and it can be said with equal truth that in its earlier stages, it is five times out of ten wrongly diagnosticated. This latter fact strongly impresses itself upon anyone who devotes especial attention to the study of nervous diseases, and the only explanation that suggests itself, is that practitioners, notwithstanding the relative frequency of the disease, have failed to familiarize themselves with its earlier and less obtrusive signs and symptoms.

The term "tabes dorsalis" was used by ancient writers not in the sense now employed, but to indicate a wide diversity of ailments depending most often on sexual excess. Our present conception of tabes dates from the middle of the nineteenth century, when through the writings of Todd in England, Romberg in Germany, and Duchenne in France the profession was taught a general knowledge of this affection. Since their time important contributions to the subject, especially clinical, have been made by many clinicians; of these Argyll-Robertson, in 1869, described the pupillary phenomenon which bears his name and which consists in a non-responsive condition of the pupil to light; and Westphal, in 1875, who pointed out that the knee-jerks of tabetics were absent.

Much has been written on the etiology of tabes, and since Fournier and Erb established the connection between syphilis and this disease it has been quite generally conceded by competent observers that a previous luetic infection is necessary, in most cases at any rate, for the development of tabes. There are but few, however, who admit that tabes is exclusively dependent upon a previous luetic infection; that is, most neurologists hold that there is *something* other than previous syphilis necessary to cause the disease. This something may be a neurotic predisposition or it may be a diathesis.

At present syphilis is looked upon only as an indirect cause of tabes. In other words, tabes is classed not as syphilitic but as a parasyphilitic disease, and this has recently been defined as "a disease syphilitic in origin but not in nature." The term parasyphilis was introduced by Fournier, and

is intended to convey the idea that diseases thus designated are dependent upon syphilis though themselves not syphilitic. I consider this term parasyphilis as vague and misleading (at any rate in so far as it applies to tabes and general paresis), and would suggest in its stead the designation TERMINAL SYPHILIS. This expresses more aptly what in reality we are justly entitled to believe is the true state of affairs; namely, the changes indicating the terminal activity of the syphilitic virus. Again it is more in accord with our present terminology of syphilis, which admits of primary, secondary, and tertiary stages, and which would be uniform and complete with the addition of a terminal stage. Ogilvie,* in an address on parasyphilis, delivered before the Fourteenth International Congress of Medicine at Madrid in April of this year, said "The theory of parasyphilis is bound to lead to direct opposition with facts, because the premises upon which it is reared are fallacious and because it is based on a wrong notion of specificity."

The chief reasons advanced in opposing the syphilitic nature of tabes and at the same time tending to justify the usage of the term parasyphilis may be briefly summarized as follows: (1) The statistics of tabes which always contain a percentage of apparently non-syphilitic patients. (2) The morbid anatomy of tabes which is said not to exhibit the lesions of syphilis. (3) Uselessness of anti-syphilitic medication in the treatment of tabes. (4) The rarity of tabes as compared with syphilis. (5) The comparatively infrequent occurrence of tabes in races in which syphilis is very prevalent (Chinese, Negroes, etc.), and (6) the infrequency of tabes among prostitutes.

At first glance the above facts seem to constitute a convincing argument that tabes is not a syphilitic affection. I take it, however, that a comparative analysis of these facts tend rather to prove than to disprove the luetic origin and nature of tabes.

It is true (as the accompanying table taken from an article by Collins *Medical News*, January 3, 1903, shows) that a certain small percentage of tabetics

| | Men and Women. | | | |
|---|---|---|---|---|
| Reporter. | No. of Cases. | Syphilitic. per cent. | Positive. per cent. | Possible. per cent. |
| Erb | 1,000 | 90 | .. | .. |
| Fournier | 1,000 | 93 | .. | .. |
| Redlich (Vienna) | 102 | 90 | 80 | 10 |
| Gowers (1889) | 170 | 69 | .. | .. |
| Bonar (Starr's Clinic) | 286 | 69 | 58 | 11 |
| Thomas (Johns Hopkins Clinic) | 111 | 63 | 42 | 21 |
| Kuhn (Jolly's Clinic) | 214 | 75 | 50 | 25 |
| Silex (Tabic Optic Atrophy) | 54 | 81.5 | .. | .. |
| Dinkler (private cases) | 37 | 93 | .. | .. |
| Halban (Krafft Ebing's Clinic) | 236 | 86 | 78 | 13.5 |
| Steligmann (Fischer's material, Constance) | 100 | 86 | .. | 4 |
| Motschutkowsky | 1,662 | 71.5 | 36 | 35 |
| Guttman (Leyden's Clinic) | 111 | 69 | 35 | 34 |
| Thones | 48 | 62-70 | .. | .. |
| Touche | 23 | 55 | .. | .. |
| Anfinow | 322 | 81 | 60.4 | 20.5 |
| Dana | 50 | 68 | .. | .. |
| Riley | 61 | 71 | 48 | 23 |
| Hirt | 247 | 90 | .. | .. |
| Nose (Japan) | 96 | 58 | 48 | 10 |
| Borgherini | 68 | 69 | 32 | 37 |
| Bramwell | 155 | 76 | 56 | 10 |
| Collins | 130 | 80 | 70 | 10 |

apparently never have had syphilis, but when we consider how easy it is for one to have been infected with syphilis and not know of it, or through diffidence deny it; does it not seem remarkable that the percentage of tabetics denying an antecedent syphilitic history is not far greater? Fournier, in examining thirty-six patients suffering from gumma of palate, found that of this number 44 per cent. denied all knowledge of ever having been infected with syphilis; from this are we to conclude that gummata are not in nature, necessarily syphilitic? Unless we do, we are inconsistent and illogical in employing similar facts as arguments in an attempt to prove that tabes is not a syphilitic disease. Recently I saw a man recovering from spinal lues who was positive he had never had syphilis, and so far as I could elicit he apparently never had given the least evidence of it prior to the development of the condition from which he was then recovering. I do not relate this case because it is in the least uncommon, for similar examples are familar to all who see any considerable number of nervous patients—in fact, I have seen more patients with cerebral or spinal syphilis than I have tabetics, who denied a luetic history.

One naturally asks why so many are ignorant of having suffered an infection that is generally looked upon as producing a characteristic lesion at at the seat of its inoculation, and yet is followed by secondary manifestations that make the diagnosis certain. One, and the least important, reason for this I have referred to before; namely, a wilful denial on the part of some patients (especially women), owing to a desire not to incriminate themselves. Another and a more important reason is that syphilis in a considerable number of cases occurs as an extragenital infection, and still another and almost equally important factor is that syphilis need not necessarily produce at the seat of its inoculation reactions in the tissue that are suggestive in the least of chancre. Finally the secondary manifestations generally looked upon as necessary to corroborate the diagnosis of syphilis may be so slight as to escape the notice of the patient or may be wanting altogether.

Ignorance of a syphilitic infection may in some be due to the fact that the disease was contracted in early life. During the present year I saw three children, all girls under the age of five, suffering from syphilis contracted from their parents. If in later life these children should develop tabes they would, of course, deny ever having had syphilis. How many similar cases are embodied in the statistics we have at hand it is impossible to estimate, but to conceive that there are some requires no great stretch of the imagination.

In asserting so positively that the lesion of tabes is not in nature syphilitic we fail to take into consideration the fact that the infectious agent of syphilis has not as yet been recognized; such being admittedly true, how can we so confidently assert that this lesion is syphilitic and that one is not? That this fact be more forcibly impressed upon us we have but to go back a few years when it was customary to find the profession asserting with the same positiveness in the case of diphtheria that certain lesions were diphtheritic and others were not; but since the discovery of the Klebs-Loeffler bacillus it has been clearly demonstrated that in a strict sense there is no such thing as a characteristic lesion of diphtheria. It is true the typical early and many of the later lesions of syphilis are quite easily recognized, but are we to say the lesion of tabes is not syphilitic because it does not resemble these?

I believe a study of syphilitic phenomena in general warrants the assumption that syphilis is a disease of extremely slow evolution; in other words, the syphilitic virus (or whatever the infective agent may be) undergoes in the body, as time advances, a transformation which endows it with the power of initiating in the organism structural changes, corresponding to more or less definite periods in the evolutionary cycle of the virus; the ultimate product of its activity being represented in the so-called parasyphilitic or, as I would prefer to designate them, ***terminal syphilitic*** affections. And of these the principal examples are met with in the

*Lancet*, June 13, 1903.

central nervous system; namely, locomotor ataxia and general paresis. Now if we accept this hypothesis as to the slow evolutionary nature of the syphilitic virus we must admit that changes characteristic of its terminal stage should, of necessity, differ from those of the preceding stage, just as to the changes of this, the tertiary, differ from those of the secondary and primary stages. The changes of the terminal stage being we consider as truly syphilitic as any other stage of the disease, in origin and nature as one.

The fact that anti-luetic medication is valueless in the treatment of tabes is one of the strongest arguments advanced against the syphilitic nature of this disease. We all know that the iodides and mercury are useful in the earlier stages of syphilis in so far as they remove subjective and objective evidence of the disease; we further know that there are many recognized syphilitic affections, especially in the so-called tertiary stage, that are not benefited particularly, if at all, by this line of treatment, and from the number of syphilitics who have received a thorough course of treatment but who later develop tabes we may justly infer that the iodides and mercury do not possess the curative qualities generally accredited to them, but instead their power is in the direction of removing the outward evidence of syphilis in its earlier stages rather than in affecting its cure; and this power is completely lost in the terminal stage (parasyphilitic) for reasons that are quite obvious; namely, changes in the character of the lesions. Of course I do not wish to be understood as saying that the so-called specific treatment of syphilis is never curative, for there is ample evidence to show that apparently in many instances it does as is claimed, but on the whole it is not the specific *par excellence* that syphilologists would have us believe, and its value as a criterion by which to judge the specificity of a disease is extremely uncertain. This is clearly expressed by no less an authority than Hutchinson, when he says "Those who think that the results of treatment by specifics may be relied upon as establishing the diagnosis may easily make great mistakes, syphilitic affections often resist treatment for a long time (I may add, even altogether), and on the other hand mercury and the iodides often effect the greatest possible good in cases which are not syphilitic." Any one who has watched the progression of the symptoms of syphilis, and especially in connection with the operation of remedies, must have realized a relationship which might be expressed as follows: Syphilis is manifested by a well-defined succession of stages or periods, with intervals of apparent submerged, or quiescent action of the virus; each period or stage of the disease becomes longer corresponding to the order of its sequence; the efficacy of treatment diminishes directly according to the progression of the stages.

It is true, as claimed, comparatively few syphilitics develop tabes, but I fail to see how this fact can in the least militate against the syphilitic nature of this disease. If this argument possesses any value in tending to demonstrate that tabes is not a syphilitic but a parasyphilitic affection, why do we admit, with similar evidence before us, that there is an alcoholic neuritis instead of a paralcoholic neuritis? Surely the occurrence of alcoholic neuritis is exceedingly rare compared with the number of individuals who habitually use alcohol to excess. Those who advance this argument evidently lose sight of the fact that tabes is but one terminal syphilitic affection, there are many others—as, for example, general paresis, which is about as frequent as tabes itself—and if we add these together we will find that there is not so striking a disproportion between primary and terminal syphilitic affections. There is, however, very naturally a disproportion, and this is as it should be when we consider that our organism is endowed with a defensive mechanism which enables it, in most instances, to engage in battle and defeat any agent which, when introduced into our body, is inimical to its well-being.

Occasionally in the case of syphilis (as in every other disease) the infecting agent is capable of holding its ground against our defensive mechanism, and in the case of syphilis is thus able to produce in a comparatively small percentage of cases tertiary symptoms, and in a still smaller percentage terminal symptoms. In this respect it is instructive to note that it is the exception rather than the rule to find patients suffering with tabes giving a history of a severe syphilitic infection. In fact, in most instances the primary and secondary manifestations are described as having been mild in type. But when we find tabes developing in from six to twenty years after such an infection, I believe it is a positive answer that the primary infection was not less virulent than is usual, but rather that the organism, in the first place, failed to react to the presence of the virus as it should, the virus thus being permitted to continue its evolutionary cycle practically unopposed.

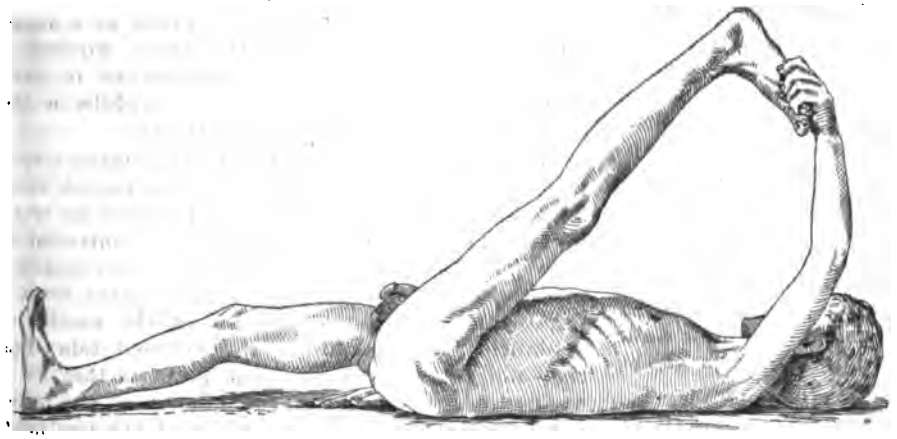
The rarity of tabes among certain races (Negroes, Chinese, etc.) accredited with being syphilitic I believe is to be accounted for, first, on the ground that since such races have by their mode of living acquired so unenviable a reputation, they for the very same reason have acquired a more perfect physiological method of combating the disease; and, second, such races are not to any great extent exposed to the enervating agencies that go hand in hand with higher civilization and which play indirectly so important a rôle in the causation of tabes.

The infrequency of tabes in prostitutes is pointed to as most convincing proof that tabes is not a syphilitic disease, and the very authorities who ask us to accept this tell us in the same breath that sexual excess, alcohol, and excesses in general are all capable of causing tabes. If this is so, it is very singular that there are not more prostitutes affected with tabes. For if there is a class of people in this world in which sexual excesses and general dissipation are inseparably associated it is in this class of unfortunate creatures. They may have been taught to protect themselves against syphilis, but they never can protect themselves against sexual excess and seldom do against alcoholic dissipation. If then the rarity of tabes in prostitutes can be pointed to as tending to show that tabes is not a syphilitic disease it should also be pointed to as constituting an unanswerable argument that tabes cannot be caused by sexual excess, alcohol, or dissipation in general. I believe, in part, an explanation of the rarity of tabes in this class of women, is, that possibly they are not syphilitic as often as we suppose. It is well known that tabes is much more frequent in men than in women. This has been accounted for on the ground that men are more exposed to syphilis and to those agencies reputed to be contributory in causing tabes than are women, but when we turn to prostitutes this reason does not seem to possess much value. So I believe we are justified in assuming that either women, as a class, are endowed with a more perfect immunity against terminal syphilitic sequelæ of the nervous system than are men, or that they are not syphilitic (including prostitutes) nearly so often as are men.

Alcohol, sexual excess, and the "strenuous life" occupy an important rôle in the etiology of tabes only in so far as they cause a depreciation of vitality in the neuron, which permits the poisons engendered by the luetic infection to attack the neuron with increased virulence.

The disease is commonest in the middle period of life—35 to 45 in men and 30 to 40 in women. It, however, occurs at times in persons much older and younger. Bramwell records a case in which the disease began in a man at the age of seventy-three years and Collins one at the age of sixty. When occurring under the age of twenty years the term juvenile is applied, or if much younger, during the first few years of life, infantile. The disease at this period is extremely uncommon, and is probably due to hereditary syphilis.

Among observers who have not devoted especial attention to the subject the question is often asked if injuries, especially of the spine, are not a cause of tabes, for patients not infrequently attribute their illness to this cause, and this they are especially liable to do if the injury, however slight, was sustained under conditions which suggest the possibility of remuneration if the case be carried to litigation. There are many reported cases of tabes seemingly due to trauma, but the number reported without a co-existing syphilitic history is exceedingly small, so that one is forced to the conclusion that the *rôle* (if any) assumed by trauma in the etiology of locomotor ataxia is similar to that of alcohol and other depressing agencies.



Showing rather extreme cases of muscular hypotonia in tabes dorsalis.

As the lesion of tabes is primarily one of the posterior columns of the cord or of the peripheral sensory neuron, it follows that the symptoms first presenting themselves should be those depending upon irritation in these tracts. This is what occurs, and in the vast majority of cases pain or paræsthesia, involving usually the legs, is complained of first. The paræsthesia which the patients most often describe as numbness, but which may be any perversion of sensation, is confined to a limited portion of one foot or leg, or may involve the body from the waist down, or more rarely is confined to portions higher up, as the hand or arm; when occurring around the waist it is often referred to as the girdle symptom. The pain may be shooting, lighting-like, or dull in character; it is usually intermittent, and seems often to be aggravated by damp weather. It is at this period that patients consult the family physician, and it is at this period that the diagnosis "rheumatism" is often made. I have rarely seen a patient with tabes who has not been under treatment for a considerable period of time for rheumatism, and this notwithstanding the fact that often many of the signs pathognomonic of the disease were already present.

Occasionally one of the earliest and most distressing symptoms is paroxysms of coughing or retching and vomiting with gastric pains and possibly diarrhœa, constituting respectively the laryngeal and gastric crises. In a limited number of cases diplopia will be the first symptom complained of. Disturbance of the urogenital system is usually an early sign, and may manifest itself in incontinence or retention of urine, or in some interference of the sexual function; as diminished desire, capacity, or complete impotency. The bowels are apt to be constipated. Any of these symptoms alone or in combination may continue for months or years without change when added to them will be some disturbance of locomotion, as difficulty in going up or down stairs, or when walking in the dark, or a tendency to fall, especially on turning corners, or as in the case of commuters when running to catch a train, a giving away at the knees is complained of, this being due to muscular hypotonia. The latter condition is well illustrated in the accompanying illustrations, taken from a patient in the clinic of Prof. Joseph Collins. It consists, in a diminution of the normal muscular resistance, which can be demonstrated by placing the limbs or body in positions that ordinarily are not possible in health. It is in reality the opposite of spasticity, which is characterized by an increased resistance to passive movements; while in muscular hypotonia there is a diminished resistance to passive movement. Muscular hypotonia is therefore often a valuable sign in early tabes.

As the disease advances the patient experiences difficulty in walking under any condition, and soon develops the gait and posture so characteristic of the disease; the eyes are kept on the ground, the body bent slightly forward, the legs lifted forcibly and the feet brought sharply to the ground, heels first. After several years in this condition, unless properly treated, the patient loses entirely the power of walking, becomes bed-ridden, where he may remain for many years, finally dying of some intercurrent disease.

When, therefore, a patient presents himself, complaining of any of the symptoms above enumerated, it is incumbent upon the consultant to institute so thorough an examination of his patient that the signs of tabes, if present, will be revealed. With that end in view the patient's entire clothing should be removed.

Note if there is any ataxia of station, so-called Romberg sign, consisting of swaying of the body when the eyes are closed and the feet in apposition. Observe if there is any ataxia of the upper or lower extremities; examine knee-jerks and Achilles jerks, the latter may be the first to disappear, and the former disappear early except in high tabes, or are only brought out slightly on reinforcement.

The pupils may be unequal in size, but are more apt to be equal and small, and in the early stage they may respond sluggishly to light, but later they lose this power, but usually continue to react to accommodation; the so-called Argyll-Robertson pupil.

Objective sensory disturbances are nearly always an early sign in tabes and may consist in a small area of complete or partial analgesia often found only on the outer side of the leg. There may be areas of anæsthesia, or the sensations may simply be delayed in transmission. Areas of hyperæsthesia are common, especially in the very early stages.

Probably the physical signs of tabes are presented for a considerable period of time prior to the development of symptoms that attract the patient's attention to any great extent. Therefore when the tabetic consults a physician because of paræsthesia, pain, loss of sexual desire, or other symptoms of similar significance, he is likely to have physical signs that are characteristic of the disease, and of these the most important are loss of the knee and Achilles jerks and the presence of the Argyll-Robertson pupil. But odd as it may seem there are cases in which these important signs are reversed. This is shown by the following history of a patient I saw recently.

X., American, age thirty-five years, single, occupation baker, was seen in Dr. Collins' clinic. Nothing of importance in family history, has been a very moderate beer drinker but an excessive smoker. He had never been seriously ill. Denies absolutely a venereal history. His present complaint dates from an attack of diarrhœa, vomiting, and abdominal pain which occurred seven months ago; he was confined to his bed for several weeks, and upon getting up he noticed a numb sensation around his waist, which rapidly extended to and involved both lower limbs. These symptoms continued for two months; then he began to experience difficulty in going up or down stairs; a giving away at the knees and a sensation as if carpet were interposed between the soles of his feet and shoes. Transient attacks of diplopia occurred at this time. During the past two months he has been gradually getting worse, he cannot walk well in the dark, and when walking in the street must keep his eyes on the ground.

On examination there was found slight ataxia of station and gait. His pupils were equal and responded promptly to light and accommodation and his knee and Achilles jerks were distinctly lively, as were his plantar reflexes, which were of the flexor type. Aside from quite pronounced hyperæsthesia over legs and lower portion of body there was no other objective sensory disturbance. Hypotonia could be demonstrated by the freedom with which the limbs could be moved in extreme positions. His bladder function was normal, but he is subject to attacks of abdominal pain and diarrhœa occurring possibly every month or so.

This case is unquestionably one of tabes, the lesion not as yet having progressed beyond an irritative stage, which accounts for the occurrence of paræsthesia, hyperæsthesia, and lively reflexes. It also serves to illustrate a case beginning with the gastric crisis. Such atypical cases are relatively rare, and the vast majority of tabetics may be said to conform to a fairly regular type, which admits readily of detection if one proceeds with the examination of the patient in a routine manner.

Many interesting signs and symptoms occur in the later stages of the disease, but we may pass them by, as our concern is with the importance of making the diagnosis early. Therefore only the most important initial manifestations of any diagnostic value have been brought forward.

We should at once become suspicious of tabes if a patient presents himself for examination giving a history of syphilis, the disease having been contracted six to twelve or more years before and complaining of paræsthesia or pains, especially in the legs, or of diplopia or any disturbance of the urogenital or gastrointestinal systems. No doubt one's suspicions will be more quickly aroused if the patient presented some difficulty in locomotion, but, as a rule, this sign does not belong to an early period of the disease. Tabes in its various stages is to be distinguished from chronic myelitis, multiple neuritis, spinal tumor, spinal syphilis, general paresis, Friedrich's ataxia, hysteria, and neurasthenia.

The prognosis in tabes depends largely upon the clinical type of the disease; but as regards cure it is practically hopeless, although under proper treatment and régime the patient may live anywhere from ten to thirty years, and his usefulness as a unit of society need not be particularly curtailed. In the so-called cervical tabes, which fortunately is quite rare, death is likely to occur early, owing to implication of important centers in the medulla.

When one considers the cause of tabes, its prophylaxis theoretically is easy; namely, the prevention of syphilis; but it is needless to say that the accomplishment of this ideal to any appreciable extent, is well-nigh impossible so long as the laity at large, even educated people and, perhaps, occasionally the physician, look upon syphilis as a disease whose worst features are the time required in effecting a cure and the inconvenience of treatment. Not the least danger of syphilis is this complacent disregard of its aftermath.

We find, too, that patients develop tabes after a thorough course of anti-syphilitic medication about as often as do those who have received no treatment. This latter statement is not intended to convey the idea, however, that anti-syphilitic medication is valueless in preventing tabes, for it is impossible to form an estimate of the number of syphilitics who would have developed tabes had they not taken treatment, the point is that one is by no means safe from the effects of the luetic poison, even though he has received the treatment recognized as "specific."

Syphilis having been contracted, our prophylaxis resolves itself into insisting that the patient submits to a thorough course of appropriate treatment; and further, we should impress upon him the necessity of leading a life free from those cares and excesses which are reputed to assist in the development of tabes.

When tabes has developed, the treatment consists in placing the patient under conditions that will guarantee him immunity from physical and mental strain and excesses of all kind. He should so far as possible guard against inducing leg weariness, as this tends to aggravate the disease. As general tonic agents fresh air and hydrotherapy are of service. For the ataxia, which is so distressing a symptom when the disease is well developed, the Fränkel movements are of great service, and if properly carried out the benefit derived is often very gratifying. Electricity is used very extensively in the treatment of this disease, but it practically does no good other than to maintain the nutrition of the muscles, but for this purpose it is inferior to massage, which is an excellent agent. The static spark and the high-frequency currents often seem to relieve the paræsthesia and pain. The use of electricity also gives

the patient confidence that something is being done for him, and in this way tends to mitigate distressing mental symptoms. The galvanic current is useful in some cases and should be applied with the positive pole over the chest and the negative along the spine every day, or every other day, and long enough to induce a hyperæmia. A current of from ten to fifteen milliamperes is sufficient, but as the patients are often wholly or partially anæsthetic, they will endure a much stronger current without complaining. This, however, should not be given them.

Drugs are of little, if any, service aside from their action as general tonics, and for this purpose strychnine, potassium iodide in small doses, and the organic preparations of iron are good. Nitrate of silver is seldom used now because the benefit derived, if any, is offset by the discoloration it produces in the skin. As has been said before anti-syphilitic medication *per se* is valueless in tabes; in fact, it is contraindicated, as it is likely to disturb digestion and lower the resistive power of the individual. If the symptoms of tabes, however, should develop within five years after luetic infection, or if there is any evidence of exudative syphilis in the individual, we should place the patient upon anti-syphilitic medication, as we may be possibly dealing with a spinal lues, or, in other words, tertiary syphilis, that resembles tabes or terminal syphilis and to which the term pseudotabes is applied.

The current theories of the pathogenesis of tabes are so well known that nothing is gained by reviewing them here; in fact, none of the hypotheses tending to explain the origin and course of the lesions are entirely satisfactory. A recent theory, however, by Marie and Guillian* bids fair to become a very important one in the pathogenesis of tabes, for it directs attention to disturbances in the lymphatic system of the spinal cord. Changes in the spinal lymphatics as a remote or direct consequence of syphilitic infection seems to have been considerably neglected by patho-anatomists compared with the enormous amount of work upon other structures of the cord, and Marie and Guillian bring a very timely and possibly the most satisfactory explanation of the lesions.

These authors have studied especially the lymphatic structure of the spinal cord and membranes and conclude on patho-anatomical grounds that the posterior division of the spinal pia communicates very little or not at all, with the pia of the lateral and anterior regions. They are inclined to view the lymphatics of the posterior spinal pia as an independent system.

The authors then discuss the lymphatics of the spinal cord. These are but little known, but by experimental injections of the substance of the cord by colored liquids; the pathway chosen in injections of bacteria; by the determinate course of extravasations of blood in hematomyelia; and also by the study of a very early case of tabes by the method of Marchi, in which the distribution of the black Marchi droplets remained confined to the posterior column lymphatics, the authors conclude that the lymphatics of the posterior columns constitute a distinct and autonomous system.

The writers believing, then, that both the posterior columns of the cord, together with the posterior spinal pia, have a separate system of lymphatics, go a step further, and conclude that the whole posterior system of the spinal cord, namely the posterior roots, the posterior segment of the pia, the intramedullary continuation of the posterior roots—the columns of Burdach and Goll—constituting a more or less compact unified physiological system, has also its accompanying distinct, separate and dependent lymphatic system. In brief, this unified anatomical and physiological system has in its nutritive and excretory functions an equally parallel and independent system of lymphatics—independent in the sense of being apart from the general spinal lymphatic system. Thus in the two systems, each complete and more or less independent, the activities of the one work hand and hand with the other.

It remains now in view of this discovery—if such it proves to be—of the separate character of the lymphatics of the posterior system, to inquire into the origin of the tabetic process. The authors think the question has been simplified by their theory of infection of the posterior lymphatic system. In fine, they regard the tabetic process not as a lesion of the posterior root axones nor indeed of the neuroglia, but simply as a syphilitic disease of the posterior lymphatic system; a syphilitic lymphangitis of the posterior columns, roots and pia. The writers do not state distinctly the character of this syphilitic lymphangitis, but it is to be presumed that the process is one inducing adhesions or occlusions of the lymphatic crevices as the primary starting point of the tabetic lesions. Nor do the authors enter into the question of the parasyphilitic, or, as I have preferred to designate it, terminal syphilitic rôle in the production of this lymphangitis.

The weight of evidence, however, in our present contemplation of the syphilitic induction of several chronic neural lesions would be in favor of the late or terminal action of the syphilitic poison. This seems probable, for the tabetic lesion, granted that it is a primary occlusion of the lymphatic spaces, never shows the structural features of an acute and richly cellular change in the cord, like that in acute and subacute syphilis, which we may regard as an active and relatively early expression of the syphilitic virus. On the contrary, the changes in tabes are exceedingly slow and gradual; the progression at times is indeed by infinitesimal increments; the new tissue in the cord is never luxuriant in cells, but consists of slow accretions of neuroglia, with corresponding diminution of nerve fibers which we may justly regard as typical of terminal syphilitic affections of the nervous system.

Certainly the views of the French authors open up new fields of survey of the origin and course of tabes, and incite renewed interest in the morbid anatomy of this disease. While the hypothesis of Marie and Guillain does not explain the discrimination and selection of the posterior system of the cord by the syphilitic virus, it does explain why when this region has been infected the pathological changes set up therein do not as a rule exceed its bounds.

I am very much indebted to Dr. Joseph Collins, from whose Clinic this paper emanates, for the use of his rich material on this subject.

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**Cicatricial Deformities in the Respiratory Tract Due to Causes Other Than Syphilis and Traumatism.**—From a collective investigation based on 300 replies sent to a circular letter issued by G. H. Makuen, he finds that this number of observers have seen 449 cases of cicatricial deformities in the respiratory tract that appear not to be due to syphilis or traumatism, and that 16 per cent. of these were caused by diphtheria, 8 per cent. by scarlatina, 3 per cent. by lupus, 1.6 per cent. by tuberculosis, 1.5 per cent. by scarlet fever and diphtheria combined, 1.1 per cent. by typhoid fever, and 0.5 per cent. by measles. Other causes given in the nostrils are membranous rhinitis, catarrhal erosion, smallpox, scleroma, septal abscess, erysipelas, and pemphigus.—*The Laryngoscope.*

# TRAUMATIC SEPARATIONS OF THE LOWER EPIPHYSIS OF THE HUMERUS AND THEIR TREATMENT BY THE EXTENDED POSITION. WITH REPORT OF TWO CASES.*

By GILBERT GEOFFREY COTTAM, M.D.,
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UNDER the caption of "Problems of Clinical Anatomy,"[1] Thomas Dwight, the Harvard anatomist, recently read a paper, the purpose of which was to show how inexact a science anatomy is, notwithstanding the traditional belief to the contrary. His argument was based upon the wide variation met with in the different anatomical structures, and his views will be concurred in by all whose knowledge of anatomy has been derived from a considerable experience in the dead-room.

The resultant difficulty of determining upon a standard for descriptive purposes has led to no little confusion, which has been greatly augmented by the lack of a standard of nomenclature.

To any one writing of the elbow-joint this is especially apparent, there being a singular want of uniformity among the existing descriptions of the lower end of the humerus.

The most satisfactory is that of Krause,[2] based upon developmental grounds, defining the lower end of the humerus as comprising the internal and external epicondyles, the trochlea, the capitellum, and the coronoid and olecranon fossæ.

In considering the subject of epiphyseal separations it is desirable that we have a general understanding of the postnatal development of the part involved, bearing in mind that this, too, is subject to a wide degree of variation.

In this instance there are four ossific centers, *i.e.* one each for the internal and external epicondyles, the trochlea, and the capitellum. That for the capitellum appears about the third year, for the internal epicondyle at about the fifth year, that for the trochlea at about the twelfth year, and that for the external epicondyle at about the fourteenth year. About the fifteenth year the trochlear and capitellar portions fuse together, being joined a little later by the external epicondyle. These three units constitute the true lower epiphysis of the humerus, and undergo osseous fusion with the shaft at about the seventeenth year. The internal epicondyle remains separate for several years longer, ultimately becoming joined to the shaft direct.

Of especial clinical importance is the extent to which the epiphysis participates in the formation of the olecranon fossa. At birth it constitutes the lower one-fourth, but as growth proceeds it encroaches upon the fossa less and less until, at the twelfth year, it forms but the lower margin of the cavity. In separations of the epiphysis in early childhood, then, followed by exuberant callus production in the reparative process the olecranon fossa will be more or less filled up, with consequent limitation of extension of the forearm. This, it will be seen, is one of the arguments in favor of the extended position in the management of these injuries.

The diagnosis of separation of the lower epiphysis of the humerus, indeed of all elbow-joint injuries in childhood, is often a matter of great difficulty. As guiding points we have the history of the accident, the age of the patient and the evident location of the injury very close to the elbow. The symptoms are: (1) early and extensive swelling—which also serves to further obscure the diagnosis; (2) preternatural mobility; (3) deformity, which is readily overcome, but easily reproduced; (4) muffled crepitus—a very suggestive term first used by Poland; (5) shortening of arm; (6) limitation of active movements by pain; (7) ecchymosis about the elbow.

It is particularly essential to differentiate between this lesion and backward dislocation of the ulna. In the latter we may have early and extensive swelling, and very likely limitation of active movements and the ecchymosis of the parts about the elbow, but instead of abnormal mobility there will be fixation, the deformity, instead of being readily overcome and easily reproduced, is difficult to overcome, and has no tendency to relapse, and there is no crepitus or shortening of the arm. E. Albert of Vienna[3] furnishes an additional aid to the differentiation of the two lesions. He says "It is evident that the forearm, in company with the lower fragment, can be displaced backward. The olecranon is then prominent posteriorly, and is displaced upward; the radius has left its normal position, and the forearm is shortened. The symptom-complex resembles that produced by a dislocation. Palpation discloses the tip of the olecranon above a line drawn between the epicondyles, and as the relative position of the olecranon to the epicondyles is altered, we are led to assume that a dislocation exists. But, on testing flexion beyond a right angle, no resistance is encountered. This seeming incongruity—viz., relation of the anatomical points, as in dislocation—combined with unimpaired flexion, is characteristic of epiphyseal separation."

*Treatment.*—A casual survey of the literature shows that writers of the present day are far from being agreed as to the proper angle at which the arm and forearm should be retained after reposition of the fragment. Appended are a few opinions:

*Jonathan Hutchinson, Jr.*. The muscles retain the lower fragment in such a position that the joint itself is always flexed; and, therefore, if we straighten the arm there will be backward displacement.[4]

*Poland* is of the opinion that epiphyseal separation of the lower end of the humerus is best treated by the flexed (rectangular) position, however strongly the position of full extension may be urged in the treatment of some of the other forms of injury to the elbow-joint.[5]

*H. R. Wharton* advocates placing the forearm at an obtuse angle or at an angle of less than 90° with the arm.[6]

*L. S. Pilcher:* "By placing the forearm in the extended position the humero-ulnar angle can be kept under control; but as some anterior rotation of a condyloid fragment is inevitable . . . the probabilities of late functional impairment of the joint are increased, and in case of ankylosis the position of the joint is the most objectionable that could be produced." He therefore advocates the H. L. Smith position of acute flexion.[7]

*L. A. Stimson and E. L. Keyes, Jr.:* Advise immobilization with the elbow flexed at right angle and the forearm in semi-pronation. Incidentally they also recommend weight traction.[8]

*C. L. Scudder* says: "Separation of the lower epiphysis of the humerus will be best treated in the right angle position."[9]

*William Barton Hopkins* believes in the right-angled or obtuse-angled position, with preference for the former.[10]

*Helferich* "Splint dressing in the most appropriate position, sometimes almost or fully extended, sometimes with flexion at the elbow."[11]

I have also at hand a very practical paper entitled "Treatment of Fractures and Injuries to the Elbow Joint," by A. J. Gillette and J. B. Brimhall of St. Paul,[12] in which an uncompromising position in favor of the extended position in all injuries and diseases requiring immobilization of the elbow, is taken, with the support of thirty cases, twenty-eight of which

*Read at the thirtieth semi-annual meeting of the Southwestern Minnesota Medical Society, held in Windom, Minn., on July 9, 1903.

were followed by perfect functional results, the remaining two being fair. One only of the cases seems, however, to have been a separation of the lower epiphysis of the humerus.

It is not possible for me in the limits of this paper to enter into all the arguments for and against each method of managing this troublesome class of cases, nor would I be justified in drawing conclusions from the two cases treated by the position which seems to promise the best results in the future. The ground already traversed in this paper is merely to draw attention to and invite discussion upon a branch of surgical art which has been grossly neglected in the past and which has been productive of very poor results. It is only by the agitation of such matters that we can expect to obtain improvement.

My two cases are as follows:

Case I.—April 4, 1903, H. a little girl aged six, fell while playing in a hay-loft and injured her left elbow. I saw the case about three hours after the accident and found very marked swelling, ecchymosis and abnormal mobility. There was muffled crepitus and backward displacement of the olecranon, with no interference with flexion. Diagnosis: traumatic separation of the lower epiphysis of the humerus. On account of the great swelling I did not apply a cast at this time, but used a straight padded wooden splint, extending from the fingers to the axilla, the forearm being supinated. This was done after perfect reduction of the fragment, which was very easily accomplished without anæsthesia. On April 11, one week afterward, I substituted a plaster-of-paris cast and left it on until May 9, a period of five weeks, when it was removed and the joint found to be normally movable, followed later by perfect muscular control.

Case II.—April 22, 1903, L. H., a little boy, aged four, was thrown from a buggy, falling heavily upon his left arm. Seeing him shortly afterward, I found him suffering severely, but with little swelling of the elbow. Otherwise, under chloroform anæsthesia, the symptoms were identical with those of the other case. After accurate reduction of the deformity I immediately applied a plaster cast, from the fingers to the axilla, over flannel, the arm being fully extended and in the supine position, with preservation of the carrying angle. The cast was not disturbed until exactly one month after the accident, when I removed it and found the joint-function as unimpaired as in the case just described.

These being the only two cases of elbow-joint injury which I have treated without some degree of loss of function I may, perhaps, be pardoned for feeling encouraged to continue the use of the extended position in the future, despite the weight of authority against it.

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1. *Journal of the American Medical Association*, Vol. XLI, pp. 50–51.
2. Poland, "Traumatic Separation of the Epiphyses, p. 162.
3. "Surgical Diagnosis," pp. 195–196.
4. Poland, *op. cit.*, p. 325.
5. *Ibid.*
6. "Practice of Surgery," p. 458.
7. "International Textbook of Surgery," p. 546.
8. "Cyclopedia of Practical Medicine," p. 299.
9. "The Treatment of Fractures," p. 176.
10. "A Clinical Treatise on Fractures," pp. 72–77.
11. "Fractures and Luxations," p. 74.
12. *St. Paul Medical Journal*, Vol. IV, pp. 541–550.

**Germany's Medical Exhibit at St. Louis.**—It is reported that the German medical exhibit at the St. Louis fair will be under the charge of Professor Waldeyer of Berlin. All the prominent medical institutions, hospitals, and clinics will contribute, and special attention will be given to the various appliances, instruments, diagrams, etc., employed in medical instruction.

## EMULSION-ALBUMINURIA.

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Under the name of emulsion-albuminuria, Cramer has recently described[1] a rare and interesting condition in which the urine passed shortly before death had a milky appearance. According to the author, this arose, not from any admixture of fat, as occurs in chyluria or lipuria, but from the presence of some proteid substance in an unusual physical state. The condition was first found to occur in two cases of puerperal eclampsia with death from coma, and had been reported a year previously.[2] The third case was that of a woman, aged fifty-eight years, who had been a sufferer from rheumatism for some time, and was brought to the hospital in a state of great anxiety and fear and complaining of headache and disturbances of vision. She rapidly developed dyspnœa and œdema, the complexion became livid, the pulse 126, and there was a temperature of 37.6° C. The urine was acid, small in amount, greatly concentrated, and contained an abundance of urates. There was no improvement under diuretics, she developed amaurosis, became stupid, and rapidly went into a condition of coma with cyanosis and tracheal râles. Two days before death she passed 300 c.c. of a milky urine, which was examined by A. Schmidt. Neither warming, nor the addition of an acid, filtration, nor centrifugalizing removed the milky appearance. Under the microscope innumerable minute globules could be detected, but ether extracted no fat and the osmic acid reaction was negative. A few drops of acetic acid or of potassium hydrate reduced the milky appearance to one of opalescence, and this change was hastened on heating. Water added to great excess produced a similar result. On boiling, a copious precipitate was obtained with a disappearance of the opacity. Artificial peptic digestion cleared the urine, hydrochloric acid alone did not. The examination of the sediment showed a large number of uric acid crystals. After heating with 1 per cent. hydrochloric acid for an hour, there was obtained a crystalline deposit, which was identified as allantoin. At this time the author stated that no other instance had been reported in the literature of a milky urine due to native proteids. Since his publication, however, I have been able to add a fourth case to the reported series. As the condition under which this peculiar state of urinary albumin may occur is but little known, the clinical history of my case, the urinary examinations and the post-mortem findings are given rather fully.

The patient, a man forty-seven years of age, a painter by occupation, was admitted to the Cambridge Hospital on October 25, 1901. The records state that he had been a sufferer from occasional attacks of lead colic for the last year, had used alcohol freely and was frequently intoxicated. The day before admission he had several general epileptiform convulsions and was brought to the hospital in an unconscious condition. There the convulsive seizures continued and an examination of the urine showed the following: Color smoky, reaction alkaline, specific gravity 1,021, albumin ½ per cent., sugar absent; sediment —some abnormal blood, a few leucocytes, many triple phosphate crystals, a few epithelial and finely granular casts. He soon became very noisy and showed a rapidly increasing delirium and so was committed to the Worcester Insane Hospital on October 25, 1901. Here the delirious condition continued with many hallucinations and illusions, much confusion, and great fear. He was very

restless and slept only with hypnotics and sedatives. The temperature varied from 99° to 103° F. The physical examination showed a poorly nourished and emaciated man, lips and mouth dry, teeth covered with sordes. The knee-jerks were exaggerated and there was a tremor of the hands and tongue. The left elbow-joint was ankylosed and considerable arteriosclerosis was present. After he had been in the hospital for four days there was a sudden rise of temperature and increased short and jerky respirations. The examination of the chest showed harsh breathing on both sides in front, and over the lower lobe there was a distinct pleuritic friction sound. No dulness could be made out. He passed a small quantity of clotted blood mixed with fæces.

On October 30 dulness had developed over the right lower lobe, and on auscultation there could be heard hard crackling sounds on both inspiration and expiration. The respirations were rapid and jerky, and he complained of severe pain on the right side. Temperature 101°, pulse 90 and weak. Abdomen tense, with some diffuse tenderness on the right side. The bowels were considerably constipated and an enema produced a movement of yellowish fecal matter in which there were several blood clots. He did not pass over a pint of urine all day and only a portion of this was, unfortunately, preserved for analysis. It was milky white in color and opaque. The details of the analysis will be given further on. The blood examination showed the following: Hæmoglobin, 65 per cent.; red cells, 4,875,000; leucocytes, 13,335; relation of white to red cells, 1:265; differential count (600 cells)—small mononuclear, 2.3 per cent.; large mononuclear, 0.5 per cent.; polymorphonuclear neutrophiles, 97 per cent.; eosinophiles, 0.2 per cent.; there was some poikilocytosis; the red cells were rather pale.

The urine on October 31 had lost its milky color, and analysis showed: Color, light amber with heavy, stringy sediment; reaction, acid; chlorides, very small in amount; albumin, a large trace; sediment, a few granular casts.

The examination of the chest on the same day showed tubular breathing over a small area in the right lower lobe, but over the scapula the breath sounds were faint. Temperature 100°, respiration 36. The patient was very restless. The bowels moved freely. During the day he passed but little urine and diuretics had no effect. The next day the fever was lower, but the respirations were 40 and the pulse 130 and very weak. There were large bubbling râles everywhere. The patient was constantly coughing and tracheal râles accompanied each respiration. There was dulness over the right lower and middle lobe and over the left lower lobe. He grew weaker, rapidly failed, became cyanotic, and died at 7.45 P.M.

The autopsy was performed fifteen hours after death and the summary of the findings is as follows: Œdema of left lung. Infarcts of right lower lobe. Right-sided pleurisy with a serofibrinous effusion. Residua of pneumonia of left lower and upper lobes. Cardiac hypertrophy, moderate atheroma. Double acute parenchymatous nephritis. Tumor of right cerebellum. Ankylosis of both elbows. There was an injected area in the mucous membrane of the cæcum, but no ulcers, bleeding points, or destruction of tissue were found in any part of the intestine. The weight of the left kidney was 80 grams, that of the right 105 grams. The capsule stripped easily, but left a very granular red surface behind, from which projected a large number of gray nodules, ½ to 1 mm. in diameter. Many of these were confluent and some of these were cheesy and some calcareous in nature. The cortex was 1.5 mm. in thickness, and the pyramids were very indistinctly outlined. Microscopically the vessels were thickened, and there was great destruction and desquamation of the lining epithelium of all the tubules with cloudy swelling. No casts could be seen.

The chief interest is attached to the urine which was passed three days before death, and which had the following characteristics: The amount was small, about 100 c.c. It was milky white and opaque in color, resembling that seen in chyluria. the reaction was acid, the specific gravity 1,012, sugar was absent and indican diminished. Microscopically there were found a few granular casts and some pus cells and uric-acid crystals. Fat globules were absent, and outside of the formed elements there was a homogeneous milky appearance even under the highest power of the microscope. The osmic acid test was negative. Neither warming, filtration, nor the addition of nitric acid cleared the urine. The opalescence did not disappear on long standing or on centrifugalizing. On heating there was some coagulation and the urine partially cleared, to become completely clear with an increase of the coagulum on the addition of a few drops of acetic acid. With Heller's test, it becomes more densely white at the point of contact. On the addition of sodium hydrate it nearly cleared up, but some opalescence remained; there was, however, a complete return of the milky appearance on the addition of nitric acid in sufficient amount to cause an acid reaction. The addition of water also reduced the milky appearance to one of opalescence. On shaking with ether there was only a partial clearing, and then the tests for albumin were easily seen. When the ethereal solution was evaporated, there remained an almost colorless residue with the odor of burnt molasses, which did not reduce Fehling's solution, gave a doubtful reaction with osmic acid and Nylander's test, while the acrolein test was negative. There was no formation of an osazone with phenylhydrazin and sodium acetate. It is to be regretted that so small an amount of urine was passed, as on the next day it had lost its milky appearance and regained its normal amber color, so that further investigation was impossible.

In all three of Cramer's cases death ensued in coma. Two of the cases were of puerperal eclampsia, the third patient suffered from some profound cardiac disorder associated with circulatory disturbances and oliguria. My case was one of alcoholic delirium with a coincident acute parenchymatous nephritis. There was also anxiety, fear, cyanosis, and the elimination of very small amounts of urine. In all four the urine assumed its peculiar milky appearance only a few days before death. This was clearly differentiated from chyluria or lipuria. The fat which occurs in the terminal stage of an acute nephritis is not to be considered, as it is eliminated in too small quantities to have any effect on the color of the urine, and can only be distinguished microscopically, either free or in the formed organic elements.

In my case the negative osmic acid reaction and the negative acrolein test afforded positive proof of the absence of neutral fat. All the proteid reactions were present.

We are undoubtedly dealing here with a rare, and hitherto undescribed form of albuminuria, in which the proteid exists, not in simple solution, but in an emulsion or rather a peculiar, colloidal physical state. The size of the proteid particles

held in suspension was so small that neither repeated filtration nor long-continued centrifugalizing could remove them from the solution. It is analogous to some of the other rare forms of urinary proteid, such as Noël-Paton's crystalline globulin, or Gutterink and de Graff's crystalline albumose.

This so-called emulsion albuminuria closely resembles the colloidal solutions (sols) of metals, in which, by electrical pulverization, such metals as platinum, iridium, or silver, becomes a mechanical suspension of exceedingly fine particles of the given metal in water or other fluid. And, indeed, since all proteids belong to the class of substances known as colloids, it is easily conceivable how such a substance could go into colloidal solution or suspension, resembling an emulsion, rather than dissolve and have the ordinary characteristics of a solid dissolved in a liquid.

Since then, there exists a physical state of urinary albumin apart and distinct from the ordinary one, our conception of albuminuria must be widened. We must be on the lookout for the more rare physical forms under which albumin may make its appearance in various pathological conditions, especially in the terminal stages of renal disorders.

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# REPORT OF A NEEDLE IN THE PROSTATIC URETHRA.

By B. B. FOSTER, M.D.,
PORTLAND, ME.

April 27, 1897, Mr. J. M. called upon me at my office complaining of a great deal of pain immediately after urinating. The pain was excruciating and continued for some time. He had been for a short time under the care of a physican of this city who had informed him that he had gonorrhœa. Upon examination of the genitals I discovered a very slight urethral discharge, rather more of a mucous than of a purulent character. There was no swelling about the glands, and little, if any, tenderness about the urethra except at the posterior portion. From the symptoms presented I was satisfied that it was not a case of specific urethritis, and at my suggestion Mr. M. allowed me to introduce a sound into the bladder. As a result of this examination I felt very sure that there was a foreign substance either in the deep urethra or bladder. I so informed the patient and advised him that he should go to the Eye and Ear Infirmary for more thorough examination, and for an operation if such should be deemed advisable. In accordance with my advice, Mr. M. went to the infirmary April 30, 1897, where he was etherized with the understanding that any operation which promised him relief from his condition should be performed. There were several physicians present on this occasion, and all were invited to manipulate the sound for the purpose of seeing if they could detect a foreign body. As a result of this, out of the number present only two were able to convince themselves that they could detect anything of a foreign nature either in the deep urethra or bladder, consequently it was advised that no operation looking into the opening of the bladder should be performed, but as the patient had a very long and rather tight prepuce and a narrow, close meatus, it was thought that possibly the difficulty was reflex in its character, and that by performing circumcision and meatotomy he might be relieved. In accordance with this advice the operation for circumcision and enlargement of the meatus was done, and at the same time the bladder being thoroughly irrigated, after which the patient was placed in bed, kept very quiet and on a low diet. After this he was exceedingly comfortable, and his painful symptoms previously mentioned disappeared. May 18, 1897, he left the infirmary considering himself well, but in a very few days his former painful symptoms began to present themselves again, and on May 24, 1897, Mr. M. again entered the infirmary. On June 2, 1897, the patient was again etherized, and a careful examination being made, several of the physicians present felt sure that they found slight evidence of a foreign body which was supposed to be in the bladder. This being the case, all were agreed that it was advisable to enter the bladder, and median lithotomy was performed. The bladder was readily reached and the finger introduced, but I was entirely unable to detect any foreign body or any unusual irregularity of the bladder walls. Being unable to find any foreign material, it was decided to establish thorough drainage through the perineal opening with careful irrigation of the bladder each day. Mr. M. made a very rapid and uneventful recovery from this operation, and on June 29, 1897, a period of about thirty-six days, left the infirmary again considering himself perfectly well, not having had any pain or distress for some time, and the water having passed through the natural channel for a period of about two weeks. Mr. M. had only been from the infirmary a few days when he began to suffer as formerly. On July 1, 1897, he again entered the infirmary suffering with much the same line of symptoms as heretofore. This time he was placed in bed, kept perfectly quiet, the bladder thoroughly irrigated with boric solution, and at the end of nine days he again considered himself perfectly well and was discharged. For some time there was little heard from our friend except an occasional visit at the office to let me know that he was quite well and able to work every day, but unfortunately this condition came to an end September 29, 1897, when our patient put in an appearance at the infirmary with all of his old symptoms even worse than before. Again he was etherized and a thorough examination made. At this examination, as at the former, the majority of the gentlemen present convinced themselves of the presence of some foreign body which was supposed to be located in the bladder or possibly at the membranous portion of the urethra. After a careful consideration of the case with the other gentlemen present it was decided that I should be authorized to open the bladder by the suprapubic root. The operation was performed in the usual manner, the bladder was easily reached and entered, but notwithstanding a very thorough investigation of its interior, nothing of a foreign nature could be detected. This being the case, I had the patient drawn down to the edge of the table, placed in the lithotomy position and again made the median section, thus making free communication through the bladder. Still I was unable for some time to detect anything of a foreign nature. At this juncture I had the sound passed into the urethra and I was able to feel a foreign substance which seemed to be located at the junction of the membranous with the prostatic urethra. Carrying my finger in at the median opening, and pushing it down to the floor of the urethra, I detected with my nail a substance which was of a metallic nature. It was located just anterior to the prostatic gland, diagonally across the perineal tissues just impinging upon the floor of the urethra; on introducing a pair of

forceps and seizing the substance, I was somewhat surprised to bring to the light of day an ordinary button needle two inches in length, bearing in its eye a double thread of about the same length. The patient made a very fine recovery and was discharged from the infirmary November 13, 1897, a period of forty-five days after the last operation, this time perfectly well. Notwithstanding the bladder had been three times opened its capacity is good, and at the present time Mr. M. is in perfect health, able to retain his urine for a period of five to eight hours, and has no pain or unpleasant indications of any kind.

One will naturally ask how the foreign body reached this portion of the physical economy. In answer to this question I am only able to say that the patient claimed in the first place when he saw the foreign body which had been removed, that on the previous June he had been sewing a button to his trousers, and after securing it attempted to break the thread which he found to be very strong, and so he took up the trousers and bit off the thread. When he did this the needle and thread flew out of his fingers and went down his throat. He had never mentioned the fact of having swallowed any needle previous to its having been discovered. Shortly after the operation one of the surgeons who was present on visiting this gentleman in the infirmary asked him how he could explain the needle being there, and upon being told the above story the physician, in language more forcible than eloquent, informed him that he (the physician) thought he lied and that he believed he had pushed it into the urethra. Upon this suggestion for a time the patient was inclined to admit that such was the case, but soon after he returned to his former story. If he swallowed it, it must have worked down through the whole course of the intestinal canal and passed out through the rectal walls into the tissue where it was found. If it was introduced directly, this man having suffered so much, you would naturally suppose that he would have made mention of the fact. It is also pretty hard to explain how a foreign body of such magnitude, having been put into the urethra, could have passed out through the same into the locality where it was found. The above are the two stories told with reference to the introduction of the foreign body. You can select for yourself.

I wish, in closing this report, to thank all the medical men who were so kind as to consult with me in the case, and particularly Drs. N. M. Marshall, W. C. Cousins, and C. W. Foster for their very valuable assistance in the operations.

## A CASE OF LEAD OSTEOPERIOSTITIS.

By W. MOSER, M.D.,
PHYSICIAN TO THE GERMAN HOSPITAL, BROOKLYN, N. Y.

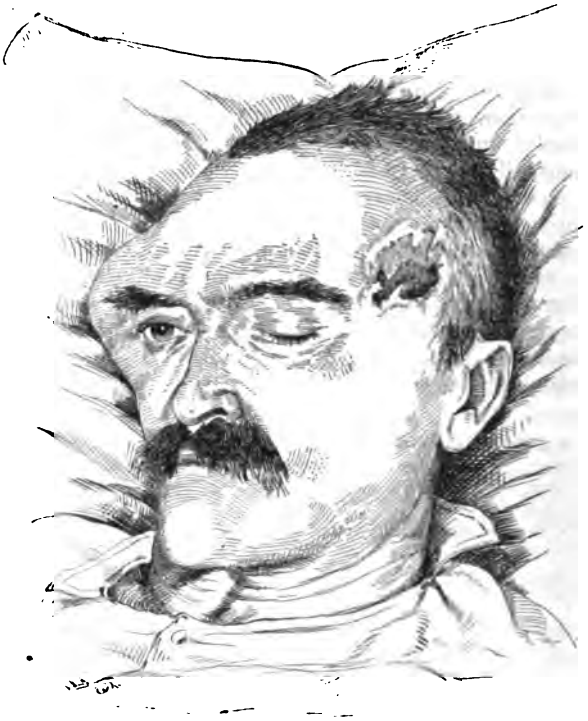
THE patient who has been engaged in lead works for many years exhibits a rather unusual manifestation of the awful ravages of chronic plumbism. The condition in question consists in an inflammation of bone and periosteum, with the formation of very large masses in the temporal region of both sides. These masses are somewhat soft and fluctuating to the touch, as though filled with pus, and the skin is reddened. The masses, however, are devoid of pus, but consist on the left side of granular cheesy, material, and on the right of a more firm, fibrous structure. They remind one of syphilitic osteoperiostitis, which they are not. The nodes are not especially painful at night, which so frequently characterize specific osteoperiostitis.

The illustration shows a node on the right side, and a wound on the left, being the remains of the extirpated node.

The node on the right side was merely incised, since it was too firm to be scooped out, as was the case on the left side. The incision was simply closed without a diminution in the size of the growth.

The patient's left arm is completely paralyzed, and the left eye shows ptosis.

He is in a state of chronic delirium (lead encephalopathy), having hallucinations of varied forms, as, for instance, he has seen his room filled with



fighting soldiers, etc. The patient was under my care for months before being transferred to St. Catherine's Hospital, and suffered intensely with arthralgia. Long before he came under my care he suffered from attacks of lead colic. In exceptional instances nodes occur over tendons in chronic plumbism, looking like a ganglion, and sometimes are confounded with this condition, or with gouty or rheumatic nodes. I am indebted to Dr. Jos. Samenfeld for the photograph and to Drs. Flynn and Jennings for details of the case while in the hospital.

The administration of iodide of potassium in these advanced cases seems to me to be worse than useless.

## ABDOMINAL PAIN IN PNEUMONIA.

By CHARLES S. GRABIN, M.D.,
BEBMER, NEB.

THE manifestation of abdominal pain in pneumonia without intestinal complication has been recorded several times of late. In April, 1903, I was called to see a child, who was supposed to be suffering from some intestinal trouble, the little one complaining of severe and persistent pain in the abdomen. The history and close examination revealed no abdominal trouble. Bowels about normal; pulse 130, temperature 103.5° in the axilla, respirations 40. There was marked flushing of the face, the breathing was puerile in character, and upon percussion marked consolidation of the right lower lobe was found. Complete recovery took place in a few days. My conclusion is that in these cases the pain is purely reflex. When we once consider the nerve supply of the lungs and stomach and the various distributions of the pneumogastric, the explanation of this occurrence is quite possible.

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## THE THROAT AFFECTION OF THE GERMAN EMPEROR.

THE extirpation of what is officially called a polypus from the left vocal cord of the Emperor of Germany, although a very trivial operation in itself, carries with it a great deal of significance regarding the possibility of a speedy and absolute cure of the disease. In fact, the whole question turns upon the prognosis of the case. So far the reports are favorable, and the microscope has declared the growth to be myxomatous in character and free from any evidences of malignancy.

The operation was performed by means of the laryngeal snare, the bed of the wound having been treated by galvanocautery. From all accounts the tumor was evidently single in character and pedunculated, admitting of easy removal. Allowing this to be the case, the necessity for repeated and supplementary operations is obviated, and much dangerous irritation of the diseased parts will be prevented. This is an item of no small moment when the well-known malignant tendency of similarly situated laryngeal growths is taken into account.

More important than this is the consideration of the influence of heredity in determining the ultimate outlook for the distinguished patient. In nearly 25 per cent. of the reported cases of laryngeal cancer one or other of the parents of the victims died of the disease. In the case of the Kaiser, both his father and mother were afflicted with malignant disease, as also his uncle. His father lived but little over a year after throat symptoms were developed, and his mother died in the third year of a cancerous affection of the breast. From the side of heredity his prospects are certainly not very strongly guaranteed against the possible malignant development of what now appears to be only an innocent intralaryngeal trouble.

Nor can the early microscopical examinations always be considered the absolute tests of safety of opinion. It certainly was not so in the case of the late Crown Prince of Germany, as no less an authority than Virchow declared at the time when the first operation was performed on that royal personage, that the disease was entirely devoid of any cancerous tendency, and yet within two months afterward that distinguished authority was shown to have been mistaken.

All this shows that so long as any portion of any superfluous epithelial growth remains in a person of susceptible age, and especially if such an excrescence be subject to more or less continuous irritation, no one can be absolutely safe against malignant degeneration. Thus it is always a very important question whether or not the disease is thoroughly eradicated at the first operation, and also whether or not the wound heals in the shortest possible time.

It is generally admitted that in proportion to the early and complete fulfilment of these conditions is the tendency to recurrence reduced.

When such a course is impossible the microscopical examination of the merely superficial portions of the tumor are not always trustworthy as indicating immunity from future trouble, as not infrequently the removed parts may present healthy tissue elements, while the base may show distinctly cancerous changes. Obviously, then, the main consideration is to leave only absolutely healthy tissue in the bed of the wound. This has evidently been the fulfilled purpose in the Emperor's case, and the prognosis has at present all the desired hopefulness of a thoroughly successful operation.

In any event, months of time must elapse, even under most favorable conditions, before all anxiety can be allayed regarding a possible recurrence of the excrescence. In the meanwhile it will be necessary to keep a strict and constant watch for any unfavorable symptoms.

## THE REPUTED INCREASE OF THE DRUG HABIT.

IT has been publicly stated on many occasions of late, that the habit of drug-taking has largely increased in all civilized countries, and that in the United States this increase has been especially marked. Indeed, the subject has attracted attention from almost every quarter and has become a burning question of the day. It is probable, however, that while there may have been within recent years a very decided increase in the number of those addicted to the drug habit, yet it must be confessed that many of the accounts given bear upon them the ear-marks of exaggeration. Nevertheless, the evidence offered would seem to be quite sufficient to prove that drug-taking is indulged in to a very large extent, and that the situation in this respect is a serious one. Perhaps in this country—although it would be impossible to make an absolutely positive statement on the matter—cocaine is almost as widely resorted to for its narcotizing effects among the white population as is any other drug. Of course, on the whole, the amount of cocaine consumed during a year does not compare in magnitude with that of opium, but then opium is prescribed as a medicine and taken by certain classes of the population—notably by the Chinese—far more extensively than cocaine. At any rate, if opium in its different forms stands first in this country in its use as a narcotic, it will be generally allowed that cocaine makes a good second.

In the MEDICAL RECORD of September 7, 1901, the growth of the drug habit, was dealt with editorially, and some statements on the subject made by Dr. A. P. Grinnell in the *Medico-Legal Journal* were referred to. That writer showed that in 130 of the regular pharmacies and in 160 of the general stores in the State of Vermont there were sold to regular customers every month 3,300,000 doses of opium, besides what were dispensed in patent medicines, and what the

physicians prescribed, giving one and a half doses of opium to every man and woman in the commonwealth every day in the year! The inquiry was restricted to the commoner narcotics—opium, morphine, Dover's powder, paregoric, laudanum, cocaine, chloral, and cannabis indica. The amounts given in these instances were so large that Dr. Grinnell was at first led to believe that the vendors estimated by the year instead of by the month. From a consideration of the above, one might be led to believe that drug-taking is manifestly enormously on the increase in this country, but it will be wiser to regard the question from a conservative standpoint, and to surmise that the habit has a much wider scope than formerly, but not to the extent stated in many of the sensational reports which are being issued constantly nowadays. It must be also borne in mind that Vermont was a prohibition State, and therefore should not be taken as typical of the United States as a whole so far as the drug habit is concerned.

According to a writer in a recent issue of the *London Daily News*, Great Britain numbers her victims to the drug habit by the thousands, and in an interview with Dr. Forbes Winslow, the same writer gives the views of that authority at some length. In the course of his remarks Dr. Winslow said: "In my opinion one of the chief causes of degeneration in the human race is indulgence in opium or the drug habit. In China there are upward of three millions of opium eaters, and the number is gradually increasing. In one year the value of opium which was sent into England was over £400,000 ($2,000,000)." Again he asserted that the drug habit is very common in England, chiefly among ladies, and that a large amount of laudanum is consumed by the upper classes in conjunction with alcohol.

It may be taken as proved that the drug habit has increased in both Great Britain and in this country, as it has doubtless increased in most of, if not in all, the civilized countries of the world.

To dwell upon or to emphasize the evil effects of drug-taking is unneccessary, so much has been written and said on the subject that everyone who can read must be well aware that the habit if persisted in destroys a person body and soul.

It goes without saying that the causes for this craving for stimulants and narcotics by the people of the present day are various. One of the principal reasons is the wear and tear of modern life, acting upon a race ever becoming more nervous and active, through living under artificial conditions. The physician is to some extent responsible for the spread and prevalence of the habit, by his frequent lack of discretion in prescribing drugs of a narcotizing nature.

It is well-nigh impossible to put forward an effectual or even partial remedy for this state of affairs. Legislation designed to restrict the sale of narcotics and to render them much more difficult to obtain than is the case at present, might have a restraining effect, but the only true panacea is that the community at large should be brought to a right appreciation of the menace the drug habit is to the health, moral and physical, of the nation. In this missionary work the physician is peculiarly fitted, both by example and precept, to take a leading part.

## ORGANOTHERAPY IN ADDISON'S DISEASE.

Dr. Edward M. Adams contributes to the *London Practitioner* for October a critical review of the effects, in the reported cases of Addison's disease, of the use in some form of suprarenal substance. Prior to the appearance of organotherapy, cases of permanent improvement, or even of apparently permanent recovery, were extremely rare. Now, however, more or less permanent recovery under "specific" treatment is, comparatively speaking, not infrequently seen. As regards the correctness of the diagnoses in the recorded cases, most of which lack post-mortem confirmation, while mistakes may at times have occurred, still there is no sufficient justification for assuming a resolutely skeptical attitude toward the cases as a whole. Moreover, in two cases in which the beneficial effect of organotherapy was least open to objection, the diagnosis has been confirmed by autopsy. And further, a number of cases showed fluctuations corresponding to administration or withholding of the suprarenal substance, relapsing when it was stopped and again improving on the resumption of its administration. The author concludes that there would appear to be a certain class of cases of this infection which derive indubitable benefit from the administration of some form of suprarenal substance, but in any given case it is, so far, impossible to determine in advance its probable response to this form of treatment. In any given case, selected haphazard, the probability obtains that disappointment will follow the trial of organotherapy, but this probability is distinctly less than that against any form of alterative treatment yet proposed. The last word remains to be said upon both the preparation and the mode of administration of the suprarenal substance. The problem seems to be to get a sufficient and continuous dose of the pure and active principle unchanged into the blood stream. Intravenous injection is impracticable.

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## A Form of Hog Cholera Not Caused by the Hog-cholera Bacillus.

The Biochemic Division of the Bureau of Animal Industry, under E. A. de Schweinitz and M. Dorset, has been recently carrying on investigations concerning hog cholera, and has discovered that certain outbreaks of the disease were apparently not produced by the hog-cholera or the swine-plague bacilli. This discovery has led the division to institute experiments to determine, if possible, whether or not there are other infectious diseases among hogs in this country than those caused by the hog-cholera and swine-plague bacilli, and also to ascertain what was the etiological agent in those outbreaks of disease which apparently did not depend upon these bacilli for their existence. The experiments have not yet been completed, but sufficient information has been gathered from them to justify the publication of a preliminary note. As a matter of fact, the experiments have reached such a stage that the investigators feel they are in a position to state that there is an infectious disease among hogs in this country which cannot be distinguished clinically from hog cholera, and which may be reproduced by infecting with material which contains no hog-cholera bacilli.

As to the cause of the disease, nothing at the present time can be definitely stated, although it has been demonstrated that the primary cause is

neither the hog-cholera bacillus nor the swine-plague bacillus. The malady is highly contagious, healthy pigs that were allowed to come in contact with sick animals almost invariably contracting the disease within the usual period of incubation. Other animals than hogs do not appear to be susceptible to infection by the disease.

The period of incubation after exposure to sick animals, or after a subcutaneous inoculation of infectious material from sick animals, varies from five to twelve days, the usual time elapsing between exposure and visible signs of illness being seven days. Death generally takes place within seven days after the appearance of the initial symptoms and approximately two weeks after the first exposure to infection.

The post-mortem appearances of this particular type of hemorrhagic hog cholera resemble somewhat closely those of the ordinary acute hog cholera supposed to be caused by the hog-cholera bacillus. This circumstance, combined with the fact that by the methods of inoculation used, without the presence of the hog-cholera bacillus, a case of chronic hog cholera was never produced, led the investigators to suspect that possibly in all outbreaks of acute hog cholera there is some other agent besides the hog-cholera bacillus at work, and that in those cases of acute disease in which the hog-cholera bacillus is found we have to do, not with a pure infection, but with a mixed infection by hog-cholera bacilli and the organisms which are responsible for the disease just described.

When the experiments are completed the Biochemic Division of the Bureau of Animal Industry hope to decide the point as to whether a new hog disease has been discovered. If such shall prove to be the case, it must of necessity have an important bearing upon the prevention and treatment of hog cholera. The experiments so far have shown that the same measures which have been found to be effective in the ordinary forms of the disease, are of equal value in this particular form of hog cholera.

## Southwest Africa as a Health Resort.

Professor Dove writes in highly eulogistic terms of the table-lands of Southwest Africa for those suffering from respiratory diseases. In the *Deutsche Monatsschrift* he describes this region, showing that its health-giving properties are due to its physical conformation. The large quantity of rain which falls in the land south of the equator gives rise to a far more equable climate than that which prevails in the northern hemisphere. The mean temperature is greatly less in the summer in these southern lands, and higher in winter, than in those of southern latitude. Another immense advantage that South Africa possesses over countries of the same latitude consists in the fact that it is composed of a series of plateaus, arranged in terraces one above the other, and rising to a considerable altitude above sea level, with no intervening plains. This elevation renders the air rare and compels persons to breathe more deeply and freely than in regions situated at a lower altitude. The rapid inspiration and expiration of pure air promotes expansion of the lungs and consequent enlargement of the chest, a condition always noticed in those who have made their home in the interior of South Africa. The humidity is slight, the nights are cool, and cold to a degree in winter, but the air is so pure and clear that it is far more healthy to breathe than the cold moisture-charged air of Europe and of many parts of the American continent. Last but not least in the enumeration of the salubrious properties of the South-African climate, is the almost constant flood of sunlight which warms the atmosphere and ground and kills the disease-bearing germs. Outdoor life, owing to the above-mentioned conditions, is almost always possible, with little or no protection. South Africa is the ideal country for consumptives, and may in time to come be looked upon as the natural refuge for the victims of respiratory affections.

## Hospitals for Tuberculous Children.

In no country are children better cared for than in France—in fact, French children are—so far as their physical needs are concerned—the objects of greater solicitude than in any other land. This being so, it is only in the nature of things, that institutions for tuberculous children should be both numerous and well-managed. Mr. John Seely Ward, Jr., has recently returned from a visit to England and France, in the course of which he investigated the manner of treatment of tuberculous children in those countries. He found that in France there are hospitals solely for tuberculous children containing 4,443 beds. The city of Paris supports two such hospitals, both of which are situated at the seaside. There is besides a charitable organization, "L'Œuvre des Enfants Tuberculeux," which supports in the neighborhood of Paris three free hospitals for children suffering from consumption. The building at Ormeson is for those in the incipient stage, at from three to ten years of age, and has 128 beds. At Villier-Sur-Marne consumptive boys are received from ten to seventeen years of age, and there is accommodation for over two hundred. There is also a hospital for tuberculous girls at Noisy.

Mr. Ward, who is a member of the New York Association for Improving the Condition of the Poor, has since his return to this country pointed out that the United States possesses no hospital set apart exclusively for children suffering from tuberculous diseases, and has stated that the association he represents may erect one. This would be a most commendable undertaking, and for the good of not only the sufferers themselves, but of all those who live in their vicinity.

## Dysentery and Its Relation to Enteric Fever.

The report of the British Commission appointed to inquire into this subject in relation to the mortality from enteric fever during the South-African war has recently been published, a summary of which was given in the *British Medical Journal*, September 12. The commissioners were: Lieutenant-Colonel Bruce, Col. Lane Notter, and Prof. W. J. Simpson.

Colonel Bruce who conducted the bacteriological investigations came to the following conclusions: (1) That dysentery in South Africa is not caused by amœbæ, as there is some reason to believe is the case with the dysentery of other countries. (2) That the organs in dysentery are absolutely sterile. Hence unlike enteric fever, the causal agent confines itself to the intestines. (3) That in the large intestine no particular species of microorganism stands out prominently as in the case of cholera. (4) That there is not sufficient evidence in this work to advance the theory that some of the normal inhabitants of the intestines belonging to the coli group take on a pathogenic power. (5) That there is no connection between dysentery and enteric fever, Eberth's bacillus not being found in the organs or intestines of dysentery. (6) That there is a certain amount of evidence to show that so-called cases of dysentery, following enteric

fever are relapses of enteric, in which the disease has attacked the large intestine.

Professor Simpson's report is instructive in a high degree, dealing as it does thoroughly and exhaustively with the subject of enteric fever in its relation to those engaged in the South-African campaign on the British side. He gives the following summary of the conditions which caused the insanitary state of large camps: (1) Surface supplies of water and their liability to pollution by dead animals, or excrementitious matter, or surface drainage, or all combined. (2) The imperfect and ill-considered disposal of carcasses of horses and oxen. (3) Defective covering of latrines, proximity of litter, manure and refuse heaps; and fouling of the ground with urine and slop water, causing risk of infection of food from flies and from possible contamination of boots, clothes, utensils, and hands. (4) The absence of organized establishments for the cleansing of camps that have been occupied, the absence, also, of arrangements for the distribution and location of regiments on clean ground, and the consequent occupation of the same camps successively by different regiments.

The conclusions arrived at by Professor Simpson closely agree with those of the commission appointed by the Government of the United States to investigate into the condition of the camps during the Spanish-American war. Further force is added to the argument that it is absolutely necessary to keep such camps as clean as possible, and to use every precautionary measure, if disease, and especially typhoid fever, is to be kept away.

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### Etiology of Sleeping Sickness.

During the past two or three years much has been heard of this somewhat mysterious disease, which affects the negroes of a portion of Africa, principally the West Coast. In the Medical Record of April 25, 1903, the report that Dr. Aldo Castellani, a member of the commission sent out by the British Royal Society to Uganda, had discovered an organism which he thought to be the cause of sleeping sickness, was referred to editorially. The same subject was commented upon in an editorial on June 27, 1903, when the findings of the Portuguese Commission with regard to the cause of sleeping sickness were dealt with. The New York *Sun*, November 7, published a despatch from London stating that the cause of sleeping had been definitely discovered. The investigations—according to the despatch—were carried on by the British Governmental Commission. Buvuma Island, Uganda, was the seat of the investigations. This island has been practically decimated by the disease. The first step in the discovery was the observation of trypanosomes in the cerebrospinal fluid in all cases met with. The credit of this discovery is generally accorded to Castellani.

Christy read a paper in the Section on Tropical Medicine at the recent meeting of the British Medical Association, in which he gave the results of investigations made by him in the island of Buvuma. He travelled all over the island and found that almost all the huts contained a case or two of sleeping sickness. He likewise found that practically all the cases occurred near to the water's edge, on the lowest lying parts of the island, and that the huts were invariably surrounded by vegetable or forest growth. On the other hand, the high ground was exempt from the disease. The same characteristics were observed in all the sleeping-sickness area. Such localities are exactly those which the tsetse fly (genus Glossina) infest, low-lying situations near to water and amongst trees or scrub. Colonel Bruce, who has been studying the subject of trypanosomiasis and sleeping sickness in Uganda, found Glossina palpalis to be fairly common in certain parts along the lake shore. Christy, therefore, drew the obvious inference that there must be a relationship between sleeping sickness and the tsetse fly (Glossina palpalis).

The despatch to the *Sun* would seem to show that Christy was right and that the tsetse fly (Glossina palpalis) is, indeed, the cause of sleeping sickness.

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## News of the Week.

**The Life History of the Organism of Smallpox.**—Dr. Gary N. Calkins delivered a lecture on this subject at a meeting of the Biological Section of the New York Academy of Sciences, on November 9, 1903. He said that Dr. Councilman had pointed out that the organisms found in vaccina were limited to the cell bodies of the Malpighian layer of the skin, whereas in smallpox they were found both in the cell bodies and the cell nuclei. He also showed that the inclusions were protozoa. The lecturer said that in the parasitic diseases due to the protozoa there was usually some phase of the disease which corresponded with some phase in the sexual development of the parasite. The ordinary asexual development of the organisms took place in the cell bodies of the Malpighian layer of the skin, while the more important sexual reproductive processes occurred in the nuclei of those cells. He had been fortunate enough to be selected by Dr. Councilman to work out the life history of the organism of smallpox, and through the courtesy and liberality of the same gentleman he was permitted to present those results at this time. Most of the work had been done in connection with the epidemic of smallpox in Boston. His own work had been done mainly upon twenty-two cases, representing nearly every variety of smallpox. It was below the pustule that one found the organism of smallpox. This organism was a minute, homogeneous body situated in the cell protoplasm.

The lecturer then described in detail the various phases of the life history of this organism, the *Cytoryctes variolæ* Guar., by the aid of a series of lantern slides, many of them photographs from actual specimens. He pointed out that in vaccina only gemmules formed, the remainder of the process of development being, for some reason, inhibited. In the late vesicle stage of true smallpox there was found a most characteristic process of reproduction, an autoinfection, *i.e.* the formation of the pan-sporoblast. Dr. Calkins said that, as long ago as 1896, while making some cultures from the protozoa of another class, he had noticed that the nucleus of these forms was invested in many cases by a peculiar body, at the time unknown to him. The specimen was labeled "A Parasite in the Nucleus," and was not thought of again until he became acquainted with Dr. Councilman's specimens last spring. The specimen was then looked up and found to be apparently identical with the smallpox germ. Although there was about one chance in several million that this specimen represented the exogenous phase of the smallpox organism, it was thought proper to study it thoroughly and remove every doubt on this point. Personally, however, he believed it was a similar parasite, but was not identical with the smallpox organism. The speaker, in closing, compared the cycle of malaria,

a disease due to a protozoon, with the cycle of smallpox.

Dr. Brinckerhoff, in discussing this paper, said that he had inoculated twelve apes with this organism, and in each case there had been a development of a lesion analogous to the vaccina lesion; indeed, the disease in the monkey was found to be comparable in its clinical course, in the evolution of the lesions, and in the general constitutional reaction with variola inoculata in man. In every case in which a secondary exanthem developed, the lesion was found in that. It had been possible by this mode of experimentation to determine quite accurately the time relation between the various stages of the parasite and the evolution of the lesion, and these findings were perfectly in accord with the results obtained by Dr. Calkins on the human lesion. The monkey was subject to both vaccina and variola, and hence this animal was particularly well suited for the final demonstration of the minute details of the complete life history of the organism of variola.

**The German Emperor's Throat Trouble.**—Dr. Moritz Schmidt, on Saturday of last week, removed a tumor from the larynx of Emperor William. The operation was successful, and the tumor was found, on examination by Dr. Johann Orth, to be a mucous polypus of the left vocal cord. The growth was pronounced benign.

**William Pierson Medical Library Association of Orange, N. J.**—At the annual meeting of this association on November 5 the following Board of officers were elected: *President*, Dr. Thomas W. Harvey; *First Vice-President*, Dr. R. C. Newton; *Second Vice-President*, Dr. R. D. Freeman; *Secretary*, Dr. J. H. Bradshaw; *Librarian*, Dr. Henry Pulsford; *Executive Committee*, Drs. T. Y. Sutphen W. B. Graves, and Mefford Runyon.

**American Electro-Medical Society.**—The first annual meeting of this society will be held December 1, 2, and 3 at the Masonic Temple, Chicago. This society, which already numbers over one hundred and fifty members, has for its object "investigation in electricity and allied sciences and the encouragement of their application to medicine and surgery by the formation of district and local societies." The preliminary program contains the names of thirty men who will read papers. The secretary of the society is Dr. T. Proctor Hall of Chicago.

**Examinations for Superintendent and Resident Physician in the New York State Hospital for the Treatment of Incipient Pulmonary Tuberculosis.**—The State Civil Service Commission will hold open competitive examinations for the above mentioned positions, November 28, 1903, in various cities throughout the State. Intending competitors must fill out application blanks and file them in the office of the Commission before noon of November 23. Applicants will be duly notified of the time and place of examination. Non-residents of the State will be admitted. The requirements and conditions of examination are as follows: *Medical Superintendent.* Probable salary $3,500 a year with quarters and maintenance for the superintendent and his family. The duties of the position are defined by chapter 416 of the Laws of 1900, which further provides that such medical superintendent shall be a well-educated physician, a graduate of a legally chartered medical college, who has had at least six years actual experience in the practice of medicine, including at least one year's experience in a general hospital. Subjects of examination and relative weights: Experience, education and personal qualifications, 4; written examination covering general medicine; hospital administration; pathology, bacteriology and therapeutics of pulmonary tuberculosis, including dietetics and sanatorium treatment, 3; practical examinations of patients for diseases of the chest, 3. The written examination will be held in any of the cities named on the application on November 28. The practical test will be held at a later date and place (probably Albany), of which candidates successful in the experience and written examinations will be duly notified. *Resident Physician.* Probable salary from $900 to $1,500 a year with quarters and maintenance. Duties to be prescribed by the medical superintendent under the direction of the Board of Trustees. Candidates must be regularly graduated physicians and have had at least two year's experience in the practice of medicine, including one year's actual experience in a general hospital. Subjects of examination and relative weights: Written examination covering anatomy, physiology, materia medica and therapeutics, chemistry, theory and practice, surgery; also a special examination in pathology of pulmonary tuberculosis, in bacteriology and descriptive laboratory methods, 6; practical examination in the physical diagnosis of diseases of the chest, in the examination of sputa, blood, urine, and other pathological material, 4. The written examination will be held in any of the cities named on the application on November 28. The practical test will be held at a later date and place (probably Albany), of which candidates successful in the written examination will be duly notified. Further particulars and application blank may be obtained by addressing: Chief Examiner, State Civil Service Commission, Albany, N. Y.

**College of Physicians of Philadelphia.**—At a stated meeting, held November 4, Dr. Ward Brinton exhibited and read "A Contemporary Manuscript Criticising the Treatment Pursued in the Last Illness of General Washington." Dr. Wm. J. Taylor reported a case of tumor of the brain with operation. The patient was a boy, fifteen years old, previously healthy and with a good family history, who had been struck upon the head as a result of punishment on the part of a strenuous teacher. In the course of a short while a swelling appeared in the right temporal region, together with headache, vomiting, optic neuritis, and ocular palsy. Operation was undertaken, and a tumor-mass of moderate size removed. The growth, clinically, suspected to be an osteosarcoma, was found to arise from the dura, and microscopical examination disclosed the fact that it was an endothelioma. The patient was much improved for a time after the operation, but the growth recurred and remained uninfluenced by the *x*-rays. Another surgeon, into whose hands the boy fell subsequently, ligated the carotid artery in the hope of starving the new formation, but death ensued. Dr. John M. Swan read a paper entitled "Mercurial Nephritis," reporting the case of a woman who presented a scaly cutaneous eruption, together with a family history of psoriasis. The lesion of the skin being considered syphilitic, the patient was for some time treated actively with mercurials. Symptoms of nephritis that appeared were also looked upon as syphilitic. Other symptoms of mercurialism developing, the urine was examined and the presence of mercury demonstrated. Notwithstanding the withdrawal of the metal for therapeutic purposes, the presence in the urine was demonstrable for more than a year after the last dose had been administered, in conjunction with albumin and tube-casts. Dr. Francis T. Stewart reported a case of volvulus

of the omentum, a rare condition, of which eight other cases were found recorded in the literature. In none was the diagnosis made accurately. In some hernia was suspected, in others appendicitis, in still others ovarian disease.

**Reformation of Hot Springs.**—The Interior Department at Washington has taken energetic action to abolish the nuisance and scandal of medical drummers at Hot Springs, Ark. It has prescribed a number of rules for the guidance of bath-house proprietors and physicians, one of which prescribes that "No bath house supplied with water from the Hot Springs Reservation shall permit any person to bathe therein who is under medical treatment, unless the applicant for baths presents satisfactory evidence that he, or she, is the patient of a physician duly registered at the office of the Superintendent of the Hot Springs Reservation as one qualified to prescribe the hot waters from the Hot Springs, and who is known not to engage in drumming for custom." Another rule reads: "Physicians desiring to prescribe the hot waters of the Hot Springs, either internally or through the medium of the baths, must first be registered at the office of the Superintendent of the Reservation. Registration will be accorded only to such physicians as are found, by the board of physicians designated by the Secretary of the Interior, to have proper professional qualifications and character, and who do not engage in drumming for custom. The solicitation of patronage, through the medium of drummers, by registered physicians is prohibited; failure to observe this requirement will be sufficient cause for cancellation or revocation of registration." The *Hot Springs Medical Journal* states that the Federal Board received the credentials of the physicians in the place some time ago, and sent a report of the results of the inspection of them to the Interior Department. This will undoubtedly result in the redemption of Hot Springs from the horde of advertising quacks who have for so long brought discredit on the place.

**Mikulicz on American Surgery.**—Prof. Johan von Mikulicz-Radecki, lecturing at Breslau on Friday of last week on his recent trip to the United States, said he found more fruitful ideas among the American surgeons than among the French and English. He added: "The time is past when we were the givers and the Americans the receivers. The American character has as a fundamental feature unlimited self-confidence, and the American believes he can do anything he wishes."

**St. Francis Hospital**—At a meeting of the Medical Board of St. Francis Hospital, held on November 3, 1903, a resolution was adopted to the effect that each consulting physician and surgeon regularly connected with St. Francis Hospital shall be privileged to care personally for such private patients as he may desire to place in the hospital for operation or treatment. The number of patients under the charge of any individual member of the consulting staff shall, however, be limited to two at any one time.

**The New Health Commissioner**—It is announced that Drs. W. T. Jenkins, John H. Girdner, and John H. Cosby, are candidates for the office of health commissioner of New York City under the new administration.

**A Striking Antitoxin Demonstration.**—Some days ago diphtheria broke out among the inmates of the New York State Reformatory at Elmira, and within a week there were fifty cases and three deaths, among those attacked being the assistant resident physician and others of the official staff. On November 10 Dr. Robertson, the superintendent, obtained a large supply of antitoxin from the laboratory of the State Department of Health. Every inmate of the institution was inoculated, and on the following day Dr. Robertson reported that the epidemic had been completely checked.

**American Röntgen Ray Society.**—The fourth annual meeting of this society will be held at the University of Pennsylvania, Philadelphia, on December 9 and 10, 1903, under the presidency of Arthur W. Goodspeed, Ph.D., of Philadelphia. The sessions will be held in the audience room of Houston Hall of the Houston Club of the University of Pennsylvania. The exhibition of apparatus will be down stairs, in the reading-room of the Houston Club. Under the chairmanship of Dr. P. M. Hickey of Detroit, Mich., an exhibition of prints is being arranged for. A lantern with competent operator will be on hand and ready for use at any time. Those who desire to illustrate remarks need only to bring along the slides. The Normandie Hotel, Thirty-sixth and Chestnut streets, has been designated as official headquarters. The preliminary program contains the titles of eighteen papers. The secretary of the society is Dr James W. Bullit, 205 West Broadway, Louisville, Ky.

**Closure of a Japanese Medical School.**—The proprietors of the Saisei Gakusha, a medical school in Tokio, which has existed for twenty-seven years, recently closed the school and also the hospital attached to it. They were obliged to take this step the *Sei-I-Kwai Medical Journal* states, owing to the Education Department's refusal to give permission to the school to call itself a college. Recently the law schools in Tokio transformed themselves into colleges in order to impress the public mind, and the medical school wished to take a similar step, but being met with refusal of the Government the proprietors thought that the school could no longer hold its position against its rivals, and hence their action. Incidentally some 3,000 students, 600 of whom have been in regular attendance, find their future prospects seriously affected. The hospital attached to the school contains about 150 charity patients.

**Committee on Program of the State Society.**—The President of the Medical Society of the State of New York has appointed the following business committee on program for the next annual meeting to be held January 26, 27, and 28, 1904: Drs. H. A. Fairbairn and G. R. Butler of Brooklyn, and Andrew MacFarlane of Albany.

**Protest against a Sanatorium at Capri.**—The population of the Island of Capri is indignantly protesting against the plan of Professor von Behring to transform the villa which he bought from the family of the late Herr Krupp, the famous gunmaker of Essen, into a laboratory for the manufacture of antitoxins and a sanatorium for the treatment of people affected with tuberculosis. The people of Capri say that it would injure the reputation of the island, which depends for its revenues almost entirely on foreign visitors. They have interested several members of the Chamber of Deputies in their protest and hope to be able to prevent the carrying out of Behring's project.

**Gifts to Hospitals.**—Mr. Daniel G. Reid of this city has given $50,000 to the trustees of St. Stephen's Hospital at Richmond, Ind., for the erection and equipment of a new hospital building. Mrs. Margaret J. Plant has announced her intention to build and present to St. Luke's Hospital in this city an additional pavilion, thus pursuing the line of development laid down in the plans for the erection of ten pavilions, five of which have already been built. The new building will be for the care and treatment

of private patients, and will be located on the southeast corner of the block overlooking Morningside Park.

**The Plague in Rio de Janeiro.**—The United States Consul at Rio de Janeiro telegraphed the State Department a few days ago that the bubonic plague, which has been prevalent at Rio for several months, had increased, and that disinfection is now obligatory for vessels leaving there for other Brazil ports.

**A New Antiserum for Cancer.**—Dr. Otto Schmidt of Cologne claims to have isolated the parasite of cancer, and says that all the alleged parasites of varied appearance described by Gaylord and others are only varieties of the same microorganism. He says he has obtained an effective antiserum, and has also been able to diagnose malignant disease by means of a Widal reaction. The serum does not remove the growth, but takes from it its character of malignancy, and thus makes it possible for the surgeon to extirpate it without fear of recurrence. The discoveries of Schmidt were recently described by Dr. Jesse Johnson in a paper read before the Abernethian Society of London, but were received with considerable scepticism by the members of the society.

**Yellow Fever** still prevails at Laredo, Tex. On November 8 there were 12 new cases, but no deaths were reported. The total number of cases up to a week ago was 723, with 66 deaths. In Monterey, Mex., there is no abatement in the epidemic and it is believed that there have been nearly 20,000 cases of the disease there during the past year. The mortality is about 5 per cent. All the towns on the Mexican Central Railroad between Saltillo and Laredo are believed to have suffered from the disease.

**Obituary Notes.**—Dr. EMIL ROSENBERG of this city died on November 4 at the age of seventy-four years. He was born in Germany and was graduated in medicine from the University of Berlin in 1855. He came to this country in 1868. He was closely identified with insurance work, having been medical director of the Northwestern Mutual Life Insurance Company for many years.

WILLIAM B. O'ROURKE, superintendent of the Metropolitan Hospital, Blackwell's Island, died there on November 5 from cancer of the stomach. He was fifty-five years old and was born in this city. In February, 1890, Mr. O'Rourke was appointed steward of the Homœopathic Hospital on Ward's Island. He became warden of Bellevue Hospital in May, 1891, where he remained until 1896. He was in 1898 again appointed Warden of Bellevue Hospital, and from there was transferred to the Metropolitan Hospital.

Dr. WILLIAM W. SEELEY of Cincinnati died on November 7. He was a graduate of the Medical College of Ohio in the class of 1864. He was a well-known oculist, and held the chair of ophthalmology in the Medical College of Ohio for many years.

Dr. FRANKLIN V. VANARTSDALEN died in Philadelphia on November 5 at the age of seventy years. He was graduated from Jefferson Medical College in the class of 1856. He retired from the active practice of medicine a number of years ago.

Dr. EDGAR C. LAKE of Amsterdam, N. Y., was burned to death on November 10. He was forty-three years old, and was a graduate of the College of Physicians and Surgeons in this city.

Dr. I. K. RAINEY died at his home in St. Augustine, Fla., on November 9. He was born in Illinois, and was graduated from the St. Louis Medical College in 1859. He was a surgeon in the federal army during the civil war, and was in Gen. Fitzhugh Lee's corps during the war with Spain. He was department commander of the Grand Army of the Republic.

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

THE HARVEIAN ORATION—THE HUXLEY MEMORIAL LECTURE—SIR W. S. CHURCH ON THE STATE OF THE PROFESSION—DINNER OF THE ROYAL ARMY MEDICAL CORPS TO MR. BRODRICK—GUILD OF ST. LUKE—THE LATE MISS HICKMAN.

LONDON, October 23, 1903.

THE two hundred and forty-seventh Harveian anniversary was celebrated in the usual way on Monday afternoon at the Royal College of Physicians. Dr. W. H. Allchin was the Harveian orator. The President, Sir William Church, wearing his black and gold robes of office, presided with the Carolinian mace reposing on a velvet cushion before him. A fair number of the fellows and members, some in academical robes, were present. These Harveian orations have so often repeated the tale of the discovery of the circulation and defended Harvey's claim to honor that nothing new can be expected. The orator, therefore, did not attempt this, but passed to the other part of his duty, that of commemorating benefactors of the college—not forgetting Harvey himself, who left his estate to it, and said they should remember those whose investigations had enhanced its reputation and imitate their example. Dr. Allchin then recalled the fact that Harvey was an anatomist, and that his knowledge and practice of anatomy enabled him to carry out his experiments and appreciate their results. Following up this point he considered the influence of anatomy on the progress of biology. Tracing the successive phases of structure from the most obvious to those revealed by the microscope and by chemical and electrical researches he remarked that in various departments of physiology there is yet much to be done to determine the ultimate structure of the tissues concerned. The phenomena observed in muscle, nerve-fiber, and gland cell offer problems for solution, and show that to the term structure we must give a wider range of meaning in order to reach into regions where theory has to take the place of fact. However true it may be that for a general conception of the physics of the circulation Harvey was beholden to his knowledge of anatomy, it is just as true that for our later acquired information of the share taken in the movement of the blood by the arteries an acquaintance with the structure of these vessels is necessary in order to refer their tone and elasticity to their respective tissues.

The problem that Harvey solved was broadly a mechanical one, but does not end with such information as anatomy and histology supply. For the complete understanding of the electrical and chemical changes which are associated with the passage of the nervous stimulus, and the muscular response we require to know what are the underlying molecular rearrangements and alterations in chemical constitution crudely represented by the formation of certain waste products. But just here precise knowledge fails and we turn to theory. When the limits of visibility with the most perfect instruments is reached the separate investigation of structure and function is no longer possible. The molecular constitution of living matter becomes conceivable only in terms of action. No deeper secrets of nature exist to be searched out by observation and experiment—none would more benefit man in their discovery. To that investigation, therefore, in obedience to the precept of Harvey, Dr. Allchin exhorted his audience to turn.

At the conclusion of the Harveian oration the president presented the following medals:

The Weber-Parkes medal and prize for investigations in the treatment of tuberculosis to Dr. Hugh Walsham and Dr. Walter J. Horne; the Moxon medal for clinical medicine to Dr. Hughlings Jackson; the Baly medal for physiology to Dr. Newport Langley.

Prof. Karl Pearson delivered the Huxley memorial lecture on the 16th instant. He took for his subject the "Inheritance in Man of Moral and Mental Characters and Its Relation to the Inheritance of Physical Characters." He has spent much time in collecting statistics with a view of elucidating the condition of the nature in these respects. He dealt with his figures as a master, and some of his audience must have followed him only by the closest attention and determined effort. I can therefore only mention points in his conclusion: General health he held to be inherited just as stature and head measurements. The same law governed mental and moral characters, consequently good qualities were in the breed and not created by the environment, though they might be cultivated by it. But the parental stock was of the first importance, education and other influences were quite secondary, or at least what could be gained thereby depended very much on the stock. I don't know

that this conclusion differs very much from the popular notions of the value of good breeding or from the experience of schoolmasters. You cannot develop a genius out of a dull boy or girl by the most prolonged education. The children of the physically feeble are heavily handicapped in the struggle of life, and it may well be that mental and even moral qualities are apt to fade in the contest. But even so we cannot altogether exclude environment.

We have heard much of our national decadence in physical qualities, though the pessimists have not convinced the nation that it is only a dying one. Professor Pearson seems to think that we are declining in the other qualities, and he blames the intellectual classes, which, he says, for the last forty years, enervated by pleasure and leading a wrong life, do not furnish the right stock to carry on the work of the empire. The remedy would be restraining the breeding by bad stock and increasing the fertility of the good. This, of course, can be done in the breeding of animals, but how can a nation accomplish it? Education is the modern panacea for everything, but if we tell men they ought not to marry, how many will heed us? Even if we admit that physical and psychical qualities march in parallel lines it is hopeless to expect to persuade the feeble or degenerate that their duty is to die out and leave the world to a better breed. And as to this better breed there are many who will deny its existence and say such views, though interesting to speculate about, are improved and, even if true, outside of practical consideration.

Sir W. S. Church gave an address on the 13th at the West London Hospital, in which he expressed satisfaction with the present state of the profession in many respects. He declared it to be impossible to attain the highest degree of skill and knowledge in all departments, and then by a curious *non sequitur* passed on to a mild protest against specialism. He was "filled with admiration" of the general practitioners who are, as a rule, "well up in their work" but would be the "first to repudiate the title of specialists." Then admitting that some specialists are "honest and honorable" he went on to enumerate some of the fashions in physic which have passed by, such as tracing all the ills to which flesh is heir to acidity or gout, or in females to versions, malpositions, etc., or in children to adenoids or phimosis, and at another time proposing abdominal exploration for all internal complaints. Really the president of the Royal College of Physicians seems a little confused in his reminiscences. He should look up the persons who indulged in these fashions and mark how many were honored fellows of his own college.

Would the president put down these persons? Would he even put down quacks who have no diplomas at all, no medical knowledge? No, occupying a high place in the profession, he is content to see them prey on the public to the injury of the general practitioner he professes to admire. Why? Because it appears to him that it would be an unwarrantable interference with personal liberty for the State to say you shall not receive advice as to your health from whom you please. It would be a monopoly—to him apparently a terrible bogey. He must know that the sister profession of the law is a close monopoly. Anyone pretending to act as a lawyer gets short shrift from the court. The rights of property must be protected. Surely a man's health is more important than his pocket. No one proposes to prevent a man asking advice from whom he likes.

The person to penalize is not the victim—the patient—but the fraudulent pretender, who takes the sick person's money under false pretenses. Sir William Church dwelt on the complete ignorance of the public which renders them so credulous, and said mankind was ever alike, and his credulity does not grow less with advancing times, and we have only to look at the advertisement pages of the newspapers to see this. Alas! that this is too true. But does it not show that the ignorant victims should be protected. We punish men in other cases for obtaining money under false pretenses, why not here? And why not prosecute the newspapers as "accessories before the fact" to the fraud carried out by their aid.

Mr. Brodrick responded to the toast "our guests" at a special dinner given by the Royal Army Medical Corps on Wednesday. He said when he joined the war office in 1886 there was one universal cry in Parliament and in the Press for a great reduction in the Army Medical Department. Accordingly reductions were made which they had ground to deplore. But the British public and the House of Commons never seem ready to take the responsibility they force on those who represented them. He had been accused of putting things too much into the hands of military men. The more the army could be conducted by those naturally in authority over it, the better, but they needed a strong permanent civilian support, because it was a Parliamentary army and the House of Commons was supreme. After referring to the steps which were being taken to bring the military hospitals up to date Mr. Brodrick expressed the hope that in the near future there would come into existence a medical reserve versed in military requirements which would be fit to supplement in war time the officers serving in the Army Medical Corps.

Upward of two hundred doctors, many in academicals, assembled on Wednesday evening at St. Paul's Cathedral to hear the choral service and sermon arranged by the Guild of St. Luke. This service has now become an annual function. The preacher was Prebendary Villiers, who took as text Job xxxii, 8. He remarked that the clergymen and the doctor were constantly in contact with the problems of suffering. It might be that suffering was a punishment for sin, but it was never safe to argue that it was. The problem, if it could be read at all, could be only by the incarnation, the lesson of which was trust in God. Without that, all was a burdensome enigma. Unbelief, he declared, was not infrequently of moral origin.

The mystery of the disappearance of Miss Hickman, the lady doctor, who left the Royal Free Hospital on the 15th of August and had not since been heard of, has been to a large extent solved by the discovery on Sunday of her body in an enclosed copse in Richmond Park. The easy position in which the body was lying, on the left side, suggests that she must have lain down to sleep. The copse is a small enclosure, but strictly preserved for small game, and so the body remained undiscovered for this long period. It is greatly decomposed, but the clothing, watch, a medal, and fountain pen have been identified. The discovery was made by some little boys who were trespassing in search of chestnuts, and found the body under a large chestnut tree, partly concealed by low bushes. The inquest was opened on Wednesday. The police surgeon, Dr. Gardiner, Dr. Seward, and Professor Pepper testified that the autopsy was entirely negative as to the cause of death. There was no sign whatever of violence. As it transpired that a bottle was found about nine feet away the inquest was adjourned to November 5.

## OUR PARIS LETTER.

(From Our Special Correspondent.)

WIDAL'S RESEARCHES REGARDING THE INFLUENCE OF VARIOUS DIURETICS ON THE SECRETION OF CHLORIDES—ROUX'S TREATMENT OF APPENDICITIS—SCHOTTELIUS'S EXPERIMENTS ON CHICKENS AND STERILIZED FOOD—ROTHSCHILD'S TREATMENT OF GASTROENTERITIS BY LACTIC ACID IN MILK—CARBONIC ACID AS A MEANS OF DESTROYING RATS—A RADIOGRAPH OF GALLSTONES.

PARIS, October 23, 1903.

Dr. Fernand Widal has been studying the effect of chloride of sodium on the kidneys in acute nephritis, and in his recent investigations he has concerned himself with the comparative effect of various diuretics on the elimination of chlorides. Ordinary salt would seem to be the great cause of œdema in acute nephritis, and its suppression from the food given has been followed by manifest results, which Widal described last June in an article published in the *Presse Médicale*. Two weeks ago Widal and Javal published another article in which they gave the results they had obtained in treating a case of acute nephritis by squill, theobromine, digitalis, and nitrate of potassium. The patient, a man fifty-three years old, had had a pseudomembranous angina fifteen years ago. Last April, nocturnal dyspnœa, and in July œdema. In a first series of experiments no drugs were given, and it was found that by putting the patient on a milk diet there was decrease of the œdema, weight, and albumin. This continued during a second period when food without salt was given him. In a third period it was found sufficient to add 6 to 10 gm. of chloride of sodium to his daily food to see all these symptoms modified, there being an increase in the quantity of albumin excreted, and in the weight and œdema. The patient was left on this diet and various drugs given him. Forty centigrams of powder of scilla were given daily for four days, and were found to have no effect. The albumin remained where it was, and the œdema increased. Theobromine was given for four consecutive days, 2 gm. each day, and the result was immediate. The weight diminished over thirteen pounds, the quantity of urine excreted was much larger, 3,675 c.c. instead of 1,045, the albumin disappeared almost completely, and the elimination of chlorides went from 3 gr. 85 to 18 gr. 68. For three days no drugs were given, and immediately the weight increased, the quantity of urine diminished, the albumin went up to 80 cgs. and the elimination of chlorides diminished noticeably. Nitrate of potassium was next tried, and it was found that the œdema increased, the albumin went up to 2 gr. 10, and the

chlorides were diminished. The patient came back to the hospital last September and digitalin was tried, with poor results, the œdema kept on increasing, and the weight increased 1,600 gms. in four days. It would therefore seem right to conclude that digitalis cannot produce good effects in epithelial nephritis. There is but slight increase in the elimination of the chlorides, whereas in heart disease the contrary is seen, as indicated by Huchard and Merklen.

Dr. Roux of Lausanne has shown himself conservative in the treatment of acute attacks of appendicitis, and Dr. Gaudin, one of his pupils and former assistant at his clinique, has recently published an article on this subject in which the views of his master are given. He chose a certain number of typical cases of appendicitis and divided them into five categories: (1) the usual form; (2) the retrocæcal one, with consequent abscess; (3) the meso-cœliac form, in which the appendix is found in the folds of the small intestine; (4) the pelvic form, with abscess; and lastly, a pernicious form, very seldom seen, in which there is no peritoneal reaction, death taking place almost invariably. With the exception of this last one, all these forms of appendicitis have a natural tendency to limit themselves, if the right medical treatment is carried out, and according to Dr. Roux, 95 per cent. of all cases of appendicitis require no operation, provided the treatment instituted by the physician is what it should be. The following rules should therefore be carried out: Absolute rest, the patient not being moved from his house. No purgatives. No solids nor liquids for forty-eight hours. In case there is any pain laudanum may be administered, or preferably, opium suppositories, and a few drops of liquid may be given at stated intervals, provided the patient has not vomited. The icebag is indicated only when there is distention. No enemas are to be given, a rectal tube being inserted to remove the efflatus. Only neglected cases will, as a rule, need to be operated upon, and the indications of the operation are as follows: discrepancy between the pulse and the temperature, suppression of free enuresis, dry tongue, very frequent pulse and high temperature, the change in the expression of the face showing a severe infection. Local symptoms, such as fluctuation, naturally justify an operation, which is, however, rarely found requisite in Roux's service, since the physicians in the neighborhood of Lausanne have ceased to use purgatives. In a small number of cases, in which the diagnosis of appendicitis had been made previously, it was found advisable to operate in the first twenty-four hours. Gaudin ends his article by remarking that a death in Roux's service from appendicitis is exceedingly rare, though, of course, the operation *à froid* is carried out as a routine measure when the patient has recovered.

Schottelius, a German physician, has carried out some experiments on chickens, which would tend to show that some bacteria are necessary to life. Five new-born chicks were fed on sterilized food, and notwithstanding the fact that they ate more than some other chickens, which were given ordinary food, they lived only from eleven to twenty-nine days.

There was no increase in size, and yet the digestion seemed to take place normally. Schottelius made another experiment, which consisted in giving some of the chickens a culture of bacillus coli gallinarum. There was an instantaneous change, the chickens beginning to grow immediately.

Dr. H. de Rothschild, a member of the well-known family of bankers, has recently communicated to the Academy of Medicine a novel treatment of gastroenteritis. Instead of suppressing completely all food, he centrifuges milk, so as to remove the butter, and then acidifies it by means of pure lactic acid. From 30 to 60 c.c. are given to the children. The results would seem to be quite surprising, the temperature dropping in a short space of time.

French obstetricians are looking with more and more favor on early and energetic treatment of all cases of eclampsia by means of immediate delivery. Dr. Maury has written a thesis on this subject, in which he describes this mode of practice. If labor supervenes during eclampsia, it should be hastened, whatever may be the presumed date of pregnancy. When such is not the case, and yet the attack is severe, induction of labor is the best treatment, quickness and celerity being practised in removing the child. In some cases the condition of the mother is such, that the only means of saving the child is to carry out *accouchement forcé*. After the eighth month has begun this should always be done, if the usual treatment is not rapidly effective.

Experiments have been carried out of late in Marseilles to ascertain if carbonic acid might not be used as a means of destroying rats on board ship. Forty cubic meters were used for a space of 120 meters. The hold was kept closed three hours, and then thoroughly ventilated by means of the same apparatus. A large number of rats which had been purposely placed in the hold were found dead, not one having escaped. There is no odor produced by this technique, and the merchandise cannot be spoiled.

Drs. Mauclaire and Infroit have been able to obtain a radiograph of gallstones. They described their technique at a recent meeting of the Academy of Sciences. A small tube, osmo-regulator, is charged by means of an eight-plate static machine, and held at a distance of 75 cms. from the radioplate, which is placed underneath the patient. The abdomen is flattened down by means of a band of linen. The tube that was used was but slightly penetrating and the pose lasted only ten minutes.

## VOMITING, GREEN STOMACH CONTENTS, APPETITE.

To the Editor of the Medical Record:

Sir: Dr. Benedict in his letter, published October 31 last, does not bring positive proofs in refutation of my statements, but asks questions. Allow me to begin in the same way and ask his own questions, a little modified, over again. Why is it that ordinary gastric contents or a few drops of mucus do not become highly irritant to the mucous membrane of every one who passes from dry land to a boat? How does a hair in the butter on the plate not suddenly transform agreeable food into irritating gastric contents in most persons? The story of the man with the filthy stories is luckily conceded to its probably being a myth. At the very outset Dr. Benedict asserts that the very irritation is a reflex action. I beg to differ and beg to make the statement that until the defenders of "reflex action" bring positive proofs instead of vague assumptions I shall remain a heretic in matters of medical mysticism. I swear by chemistry. Dr. Benedict undoubtedly concedes that there is a multitude of persons who do not get seasick. I am not aware that the positive statement of Dr. Benedict that "ordinary gastric contents" become highly irritant when passing from dry land to a boat is borne out by actually testing the stomach contents of the individuals, and that such stomach contents have actually been found absolutely normal. Why one gets seasick is a question yet to be answered. I confess I cannot answer it at present. But I am sure that the stomach itself comes in for its share. To make a statement that ordinary gastric contents produce vomiting under such conditions without having positive and actual proofs of the stomach contents being "ordinary" is rather risky for one professedly scientific. That persons can empty their stomach contents voluntarily by compressing their stomachs and intestines with the diaphragm and abdominal muscles is a fact which is utilized in our method of "expression" of the stomach contents. And it is my opinion that the illustrations of reflex vomiting given by Dr. Benedict are illustrations of voluntary contractions of the muscles just mentioned. It is not the hair in the butter, it is not the filthy story, but it is our thought of the hair of questionable origin, already being in our stomach, which makes one throw up that objectionable article by expressing the stomach contents for which one voluntarily, although almost unconsciously, uses the respective muscles. It is not the hair *per se* which makes that person vomit; it is a certain disgusting incident in which hair played a rôle. The sight of the hair in his food at once reminds the individual of such disgusting incident, and he, imagining the hair already in his stomach, voluntarily uses the necessary muscles for expressing the stomach contents. The act of vomiting has been produced by voluntary action of the muscles, not by reflexes.

Given an alimentary canal in which prevails the chemicopathological condition described by me as organacidia gastrica, in conjunction with a sudden jar to the inertia of the abdominal organs, as occurs to such organs in a sudden rise or sudden fall, as in the rolling of the ship, or in the sudden ascent and sudden descent in the elevators of our buildings, or in being violently thrown forward or backward when our electric cars suddenly stop or suddenly start, I can readily understand how the abdominal muscles just as suddenly and just as violently contract and protect the abdominal organs by thus contracting upon them, and this very violent contraction produces the vomiting. But I am not even willing to ascribe so much intelligence to the muscles. Whether suddenly rising or suddenly sinking, the abdominal organs, provided with considerable free motion, are thrown in the opposite direction by the physical, centrifugal force. This not only throws them against the abdominal muscles, which respond by contraction, but at the same time the hollow and highly elastic stomach and intestines are violently compressed, which again is the cause of the vomiting. Now, if a normal alimentary canal will require 100 units of force to produce such an effect, an affected alimentary canal might respond already to a force of but 50 units. I believe, in this

explanation we have something more concrete, something more substantial than the mysterious "reflex action." By the term of reflex action, as is commonly used in our science, we attempt to explain what we cannot otherwise explain. If we are to term every phenomenon of our life as due to reflex action, then, of course, all honor to reflex action. But the general profession does not take reflex action in that sense. With the same propriety we might call every chemical phenomenon—oxidation, ignition, explosion, etc.—a reflex action. Throw a little acid upon marble and marble shows evidence of irritation; it gets excited, begins to boil, gives off gases, etc. Are we not to understand by irritant as something abnormal to the body with which it chances to come in contact, abnormal either in quantity or quality, or in both?

Permit me again to assert that whenever vomiting occurs easily, the individual so vomiting must have his digestion inquired into, whether he as yet gives other symptoms or not. The cases in which the stomachs are profoundly affected and yet give no appreciable symptoms are many indeed. They go along heedless of slight digestive disturbances, believing themselves quite healthy until they suddenly collapse.

Concerning the green vomit I fear Dr. Benedict misquotes me. I do not believe ever having stated that green vomit was invariably due to green mold. I simply stated, and I do again repeat, that green vomit is most often due to mold, and I further state that the presence of bile can never be assumed, but must be proven by suitable means. I am glad that Dr. Benedict admits that he has also seen a few cases of green stomach contents in which the color was not due to bile, but to mold. And yet this seems not to have been known up to the time of my publication, and as to the respective frequency I do not wish to enter into any discussion, or controversy. I have also stated in some of my papers that I have always failed to get bile reactions while at the Augusta Hospital, Berlin; in Berlin, not in New York. That the green color of the stomach contents is not necessarily due to bile was also described by Dr. Kühne, an assistant of Professor Riegel of Giessen, Germany, some four months after my publication. Whether this work of Dr. Kühne was inspired by my publication I cannot say; Dr. Kühne does not say it either. But Professor Riegel received one of my reprints with a synopsis of it in German, much before his assistant's work was published. So, green stomach contents are not only not necessarily due to bile in New York, but neither in Berlin, nor in Giessen.

As to the decidedly yellow color (color of yolk of egg) of the aspirated stomach contents I fear Dr. Benedict may have to come to the same conclusion to which I recently came. And this is that such yellow contents do not come from the stomach but from beyond it, and that in such cases we deal with insufficiency of the pylorus. That the contents thus come from the intestines need not surprise us if they contain bile. I hope to speak on that at length at some future time.

Concerning appetite the old contention adhered to by Dr. Benedict does not work both ways. If appetite were simply the expression between cellular demands and nutritive supply, then we ought to assume that the absence of appetite means absence of any cellular demand for fresh nutritive supply. Does Dr. Benedict hold such view? How would Dr. Benedict explain the sudden appearance of appetite in some people immediately after drinking some cold water? Are we to assume that in the many patients with long standing anorexia there is no cellular demand for fresh nutritive supply? Does Dr. Benedict suppose that immediately after the introduction of the food into the stomach, when most usually hunger ceases, the cellular demand for nutritive supply has already been appeased, when it is well known to us that before the cells can derive their nutrition from the food just ingested, such food has yet to travel through quite a distance and be subjected to quite a good many and complicated chemical processes; that such travel and such chemical processes require a great deal of time, hours and hours; that long before the food has gone through its various digestive stages, long before such food had been finally absorbed and then distributed, we had already eaten once and again and were every time satiated after eating? No, no. Hunger is a lesser degree of pain, and is produced by the contraction of the muscular wall of the stomach, most likely, however, best appreciated by the pyloric region. We feel the hunger in the pit of the stomach. The stronger the contraction the more pronounced the appetite; the longer the contraction lasts, the longer lasts the sensation of hunger; the shorter is the duration of the contraction, the more evanescent is the hunger. Dr. Benedict seems to be somewhat confused about the area of the stomach, of which I mentioned nothing. A larger area of the stomach, surely, does not preclude its capability to contract. Contraction of the stomach means appetite, and, *vice versa*, relaxation and distension produce absence of appetite, anorexia.

In conclusion I wish to assure Dr. Benedict that I have taken his letter in a friendly spirit, and I hope that my answer will be likewise so received.

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## CIRCUMCISION IN INFANCY.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Inasmuch as the article on "Circumcision in Infancy," by Wm. B. Harlow, M.D., appearing in your issue of September 26, 1903, has been severely criticised by at least two writers, I beg space to indorse the article in question. I hardly think anyone, after a careful reading of article will maintain that the writer holds that cases never arise requiring circumcision. The purports of article seemed rather to call a halt on the all-too-frequent removal of a necessary covering of an important organ. If we remember that the foreskin is richly endowed with sebaceous glands, and especially about the duplicature where it becomes continuous with the closely adherent covering of the corona, we will be forced to admit that Nature has an object, and that object seems to be the protection of the delicate parts covered by this fold. The secretion by this delicate skin (not mucous membrane), of the smegma præputii is not an accident. but seemingly has a twofold porpose, viz., to lessen the friction of the folds and to prevent irritation from the presence in this field of abnormal urine. Now, if this be the correct view, the smegma is not the cause of irritation, but is rather an aid in preventing it, and in the large number of cases a careful examination of the urine will disclose the difficulty, and proper steps taken will correct the fault, and the smegma may remain to carry out its appointed work.

I agree with Dr. Shellenberger regarding the use of the probe to bfeak down adhesions. In fact, I believe the large majority of cases actually requiring something to be done, can best be treated by the probe, and thus we avoid the necessity of removing the foreskin. In regard to the question of self-abuse, the most inveterate case of the kind I ever had was in a boy upon whom circumcision had been done several years before. I think that this habit is not a question of prepuce or no prepuce but one of the environments of the particular case.

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## Progress of Medical Science.

*The Boston Medical and Surgical Journal*, Nov. 5, 1903.

**Observations on the Iodine Reaction in Children.**—Charles Hunter Dunn gives a general summary of results from the cases in which he has observed the iodine reaction in children: (1) The reaction is always present, usually of average and often of marked intensity, a high percentage of cells being affected in the following conditions: Lobar pneumonia, bronchopneumonia, cerebrospinal meningitis, influenza, empyema, supuration (non-tuberculous), and was found present in single cases of appendicitis, diphtheria, and starvation. (2) The reaction is usually present, but may be absent, in cases of typhoid fever and miliary tuberculosis. (3) The reaction may be absent or present in anæmia. (4) The reaction is usually absent but may be present in nephritis, cardiac valvular disease, and tuberculosis.

**On Gastric Tetany.**—B. G. A. Moynihan declares that the records given by many writers show that gastric tetany is an extremely serious and often fatal disease. But nearly all of these serious cases cited by various authors are of old standing. For months, or for many years, the chronic gastric ulcer, the consequent stenosis, the dilated and hypertrophied stomach, have all caused trouble. Severe gastric tetany is seen only in the late stages of such cases. Such late stages are preventable. Three leading theories concerning the etiology of gastric tetany have been advanced. The first theory attributes this tetany to the general desiccation of the tissues of the body. The second theory suggests that the tetanic spasms are due to a reflex action aroused by the stimulation of the sensory nerves of the stomach. The third theory is that of autointoxication. In nearly all of the recorded cases of gastric tetany, dilatation of the stomach has been a pronounced feature. The medical treatment of gastric tetany consists in frequent and thorough lavage, strict dieting, and the administration during the height of an attack, of sedatives. By treating the cases of severe gastric tetany surgically, the lethal type of this disease will soon disappear. The earlier adoption of surgical measures in these gastric conditions in which there is grave mechanical impediment to the free working of the organ, will banish the last desperate forms of gastric tetany.

*Journal of the American Medical Association, Nov. 7, 1903.*

**Leprosy in the Hawaiian Islands.**—Judson Daland has made a study of this disease at the Molikai leper settlement, and states that the prevailing opinion in the islands concerning the disease is as follows: (1) The Bacillus lepra is the cause of this disease. (2) This disease is feebly contagious. (3) The Hawaiian is peculiarly susceptible to leprosy. (4) The Caucasian possesses a high degree of immunity. (5) Syphilis predisposes to leprosy. (6) Heredity is a factor of but little importance in the causation of this disease. (7) Segregation prevents the spread of leprosy. (8) The precise manner in which this disease is ordinarily transmitted from the sick to the well has not been proven. (9) There is no cure for leprosy. (10) Benefit may be derived from good hygiene, good food, climate, hot baths, and the antiseptic treatment of ulcerative surfaces.

**Leprosy from a Sanitary Standpoint.**—Isadore Dyer gives an historical summary of the spread of the disease, and has the following to offer concerning its prevention: First, as to the individual, either the patient should be segregated with those of like condition, or else, if he lives in his own family, he should be given a separate room; should have his meals alone; should wash his own utensils and should have his laundry boiled separately. The author believes that this is difficult, because, even when the family are aware of the disease they become careless in the family relations. Second, as to the public. The proper public care of lepers provides (*a*) segregation under systematic methods which should consider (1) the segregation of the sexes; (2) some arrangement by which the trophic or nerve type should be entirely separate from the tubercle type or skin leprosy, because there is no reason why a leper with nerve leprosy should not acquire fresh lesions from infection by a new contagium carrying the leper bacilli, found so freely in the tubercle type. Heretofore leprosy has been held as incurable, and the simple diagnosis of leprosy has been sufficient to condemn a victim, irrespective of the type, and he is doubly condemned if he is exposed to fresh infection while he is trying to get well. (*b*) Particular methods of sanitation should obtain. No institution pretending to care for lepers should be without the fullest equipment for bathing facilities, both medical and plain. Water in leprosy is as potent in its prophylaxis as it is for remedial use.

**A Case of Combined Diaphragmatic or "Bimanual Massage of the Heart" During Collapse Following Chloroform Narcosis.**—The patient of H. M. Cohen was a woman of thirty-two years operated on for ovarian cyst. The collapse from the anæsthetic came on fifteen minutes after the commencement of the operation. After the usual measures employed for two minutes had elapsed and no reaction had been established, he introduced his left hand into the abdominal cavity, pushed along the anterior abdominal wall until the diaphragm was reached, and, placing the hand, palm upward, in about the position the heart would normally be; that organ was easily grasped through the relaxed and intervening diaphragm. There was an entire absence of heart action. Placing the right hand over the præcordial region, externally, he plainly palpated the heart, as it lay between his two hands. In other words, with the heart grasped between the two hands he practised "bimanual palpation." He then began rhythmical compression of the heart, using both hands, at a rate of about sixty times a minute. After about thirty seconds a slight beat was felt by the left hand. The heart now began slowly to beat, gradually increasing both in strength and rapidity of beat, until at the end of one minute after massage began the beats registered about eighty per minute, and respiration began to be partially reëstablished. About two minutes after this respiration was normal, pulse 80 and, shock being apparently recovered from, the anæsthetic was changed to ether, and the operation finished in about thirty minutes. At the completion of the operation the patient was in good condition.

*Medical News, November 7, 1903.*

**Circular Laceration of the Cervix Uteri.**—Hugh Crouse declares that the porous cervix nearly always shows some signs of laceration. The degree varies from a mere indentation to a circular separation of the cervical tissue. The literature is very barren in regard to circular laceration. The writer reports two cases of this kind. In the first case a peculiar ribbon of tissue was united to the extent of half an inch at both ends, to the cervix. The condition was seen to be a circular laceration of the cervix. Ten hour had intervened since the delivery of a child by a midwife, and the parts between the attached ends were black and devitalized. The band was removed by means of scissors, the edges sterilized, and antiseptic douches ordered twice a day with good results. In the second case the posterior lip of the cervix was found to have a circular tear involving nearly half of the circumference, the breadth of separated tissue being about half an inch. Snug iodoform gauze packing was applied with good results.

**A Study of Immunity; Ehrlich's Side-chain Theory.**—F. M. Pottenger states that Ehrlich, while working to standardize diphtheria antitoxin, made several important observations which finally led to the enunciation of his side-chain theory. Among other important observations he noticed that toxin and antitoxin combine in definite proportions, that this combination is hastened by heat and retarded by cold, and that it takes place more quickly in a concentrated than in a weak solution. These facts showed this action between toxin and antitoxin to be very much like other chemical reactions. Ehrlich conceives of the body cells, the writer says, as consisting of a central nucleus and a number of side-chains or receptors. These side-chains possess certain affinities which are satisfied by, or correspond to, certain side-chains of cells, which are introduced from without the organism. These side-chains have to do normally with the nutrition of the organism, the food material being taken of by its combination with the side-chains of the cell. When a poisonous effect is produced upon the organism, it likewise must be produced by a combination being formed between it and some of these side-chains. It cannot be, the writer believes, that nature has endowed the cells of the organism with special side-chains for poisonous materials, but rather that these poisons are capable of forming unions with some of those which are normally intended to seize upon nourishing particles. When a poison has attached itself to a cell through its side-chains, if the action of the poison is slight, the cell is only slightly injured, and tends at once to reproduce the injured side-chains. It is likely that not only enough of these are produced to replace the injured ones, but also that a larger number are formed, which are cast off into the blood and lymph stream. They are the antitoxin. They combine with the poison and prevent it from combining with the side-chains which are still fastened to, and a part of the cell. Behring says: "The same substance which, when incorporated in the cells of the living body, is the prerequisite and condition for an intoxication and becomes the means of cure when it exists in the circulating blood."

*New York Medical Journal, November 7, 1903.*

**Deep Breathing.**—R. C. Newton offers the following conclusions: (1) Deep breathing is essential to good health, and is in many cases a valuable therapeutic measure. (2) Its importance is not at all generally appreciated. (3) It should be a part of every child's education. (4) It is especially indicated for backward and sickly children. (5) The profession owes it to itself to study more deeply this vital question and to be able to instruct the laity fully upon all its bearings.

**The Importance of the Physical Examination of the Abdomen as a Routine Practice, Irrespective of What Be the Symptoms.**—M. J. Knapp reports a series of cases illustrative of the fact expressed in the title of his paper. Thus, Case 1 complained of dyspepsia. Examination showed a displaced kidney. Case 2 was supposed to have a prolapsed uterus, but also had floating kidney. Case 3 had organic heart disease, but abdominal examination showed a tumor supposed to be of the omentum. Radiography showed it to be probably a stony tumor of the head of the pancreas. Case 4, diagnosticated as gastritis, had, as proven by operation, an adenocarcinoma of the pylorus. Case 5 complained of fulness in the abdomen and gnawing sensation before eating. Examination showed a gastric tumor. Case 6 complained of dyspepsia and cramps; was found to have an enlarged spleen adherent in the left iliac fossa. Case 7 had suffered from indigestion, but had a tumor of the jejunum.

**Some Principles on Which Is Based the Therapeutics of Electricity in Nervous Diseases.**—A. D. Rockwell believes that the reasons why so many physicians are disappointed in the results of electrical treatment are: (1) Ignorance of the physics and physiology of the method employed. (2) Imperfect technique. (3) Failure to appreciate the differential indications for the use of the various modalities. He then discusses the conditions presented by various common maladies so far as indications for the employment of electricity are concerned. Concerning true neuralgia he notes that pressure invariably increases the pain, while in pseudo-neuralgia it often affords relief. In these cases the local application of the cathode is to be preferred to that of the anode. Not only this, but the faradaic current itself is peculiarly effective in such cases, and will give relief when the galvanic utterly fails. But there is another reason, and one perhaps that will be more readily appreciated, why electricity relieves pain. It does it through its influence over vasomotor activity. All pain is necessarily due to nerve pressure, and

by exciting the activity of the circulation through congested areas—inducing, indeed, a sort of circulatory drainage—the disappearance of pain is often coincident with relief of pressure. It acts very much on the principle of the applicaion of heat, the difference being that its effects are more far-reaching, as evidenced, for example, by its influence over the pain of deep-seated malignant growths.

*American Medicine, November 7, 1903.*

**Nostalgia and Melancholia in the Tropics.**—E. S. Corson concludes: (1) That Americans, owing to their strenuous mode of living and the depressing conditions of the tropical climate, are especially liable to nostalgia and melancholia. (2) That persons suffering from nostalgia should be watched, and when it is complicated by melancholia they should be advised to return home at once. (3) That sanatoriums at high altitudes, if not already provided, should be exploited at once for the recruiting of the health of soldiers and civilians. Only the Government can do this. (4) That an especial effort should be made to educate all persons residing there as to the best methods of living for the preservation of health.

**Hyaline Bodies in Tumors and Other Kindred Conditions.**—Randle C. Rosenberger presents the following conclusions: It is seen from the specimens studied that these hyaline bodies were observed with great regularity. They were in most cases quite deeply situated in the tissues, while a great many more were seen intracellularly. Some of them gave quite a typical reaction of amyloid material, while the greater number failed to give this reaction, Treating them with dilute hydrochloric acid failed to produce effervescence. The writer believes that they correspond most closely to the fuchsin bodies described by Russell, and that they really represent some degenerative change occurring in the cell or cell nucleus. That they play some part in the etiology of the conditions in which they are found seems doubtful, notwithstanding the fact that they are found deeply situated and intracellular. They do not possess the peculiar intracellular characteristics which Plimmeis bodies do, being distinctly hyaline. They may, however, represent a hyaline or amyloid degeneration of blastomycetes. The fact that cultures were not obtainable in any case upon various media and the failure to demonstrate true budding seems almost positive proof. the writer believes, that they are not blastomycetes.

*The Lancet, October 31, 1903.*

**An Antenatal Case of Measles.**—J. R. Gibson reports the case of a woman attended in a third and normal confinement. The nurse when washing the child called attention to some dull red spots on the buttocks. A suspicion was entertained of a syphilide, but no opinion was expressed, as the two previous children were very healthy and the character of the parents was above reproach. On the next morning the uncertainty was cleared up, for the author found the child covered with a typical measles rash and suffering from suffusion of the eyes, nasal catarrh, and bronchitis, and, in short, all the cardinal symptoms of measles. The child recovered in the usual period and without any medicinal treatment. The temperature ranged from 99° to 100° F. The mother made an uninterrupted recovery and showed not a single symptom of measles. When the baby was eight months old the other two children took the measles but the baby did not. The mother had had measles when a child.

**On the Great Importance from the Point of View of Medical Science of the Proof that Bacteria and Their Allies Are Capable of Arising De Novo.**—H. Charlton Bastian calls attention to the important bearing of the possible origin of bacteria *de novo* on the theory of the origin of contagious disease. He notes that under the influence of unhealthy local or general conditions the common microorganisms entering the body may possible be made to take on new properties and be, in fact, converted into one or other of the so-called specific or pathogenic organisms. Certain experiments on the lower animals seem to show that certain germ-free chemical substances can set up a septicæmia indistinguishable from that set up by bacteria. Frequent epidemics of typhoid fever have occurred in which it has been assumed that the disease has arisen *de novo*, The results of treating tuberculosis in modern sanatoria seem to the author to favor the view that it is commonly an affection produced *de novo*, and altogether apart from contagion. What the author has to say with regard to tuberculosis, he regards as equally applicable to leprosy, with perhaps certain slight variations. It cannot be denied that the disease is to a slight extent contagious, but there is much evidence to show that in the main it arises *de novo* There is certainly nothing unreasonable in the supposition that putrid fish, or other bad food of like kind. may carry into the system bacteria and the toxic products which they have formed, and that the continued influence of such bodies may in some persons act as irritants, and either engender or awaken organisms in this or that tissue having the characteristics of the leprosy bacillus, just as boiled dilute liquor ammoniæ injected into the subcutaneous tissue of a guinea-pig or a rabbit produces, even within a few hours, swarms of the bacillus met with in "Pasteur's septicæmia," so called, or as two or three drops of putrid blood in the same situation may give rise to the appearance throughout the body of swarms of the more distinctly specific bacilli which suffice for the indefinite propagation of what is known as "Davaine's septicæmia."

*British Medical Journal, October 31, 1903.*

**Two Cases of Epithelioma of the Larynx Remaining Well Two Years after Operation (Thyrotomy).**—Eugene S. Yonge reports these cases: The first case was that of a man aged fifty-seven years. His first symptom was hoarseness. This had lasted for about twelve months when he presented himself for examination. The second case was that of a man aged sixty-seven years. He had been hoarse for eighteen months. In both instances tracheotomy and thyrotomy were performed. The results so far are excellent, as in each case the voice is useful, and as yet there has been no recurrence, two years after operation.

**The Surgical Treatment of Cancer of the Larynx.**—E. J. Moure discusses first the treatment of extrinsic cancer of the larynx. In the case of a very limited growth which has begun near the free edge of the epiglottis, on its lingual and laryngeal surface, its removal may be accomplished by the snare or cutting forceps. When the growth is more extensive, it becomes necessary to perform an external operation. For this purpose the writer prefers transhyoid pharyngotomy. In cases of intrinsic cancer of the larynx thyrotomy has been reinstated in favor. If during the operation of thyrotomy malignant degeneration of part of the thyroid cartilage is observed, partial laryngectomy may be indicated. If the growth is still more extensive, the whole larynx may be removed. The writer insists upon the supreme importance of early diagnosis.

**A Discussion on the Operative Treatment of Malignant Diseases of the Larynx.**—Felix Semon states that the history of radical operations for malignant disease of the larynx is of comparatively recent origin. He reviews briefly the various forms of operation. There is first of all the intralaryngeal method, which, according to the writer's belief, is well adapted to the removal of growths from the surface of the laryngeal tissues. But a characteristic of malignant neoplasms is their infiltration of the mother soil. In such cases this method is not a satisfactory one. The operation of thyrotomy is indicated in all cases of intrinsic malignant diseases of the larynx, in which the diagnosis is made at a time when the disease is not too extensive, nor apparently too deeply infiltrating. Partial extirpation of the larynx is next considered. The writer believes that the earlier the diagnosis is made, the rarer this operation will become. There are certain cases in which the performance of total extirpation of the larynx may become unavoidable to save the patient's life. Subhyoid pharyngotomy is suitable for cases in which the disease starts from the epiglottis, or from the aryteno-epiglottidean fold. Its technique is easy, and it offers a good view of the field of operation. The writer finally discusses palliative tracheotomy. He believes that operative treatment of malignant disease of the larynx will yield the more satisfactory results, the sooner the diagnosis is made, and the earlier and the more thoroughly operation is carried out.

*Deutsche medinische Wochenschrift, October 22, 1903.*

**The Mechanism of Intestinal Strangulation.**—Wilms reiterates his previous conclusions regarding the mechanical components of the force which causes internal strangulations to increase in volume at the expense of the emerging loop. Kertecz has assailed these mainly on the strength of experiments conducted on the rabbit, but the author considers that the comparatively weak peristalsis of this animal's intestine does not permit the assumption that human gut will behave in an analogous manner, and also that Kertecz's investigations were carried on mainly under conditions similar to those prevailing in strangulated external hernias, and not comparable to those existing ininternal strangulations in which an equal pressure is exerted both on the strangulated and non-strangulated gut. Kertecz believes that peristalsis is wholly inactive in the increase in size of the strangulated portion, while intra-abdominal pressure supplies most of the force, and that it is the emerging loop which is pushed through the constricting ring, owing to the greater distention of the entering loop. The author's view is that the emerging loop

is drawn through the ring first by peristalsis and, secondly, if the constriction is so tight as to check this, by the distention of the incarcerated gut. It is the emerging loop which is drawn in under the latter conditions, owing to the fact that the entering loop is usually more firmly adherent to the constricting ring.

**The Etiology of So-called Rheumatic Tetanus.**—Racine and Bruns report a case which confirms the view that idiopathic and rheumatic tetanus do not exist. If a thorough search does not reveal the site of entry of the infection the disease may be called cryptogenetic, but not idiopathic. In this case the patient a miner, reached the hospital, presenting the typical picture of tetanus, after five days of symptoms gradually increasing in severity. Under serum therapy he improved and was discharged, cured on the nineteenth day. Not the slightest abrasion could be found about the nose or throat, or on the surface of the entire body, and there was no history of any injury. The case therefore fitted exactly the ordinary description of "idiopathic" tetanus, but on the third day of his hospital treatment the patient admitted having suffered about three weeks previously from a discharge from one ear. To relieve the irritation caused by this he attempted to clear the meatus with straws torn from the broom with which he was accustomed to sweep the floor of the mine, and which was necessarily soiled with horse dung. Cultures made from the cerumen of the ear gave positive results, and the mystery was solved. The authors, therefore, advise most caution before making the diagnosis of idiopathic tetanus, and recommend that aural examination be added to the routine in all such cases.

*Münchener medicinische Wochenschrift, October* 20, 1903.

**Toxin and Antitoxin.**—Gruber belabors sharply Ehrlich's doctrines concerning the relations of toxins and antitoxins and characterizes them as speculative vagaries without a basis in fact. He believes that Ehrlich's attempts to reduce the changes taking place in living tissues to chemical reactions do not offer any hope of success and brings forward various general statements to prove the fallacy of Ehrlich's theories. His own idea is that the formation of antibodies is of the nature of a secretory activity resulting from long-continued stimulation, a process therefore likely to remain incomprehensible indefinitely.

**A Mirror Sphygmograph.**—Frank describes an important improvement in the construction of sphygmographs intended to obviate the errors due to the mechanical faults of the instruments now in common use. These all depend on a series of levers to convey a record of the excursions of the arterial wall to a strip of smoked paper. Two sources of error enter into such a mechanism, the inertia of the masses involved and the friction of the numerous moving parts. The author employs a pad brought into contact with the vessel by the usual means, but actuating instead of the customary system of levers, tambours, etc., simply a mirror which reflects a pencil of light into a moving photographic film, and thus leaves a record of its oscillations. By the use of the modern daylight loading film cartridges and developing machines the process becomes very simple in its execution and the apparatus is sufficiently compact and easy of manipulation to permit of bedside observations. Owing to the strong illumination employed to furnish the ray of light the observations do not require to be made in a dark room.

*Journal of Tropical Medicine, October* 15, 1903.

**Notes on the Culicidæ of Dehra Dun.**—F. Wyville Thomson describes a new mansonia with spotted wings, which closely simulates the anopheles. He complains of the ignorance and apathy of the laity in the Himalayan foothills, who still breed domestic mosquitos by the millions, no amount of advice inducing them to take the trouble of going around to empty or oil their tanks, etc. With regard to oiling, the author has found that a mixture of a little ghi with kerosene seems to spread better, the pure oil remaining in globules unless agitated. Ghi shoots out over the pool quickly, or makes the oil do so.

**Remarks on the Panama Canal, and the Introduction of Yellow Fever into Asia.**—St. George Gray states that his attention has been called to the fact that in a previous article he omitted to point out that steamers may serve as breeding places for mosquitos and thus carry infection to other countries. The omission was due to an oversight. In regard to the question of whether the organism of yellow fever can be transmitted by the female imago to her offspring, he says that it appears unlikely. His previous suggestions were not meant as a fixed guide for the prevention of yellow fever, from which there could be no deviation, but merely an outline of precautions to be taken. Nothing should be left undone that will aid in keeping the scourge of yellow fever from the densely crowded cities of the East.

**Note on the Use of Kerosene as a Culicicide.**—St. George Gray, from his experimentation, concludes that when ordinary illuminating oil is used as a larvicide, *all* the adult insects that come to oviposit are not killed by it, but that the majority of the mosquitos get away after laying their eggs. Of course, the larvæ never develop under the film of oil. There is, however, no better larvicide than kerosene, and the author uses it freely to keep down the number of mosquitos, but he wishes to emphasize the point that it does not kill all the adult insects that come to lay their eggs on the surface of the water. Crude petroleum would probably have killed more of the insects.

**Varioloid Varicella in Trinidad.**—J. R. Dickson says that this disease was at first considered to be varicella. It is a febrile disease contagious in nature, with definite stages of incubation, invasion and the appearance of a cutaneous eruption. The incubation period is from ten to fifteen days, the invasion about three days, with headache, muscular pains, and fever. The rash usually appears on the fourth day as papules, going through the successive stages of vesiculation, suppuration, desiccation, and desquamation. It invades the body in successive crops. The extremities, face and back of the trunk are the parts most affected, the palms of the hands and soles of the feet were frequently affected. The severer the case the more copious relatively is the rash on the trunk, and the elements show a greater tendency to be confluent on the forearms and flanks than on any other part of the body. The mortality is very low—about 0.44 per cent. The outstanding feature of the disease is its atypical character. In upward of 95 per cent. of the cases there is no fever after the period of invasion.

*French and Italian Journals.*

**The Treatment of Traumatic Articular Affections.**—M. Mally and M. Richon conclude that in all functional impotence following articular traumatism we should always bear in mind the spinal affection closely connected with articular disease, whose best known and most evident symptom is reflex amyotrophia. Clinically this will be manifested by an exaggeration of the excitability of the muscle and of the tender reflexes, and by the appearance of spasms, and painful contracture. If spasm be absent, the joints may be treated by mobilization and massage, and the muscles by electricity, If there be spasm, faradization and massage must be proscribed, and electricity applied in sedative form. Even in cases of incurable reflex amyotrophia, static electricity will be of benefit in overcoming pain and calming spasm.—*Archives Générales de Médecine*, September 29, 1903.

**Sweating in Pulmonary Tuberculosis.**—V. E. Bouic holds that the sweating in tuberculosis is due to the direct action of the Koch bacillus and its toxins, in addition to other toxins of the body. Sweating, fever, emaciation, digestive troubles, etc., are all due to the same cause, *i.e.* the infection of the organism. The perspiration plays a useful part in moderating the fever by evaporation, and in eliminating a certain amount of toxin, but it causes insomnia, induces chilling and weakens the patient. It must be treated (but not suppressed) by treating the cause—in other words, the intoxication. The kidneys should be acted on by milk, and various diuretics; the bowels left open by enemata, laxatives, and purgatives if necessary. Should this treatment be of no avail, the sweating should be left to do its work of elimination.—*Gazette des Hôpitaux*, September 29, 1903.

**The Nasal Treatment of Dysmenorrhœa.**—Aristide Malherbe says that Thiers of Berlin has demonstrated that many disorders of menstruation are directly traceable to disturbances in the nasal fossæ. The statement when first made was received with incredulity, but Schiff corroborated it later, and the present writer has carried out researched in the same line. The anterior extremity of the inferior turbinated bone and the "tubercle" of the septum are often the seat of decided congestion during menstruation, bleeding readily and being extremely sensitive to the touch. The author holds that the reflex genital pains are due to some special condition of the innervation of the nasal mucous membrane, and perhaps to some alteration of the mucous membrane of these two spots in the nose. The treatment which he adopts, and which has in thirty-five cases yielded absolutely satisfactory results, is the insertion of tampon impregnated with a 5 per cent. cocaine solution, followed by cauterization with the galvanocautery. This is done in the interval of the menses, and may have to be repeated once or twice. In the case of hypertrophied mucosa, the latter may be removed under ether, being careful not to injure the cartilage. Much temporary relief of pain may be given, at the time of menstruation, by the application of cocaine tampons to the so-called "genital points" of the nose, referred to above.—*Le Bulletin Médical*, October 21, 1903.

# Book Reviews.

A Textbook of Clinical Anatomy for Students and Practitioners. By Daniel E. Eisendrath, A.B., M.D., Professor of Clinical Anatomy in the Medical Department of the University of Illinois, Attending Surgeon to the Cook County Hospital, Chicago. Philadelphia, New York, and London: W. B. Saunders & Co., 1903.

The novel title of this work is in keeping with its subject. The term Clinical Anatomy may be understood as anatomical knowledge applied to clinical work. The importance of such a study must be admitted by all, and the thoroughly practical manner in which the author has performed his task will meet with general approbation. It is applied and topographical anatomy in its larger and more direct sense as the essential aid to the correct interpretation of morbid phenomena. The author rightly says that the ordinary student in his dissections is mostly contented to memorize relations rather than make them useful object-lessons. Hence in his after-work he is often at a loss to locate accurately organs and properly appreciate topographical relations. Even the operating surgeon who is supposed to be most accurate in his anatomy is often amiss in his landmarks and needs a constant reminder of important relations. In the laudable endeavor to supply this lack of knowledge the author has by numerous or schematic illustrations succeeded in representing various parts of the body in an apparently transparent condition, showing the proper relations of the deeper with the more external parts. A special recommendation for the figures is that they are mostly original and were made for the purpose in view, many of the surface outlines having been marked upon an artist's model and then photographed. The sections of joints and trunks are those of formalinized cavaders and are unimpeachable in accuracy. It is safe to say that both the medical and surgical clinician will find this work of inestimable value.

A Manual of Operative Surgery. By Sir Frederick Treves, Bart., K.C.V.O., C.D., LL.D., F.R.C.S. New Edition, revised by the author, and Jonathan Hutchinson, Jr., F.R.C.S., surgeon to London Hospital. Vol. I, 8vo, pp. 750. Philadelphia and New York: Lea Brothers & Co.

Only two years have elapsed since the first edition of this work appeared, and much revision has been required to keep up with advancing surgery during that period. The general plan of the manual remains, however, unaltered. The distinguishing feature of the work is the thoroughly practical one of definite modes of procedure in given cases as the outcome of individual experience. The practice is that of Sir Frederic, and represents the advanced school of English surgery. The lucid descriptions of operations appeal as directly to the inexperience of the beginner as to the convictions of the veteran. Many new illustrations have been inserted, adding materially to the general usefulness of the work.

An American Textbook of Surgery for Practitioners and Students. Edited by William W. Keen, M.D., LL.D., F.R.C.S. (Hon), and J. William White, M.D., Ph.D. Fourth Edition, 8vo, pp. 1333. Philadelphia, New York, and London: W. B. Saunders Co., 1903.

The present edition of this work shows evidences of much revision and elaboration in the chapters on Bacteriology, Tumors, the Osseous System, and the Surgery of the Joints, Nerves, Head, and Abdomen. The notable additions comprise the treatment of facial paralysis by anastomosis, the latest views on shock, goiter, hernia, aneurysm, the use of paraffin in nasal deformities, the various improved methods of spinal anæsthesia, and the new anæsthetics.

Six new chapters appear, adding nearly a hundred pages to the volume. These are on Military and Naval Surgery, Tropical Surgery, Examination of the Blood and Immunity. It is essentially an American work—all of the contributors being well-known American surgeons, and, of course, does infinite credit to the conception of its editors.

Modern Microscopy, a Handbook for Beginners and Students. By M. I. Cross and M. J. Cole. Third Edition. Chicago: W. T. Keener & Co., 1903.

This book is made up of three parts. The first deals with the microscope, and gives instruction for its use; the second considers the preparation and mounting of microscopic objects, and the third discusses the choice and use of microtomes. Every good workman should thoroughly know his tools, and, hence, he who aspires to be a good microscopist should make himself familiar with the construction of the microscope. Explicit directions are given for the testing and selection of the microscope, the objectives, and the accessory apparatus. In the second part Mr. Martin J. Cole describes, in successive chapters, each separate stage of procedure for the preparation of microscopic objects, and gives, in a convenient table for reference, a list of tissues and organs with the most suitable hardening, staining and mounting reagents. A feature of the present edition is the introduction of Part 3. Here Mr. G. West of the Botanical Laboratory, Edinburgh, has compressed into small space much practical information which, though most useful to the beginner, could not be readily obtained elsewhere.

Surgery: Its Theory and Practice. By William Johnson Walsham, F.R.C.S. (Eng.), M.B. and C.M. (Aberdeen), etc. Eighth Edition by Walter George Spencer, M.S., M.B. (London), F.R.C.S. (Eng.), Surgeon to Westminster Hospital. Philadelphia: P. Blakiston's Son & Co., 1903.

The eighth edition of this popular English surgery has been revised and elaborated by Mr. Spencer. A number of pages have been added and also many new illustrations. In its present shape it is an admirably concise and comprehensive textbook and fully up to date.

American Pocket Medical Dictionary. By W. A. Newman Dorland, M.D. Fourth Edition. Philadelphia and London: W. B. Saunders & Co., 1903.

The appearance of four editions of this work in about as many years tells, in no uncertain way, of the satisfaction derived from the use of a dictionary of small size and convenient arrangement. It is probably the experience of all that such books are consulted much more frequently than larger works. In this edition several thousand of the newest terms have been inserted, while the tabular matter of former issues has been retained.

Intracranial Tumors among the Insane. By J. W. Blackburn, M.D., Pathologist to the Government Hospital for the Insane, Washington, D. C. Washington: Government Printing Office, 1903.

This is the report of a study of twenty-nine intracranial tumors found among 1,642 autopsies among the insane. It is mainly of interest from the standpoint of the morbid anatomy and histology of the growths described, being of no clinical value, for all of the cases are without satisfactory antecedent history or observation. Almost the entire book consists of numerous plates and drawings which are well executed.

A Dictionary of Medical Science, containing a full explanation of the various subjects and terms of Anatomy, Physiology, Medical Chemistry, Pharmacy, Medicine, Surgery, Gynecology, Medical Jurisprudence, Dentistry, Veterinary Science, etc. By Robley Dunglison, M.D., L.L.D., late Professor of Institutes of Medicine and Medical Jurisprudence, Jefferson Medical College, Philadelphia. Twenty-third Edition. Thoroughly revised, with the Pronunciation, Accentuation, and Derivation of the terms, by Thomas L. Stedman, A.M., M.D. Philadelphia and New York: Lea Brothers & Co., 1903.

A work that has held its place in the front rank of authority for nearly three-quarters of a century needs no recommendation for continued usefulness. In being kept abreast of the times during twenty-two editions it has the almost unique distinction of successfully surviving the almost countless textbooks of that period. The author's purpose in making the dictionary a comprehensive "epitome of the existing condition of medicine" has been consistently kept in view by the present editor, whose endeavor has been not only "to give merely a bald definition or array of synonyms, but to explain the condition denoted by the term." Some of the old definitions have been made more concise, but the identity of the author has been preserved as far as possible in making such terms consistent with a rapidly advancing science. For the same reason the author's preferences have been respected in the choice of principal terms when the word preferred by him has not become absolete. The elaborate system of cross references will, however, quite effectually prevent any confusion of relative significance of synonyms. With the great increase of new medical terms the chief problem presented to the editor has been due economy of space. Many words now obsolete have been cut out and newer ones substituted. The table of doses has been omitted, but the doses expressed in Troy and metric values have been inserted with a description of the various drugs, and the official preparations have been made to conform with the directions of the U. S. and British Pharmacopœias.

The derivation of the words, when from the Latin or Greek language, is generally indicated, but in the case of the latter the Roman characters are substituted for the Greek. Throughout the work there are such abundant evidences of thorough, careful, and scholarly revision as to leave nothing to be desired in bringing it to its present recognized standard of completeness and excellence. It is our old friend coming again to us with renewed life.

# Society Reports.

## AMERICAN PUBLIC HEALTH ASSOCIATION.

*Proceedings of the Thirty-first Annual Meeting, Held at Washington, D. C., October 26, 27, 28, 29, and 30, 1903.*

THE association met in the Assembly Hall of the New Willard Hotel, under the presidency of Dr. Walter Wyman, Surgeon-General of Public Health and Marine Hospital Service, Washington, D. C.

**Opening Address.**—This was delivered by General GEO. M. STERNBERG. He spoke briefly of the association as an important factor in promoting the welfare of the people of the United States, not only from a sanitary point of view, but also in the way of national prosperity. He said the saving of valuable life contributed to the material resources of the country, and greatly increased the value of property in regions subject to invasion by epidemic diseases, or to fatal endemic maladies. He declared that the great prosperity of the Southern States during recent years depended largely upon the fact that they had been protected from invasion by yellow fever. He called attention to the epidemic of 1878, which caused a loss of $15,000,000 to New Orleans alone, and more than $100,000,000 to the entire section invaded. The method by which yellow fever was transmitted being now known, its prevention had become comparatively easy, and sanitarians had no longer any fear of the recurrence of extreme epidemics of the disease within the limits of the United States.

Although cholera and yellow fever and bubonic plague were no longer feared by sanitarians, we had not yet conquered our endemic filth disease, typhoid fever; and tuberculosis still claimed nearly 150,000 victims annually within the limits of the United States. Until these and other widely prevalent infectious diseases were practically stamped out, our self-imposed task would not be complete, and even then it would be necessary to enforce constantly the lessons gained by past experience to prevent a return to insanitary conditions and the penalties in the way of sickness and death which were inevitably associated with such conditions.

**Report of the Committee on Car Sanitation.**—This report was read by the chairman, Dr. GRANVILLE P. CONN of Concord, N. H. While the committee was not prepared to suggest reforms which would at once settle the much-vexed question, yet it was believed progress was being made, and the managers of railroads were coming more nearly in accord with public opinion, and that the problem was gradually being solved. In car sanitation there were many obstacles to be overcome which were not necessarily given much thought when considering the question of the hygiene of a dwelling. The house on wheels not only had the atmospheric influences which at all times surrounded the dwelling, but at different rates of speed this pressure was immensely greater than that upon the ordinary domicile, One should always consider the character of the occupants who, for the time being, were tenants, and had but little or no thought of the sanitation or well-being of those who might be the next passengers to occupy the same seats, and who, perhaps, had little or no appreciation of what an expert intsanitation would consider a healthy condition of personal cleanliness or of a habitation. All such matters must receive attention when the problem of car sanitation was considered, and the standard of excellency which the public might desire should always be kept in mind, and the conditions made as nearly the standard as possible. The more permanent the means and methods adopted by health authorities, the more satisfactory they will prove to the commercial world and the general manager. A vacillating policy on the part of health officers could not produce good results. The sensational and sentimental should be entirely excluded from quarantine and sanitation. The bare facts necessary for the protection of the lives and health of the people should prevail. The imaginary troubles of the fanatical observer, as well as of those who would try to solve the problem from a commercial point of view, because they had something to sell, should be relegated to oblivion.

**Transportation of Persons Sick with Transmissible Diseases.**—Dr. J. N. HURTY of Indianapolis, Ind., read a paper with this title. Among other things, the author stated that leprosy was not so easily transmitted as tuberculosis, and compared with the latter malady, in its destructiveness to human life, it amounted to nothing at all; yet the mere mention of the word leprosy caused a shudder, and a riot would result if an attempt was made to introduce a leper into a railway car. Influenza, also a transmissible and very destructive malady, killed a thousand where leprosy killed one, still people did not fear it sufficiently to take even ordinary precautions against it. All intelligent observers could clearly see the possible harm which might attend the transportation in railway trains of cases of smallpox, yellow fever, bubonic plague, diphtheria, scarlet fever, typhus fever, and leprosy, and in consequence, public opinion would not tolerate such a thing. An equal understanding in regard to pulmonary tuberculosis, influenza, and typhoid fever would develop a public opinion demanding that rational regulations intended to prevent transmission must be rigidly enforced. Special compartments for persons sick with communicable diseases were impracticable.

**Car Sanitation in the Republic of Mexico.**—Dr. JUAN BREÑA of Zacatecas said it was a well-known fact that the infectious germs of diseases were floating in the air and were by it deposited in the veneers, moldings, and ornaments of furniture, and thence again taken up by the air and inhaled with it, and for that reason writers on hygiene and sanitary authorities had again and again recommended simplicity of ornamentation, hardness of materials, and polished surfaces for the interior of cars. He referred to the construction of railway cars, the methods of cleaning them, the drinking water, water closet, and ventilation. The suggestions and observations made by scientific writers had been neglected, and very little or no attention paid to them up to date, and thus the grave defects were still existing. These obstacles, however, should not dishearten sanitarians, but they should incite them to preach and work with the tenacity of the water drop which falls upon a hard stone.

**Report of the Committee on Animal Diseases and Food**—Dr. D. E. SALMON of Washington, D. C., chairman, presented the report of this committee. He said the experiments and comparative studies of Theobald Smith had attracted special attention to the difference in virulence shown by tubercle bacilli from human and bovine sources when inoculated upon cattle. Smith also pointed out certain morphological and cultural differences in bacilli from these two sources, and in the location and histology of the lesions in cattle produced by such bacilli. He did not conclude, however, that bovine bacilli could not produce disease in the human subject, but said that bovine tuberculosis might be transmitted to children when the body was overpowered by large numbers of bacilli, as in udder tuberculosis, or when certain unfavorable conditions existed. He adduced evidence that four human cultures caused generalized tuberculosis in cattle; but Kossel suggested that it might be possible that the bacilli in cases of human tuberculosis under certain circumstances could likewise attain a very high pathogenic activity for cattle. Undoubtedly the German commission was confronting the two horns of a dilemma, either one of which was fatal to the views of Koch as stated with such positiveness at London. If the suggestion advanced by Kossel was accepted, one would conclude that Koch was wrong in his claim that human tuberculosis could not be transmitted to cattle, and thus with one blow the entire experimental support was destroyed which he had for his argument before the British Congress of Tuberculosis; and if, on the other hand, the conclusion was accepted, which followed from the principle laid

down by Koch for a discrimination between human and bovine bacilli, and which appeared to be favored by Kossel, one must admit that bovine tuberculosis was an extremely important factor in the etiology of human tuberculosis. Of thirty-nine cases of human tuberculosis tested, four, or over 10 per cent., were virulent for cattle, and would be classified as of bovine origin; but these four cases were all found among the sixteen cases of tuberculosis in children which the commission investigated, hence it was plain that 25 per cent. of the cases tested of tuberculosis in children would by Koch's method be classified as of bovine origin.

The author mentioned two lines of experiments that had been carried on under the Bureau of Animal Industry in order that one might serve as a check against the other, by de Schweinitz and Mohler. The experiments and observations indicated that the types of tubercle bacilli were very inconstant, and that under suitable conditions they readily changed in morphology and in virulence. A similar conclusion was reached by other investigators in working with the *avian* and *piscine* types of tubercle bacilli several years ago, and was reasonably to have been expected with the human and bovine types. Too much had been made of the slight differences in cultural characteristics in morphology and in virulence which had been observed in some cases, comparing the human and bovine bacilli.

While the committee agreed that it was advisable to scrutinize clinical evidence as carefully as possible before it was accepted as influencing the decision of such an important question, consistency demanded that one should accept clinical evidence bearing upon the transmission of bovine tuberculosis to man on the same terms that evidence was accepted as to the transmission of the disease from man to man. The rules which Koch formulated for testing the evidence of bovine infection were given by the essayist with such brief comments as the committee felt they deserved. The committee concluded that it would require much work to decide with even approximate accuracy the proportion of human tuberculosis caused by animal infection; but the fact that 25 per cent. of the cases in children investigated by the German commission, and 50 per cent. of similar cases investigated by de Schweinitz, showed by this test that they were caused by animal infection was sufficient to convince the committee that measures should be taken and enforced at once to guard against infection from this source.

**Report of the Committee on the Causes and Prevention of Infant Mortality.**—This report was read by Dr. Henry Mitchell of Asbury Park, N. J., chairman. Among the measures which were most promising for a further reduction of the mortality among infants, the committee directed attention to the following: (1) To secure a more general adoption of cleanly methods of the collection, cooling, and handling of cows' milk. It was not enough to destroy bacteria which had been permitted to gain entrance into the milk, for while pathogenic bacteria might be rendered innocuous, the toxins already formed were not affected by high temperature, hence no manipulation of the milk could be safely substituted for cleanliness in its collection and distribution. (2) To abolish breeding places for flies in dwellings and to exclude them from contact with food. (3) To encourage the erection of improved tenements in cities and to show the dwellers in crowded districts the advantage of residence in the suburbs. (4) To more effectually isolate all cases of the dangerous communicable diseases.

**Immigration and Public Health.**—Dr. A. J. McLaughlin of Washington, D. C., read a paper on this subject. In considering the danger to the public health from immigration, he said three factors must be taken into account: First, the physique of the immigrant; second, his destination; third, the presence or absence of communicable disease. The physique of the immigrant was by far the most important factor. Good physique was much more general among immigrants a quarter of a century ago than among the immigrants of to-day. With the change in the racial character of immigration, most marked in the past decade, a pronounced deterioration in the general physique of the immigrants, and a much higher percentage of loathsome and dangerous diseases, were noticeable. Destination was scarcely less important than physique, and it was the rule that aliens of a race having a low physical standard would invariably herd together in the overcrowded, insanitary tenement districts of our great cities; while the sturdy races of unskilled laborers were scattered over a wide territory and tended to establish little homes of their own in the country or in the suburbs of manufacturing towns or cities.

As to the question of communicable diseases among immigrants, the ordinary quarantinable diseases were eliminated by efficient quarantine methods, but certain communicable maladies, classed as loathsome or dangerous contagious diseases, existed among immigrants, and constant vigilance and considerable skill were necessary on the part of medical inspectors of immigrants to detect these cases and separate them from the healthy immigrants.

The most important of these diseases, because of its frequency, was trachoma. Of the total number of cases of loathsome or dangerous diseases found in immigrants, 87 per cent. were trachoma, and 10 per cent. favus. Permanent injury to sight was most likely to occur in cases in which early treatment was neglected. Among immigrants with trachoma, ignorance of personal hygiene and inability to secure proper treatment made the spread of this disease alarming and the consequence to sight disastrous.

The writer concluded that if the thousands of recruits for the sweat shop army which arrived each year could be checked for ten years, the present existing tenement house problem would solve itself. The terrible congestion of the tenements would be relieved, the scale of wages for the sweat shop worker would be elevated, and the general sanitary conditions of life in such districts as in the Lower East Side, New York City, would be improved sufficiently to reduce the menace to the public health from this cause to a minimum.

**Preparation of Vaccine Virus.**—Dr. John F. Anderson of Washington, D. C., said experimental work had shown that the germicidal action of glycerin was feeble. Recently some valuable work had been done with other substances than glycerin to be used in the destruction of the bacteria found in vaccine. These substances were sodium biborate, boracic acid, carbolic acid, chloroform, and potassium cyanide. Of these, chloroform seemed the most valuable. According to Green of England, by the use of chloroform vapor the crude pulp was freed from non-spore-bearing germs in from a few hours to seven days, while the active agent of the vaccine remained potent as long as in the glycerin controls, and in six cases longer. The quick elimination of the extraneous bacteria by this method was a great saving in time as compared with the use of glycerin, which rarely exerted its full effect before the fourth week. Chloroform being extremely volatile, could be allowed to evaporate from the vaccine under aseptic precautions after being allowed to act as long as desired. It would be especially useful in hot countries where the active agent in vaccine does not retain its potency long, or when, as in epidemics, sudden calls were made for large quantities of virus.

**Address of Welcome.**—This was delivered by Hon. H. B. F. Macfarland, President of the Board of Commissioners of the District of Columbia. After expressing his gratification that the association had assembled in Washington, he stated that the city had a particular

claim upon the interest of the association at present because of the work of improving the water supply and sewer systems which was in progress, and also because there was being made an earnest effort to secure legislation from Congress to enable the city to end the insanitary conditions in its alleys where the slums existed. It was fully realized that the health of the people was the first duty of the statesman, and that all else that could be done for this or any capital went for nothing if its health was not protected and promoted. He spoke of the importance of sanitary reform, and referred to the education of public opinion in Washington, whereby expectoration on the sidewalks and in public places had been stopped without the necessity of making a single arrest. He referred to the release of Cuba from the dominion of Spain, and her accompanying deliverance from the awful visitations of yellow fever, which were a plague to herself and a menace to the United States so great that Mr. Blaine once said that it would be wise to spend half a billion dollars if necessary for the purchase of the island, simply to stamp out that plague. Here and everywhere similar deliverance must be wrought by patient and self-sacrificing and public spirited endeavor.

**President's Address.**—Following Mr. Macfarland's welcome, SURGEON-GENERAL WYMAN, president of the association, delivered his annual address, during the course of which he gave an exhaustive review of the history of the association, its aims and objects, the researches into the fields of medical science which it had conducted, and the results it had accomplished. Coupled with this, he gave an epitome of the causes that led to the formation of the association, and the history of its growth by the addition, from time to time, of the various countries of the Western Hemisphere, the last of which to join the association and take up its part in the field of scientific research being Cuba, only recently liberated from the bonds that had prevented her from assuming her proper sphere in a study of one of the most deadly of plagues with which she had been for years afflicted. After reviewing the need and effect of sanitation, the sanitary laws of States and municipalities, Dr. Wyman paid a tribute to the unselfish medical men who, for the good of science and from a sense of civic pride, had repeatedly carried out investigations in the interest of the public health and given their services without thought of compensation to the public good.

**Report of the Committee on the Disposal of Refuse Materials.**—Mr. RUDOLPH HERING of New York City read this report. The committee pointed out that (1) different local conditions demanded different methods of collection and disposal; (2) that each municipality should select the method which, after a careful study of specific local conditions, and a further careful investigation of the cost of securing satisfactory results, proved to be the most economical in construction and maintenance; (3) that the problem must include the consideration of the methods and cost of handling all of the several kinds of refuse between the origin in the house and on the streets and the points of final disposal; (4) the several kinds of refuse being ashes, street sweepings and manure, dry rubbish, and kitchen garbage, swill or slop. The garbage question had now reached a point where the proper solution of each case required the aid of the engineering profession, just as the construction of sewerage and other sanitary works. The problem was to effect the sanitary collection and disposal of the above mentioned four classes of refuse at the least cost. In conclusion, the committee said that while there were several methods of satisfactory disposal, every one would not be the best for all cities. Each city should study the question as related to its own special condition, and from a large experience, both in Europe and ath ome, select what was found best for itself.

**Report of the Committee on the Etiology of Yellow Fever.**—Dr. JOHN W. ROSS, U. S. N., Washington, D. C., read his report. Reference was made to contributions to the subject of yellow fever since the last annual meeting. A table was presented of cases treated at Las Animas Hospital, Havana, from October 20, 1902, to October 20, 1903, showing the number of cases of yellow fever and of other diseases; also of the patients immune and non-immune to yellow fever. He said during the past summer there had been a sharp epidemic on the Mexican littoral. Havana was in constant communication with the infected ports; ten regular passenger steamers plied to and fro each month with a considerable passenger traffic, not to mention the number of other vessels. The quarantine was rigid in preventing the entrance of persons who had been exposed to infection until the period of incubation had passed, and also against the entrance of mosquitos from infected ports; but no precautions were taken against the entrance of baggage, bedding, or household goods from those ports. Such things came in without let or hindrance; yet not a single case of yellow fever originated in Havana. Seven cases of yellow fever occurring among men from these vessels were treated in the hospital in Havana during the last yellow-fever season, with no precautions except to prevent the access of mosquitos to the patients, still with no case of yellow fever contracted therefrom. Attention was called to the fact that this was but a repetition of the experience of the previous year. The chances of this also being an accident, considering the former history of Havana, seemed scarcely worthy of consideration.

The committee stated that there were minor problems in the etiology of yellow fever yet to be investigated. These were:

1. As to the determination of the period of the disease in man during which yellow fever could be transmitted to the mosquito, so far experiments had shown that it was transmitted somewhat over two days, *i.e.* in the first, second, and third days, but there were not sufficient experiments made to prove that the third day was the limit at which the mosquito could be infected. The importance of this determination was obvious.

2. The determination of the minimum period after feeding at which the mosquito could become infective. Reed had shown that this seemed to depend upon the temperature. A minimum period, in his experience, was twelve days in his first experimental case, and judging from observation of yellow fever as it occurred in nature, this was probably near the limit. Still sufficient proof had not been adduced that mosquitos contaminated in less than twelve days had not conveyed yellow fever. Since the determination of this point experimentally would involve producing yellow fever in probably a considerable number of human beings, and since the minimum in Reed's experiments agreed closely with previous observations by Carter on yellow fever, the committee did not think that additional experiments for this purpose were justifiable.

3. To determine if mosquitos other than the stegomyia conveyed yellow fever, and if other species of stegomyia besides Stegomyia fasciata could do so. The first was from analogy very improbable; the latter, for the same reason, was probable.

4 To determine if Stegomyia fasciata was found breeding at a distance from human habitations, *i.e.* if it was anywhere a true sylvan, campestral, or palustral mosquito.

5. A closer study of the hibernation of this insect was desirable, in order to determine (*a*) what proportion of the infected animal survived the ordinary winter in the Gulf States; (*b*) whether such as survived retained their power of transmitting yellow fever.

6. To determine if Stegomyia fasciata was capable of acclimatization in environments unfavorable to the immigrant mosquitos, also deserved observation and further experimentation.

7. To determine the distance across water that this insect was aerially conveyed. If desired, it would be easy to differentiate the blood-fed (not necessarily infected mosquitos) by observing if they deposited eggs.

8. Finally, it seemed advisable to determine directly by observation whether this mosquito was carried by railroad trains, and if so, in what number, and the general conditions of such transfer. On this might depend measures of land quarantine.

**Characteristics of the Stegomyia Fasciata Which Affect the Conveyance of Yellow Fever.**—Dr. H. R. Carter of Baltimore, Md., read a paper on this subject. Among the special characteristics of the stegomyia which affected its rôle as a carrier of yellow fever were: (1) Distribution. This was, generally, between latitudes 43N. and 43S. on the coasts and low plains of Africa, Asia, and the adjacent islands; Australia, and the Mediterranean basin of Europe. It was also general on the eastern coast of America from 38N. to 35 S. Lat. On the west coast it was found at Panama and Guayaquil, and its existence was implied from Guayaquil to Acapulco. In the United States it was general on the coast and low plains of the Southern States, except Maryland. (2) It was conveyed by vessels indefinite distances (from Cape Town to Savannah Quarantine); in much greater numbers and more often by sail than by steam vessels. (3) It lived a long time—154 days being recorded by Guitéras in the case of an infected insect. (4) Once having acquired the power of transmitting yellow fever, it retained it apparently as long as it lived—fifty-nine days being recorded. A consideration of these four postulates would render it advisable to safeguard the tropical countries of the East when communication is opened up between them and American ports infected with yellow fever, preferably by freeing the American ports of yellow fever. (5) It propagated preferably in artificial containers, but would also propagate in pools where such containers were not available. (6) In America it has been reported only in the vicinity of human dwellings, and seemed here not to be a sylvan, palludal, or campestral mosquito. From a consideration of 5 and 6 the war against this insect in America should be waged about the houses of men, and especially against water in artificial containers. The introduction of a water supply, piped to every house so as to do away with cisterns and water jars was the most important measure of sanitary engineering to free a town of this mosquito. Next to this was a system of drainage by covered drains to carry off the rain water and prevent pools. Cesspools were not objectionable on this score. The mosquito unquestionably hibernated in the United States either as adult larva or egg, but if the infected adult hibernated, either a very large proportion died, or else the infecting parasite must generally die in the hibernating mosquito. The first seemed more probable. (7) It was essentially a house mosquito, and was inclined to stay about the premises where it had fed. Hence the greater safety of the wholesale district of an infected city as compared with the residence portion. (8) It did not feed in the dark or in bright sunlight. Therefore, in bright daylight or at night without artificial light were the safest times to be in an infected place. (9) The cycle of the yellow-fever parasite in the mosquito before it could be conveyed to man was generally, in hot weather, about fourteen days or over. Prior to the accomplishments of this cycle (once called the "extrinsic incubation of yellow fever") the mosquito could convey this disease. (10) It was probably usually conveyed aerially less than 100 yards. In Havana the infected insect was believed to be never aerially conveyed 250 fathoms—1,500 feet—from the Havana shore. The direction of the prevailing wind during the day influenced its aerial conveyance.

**Report of the Committee on the Army Canteen.**—Dr. George M. Kober, chairman, Washington, D. C., read this report. Reference was made to the introduction of the canteen system, and after dwelling at great length on the increase of drunkenness, the increase of trials by summary or other courts for drunkenness and for offenses caused by drunkenness, increase of desertions, increase of absence without leave, effect of the abolition of the sale of beer at the posts on the morality and discipline of the command, the committee presented a series of recommendations looking to the reëstablishment of the post exchange and its conduct along the lines recommended by Munson in his "Theory and Practice of Military Hygiene," pages 820-822. The committee recommended the presentation to the Senate and House of Representatives in Congress the following resolutions adopted by the association:

*Resolved*, That this body deplores the action of Congress in curtailing the authorization of the army canteen or post exchange, and in the interests of general and military sanitation recommends its establishment on its former basis at the earliest possible date.

*Resolved*, That this body, in the interest of temperance and humanity, cordially invites the intelligent coöperation of a very large element of good citizens, who have been active in securing legislation against the sales in the military service of alcoholics of any character, in taking successive steps toward the betterment of existing conditions, and thus assist in controlling and largely curtailing an evil which it is powerless at present to prevent.

**Human and Bovine Tuberculosis.**—Dr. M. P. Ravenel of Philadelphia made some remarks on this subject. During the past year interest in the question of the relation between human and bovine tuberculosis had been unabated, and several papers of interest had been published bearing on the subject. In America, Theobald Smith and Gideon Wells had isolated cultures of the tubercle bacillus from human sources having the characteristics and virulence of the bovine organism. A number of new cases had been reported of accidental infection of man by bovine material, the most important of which was that of Troje, which appeared able to withstand the most severe criticism. A young butcher, in good health and with no hereditary taint, wounded his left forearm slightly while working on a tuberculous cow. The wound healed under treatment, but six weeks later showed signs of inflammation, and a tubercle formed on the internal face of the elbow. There were two small fistulæ on the forearm, and enlargement of the ulnar and axillary lymph glands. A month later the middle forearm was covered with granulations which steadily increased in area, and, in spite of treatment, at the end of two months assumed the character of lupus. Histological examination at this time proved the tuberculous character of the disease. Two years after the injury Troje found an abscess which extended into the deep muscular layers. The pus contained tubercle bacilli and the tissues showed typical tuberculous lesions. Some months after the glands of the left axilla and subclavicular space were extirpated and proved to be tuberculous. All possibility of infection from human sources was excluded by Troje. The speaker then reviewed the findings of the commission of the German Sanitary Bureau, in which it was admitted that in at least two out of thirty-nine cases infection with the bovine tubercle bacillus had caused fatal tuberculosis in man. The author felt that the genetic unity of the human and bovine races of tubercle bacilli, as well as their intertransmissibility, had been definitely demonstrated. It had also been proven that a certain proportion of persons, chiefly young children, met their death through infection with the bovine tubercle bacillus, but the knowledge at hand did not enable him at present to define the extent of this danger.

**The Effect of Lemon-juice in the Mixture Known as Lemonade upon Typhoid-polluted Water.**—Dr. Wm. G. Bissell of Buffalo presented a paper on this subject. The investigation, he said, was prompted by a newspaper statement purporting as coming from a board of health in one of the leading American cities, that lemon-juice in lemonade would render typhoid-polluted water safe for drinking purposes. Three different methods of testing were tried: (1) Infecting water with typhoid and adding lemon juice; (2) Infecting glass rods with typhoid and

placing them in lemonade; (3) infecting silk threads and placing them in lemonade. Culture tests with the first method were faulty. The conclusions drawn were: (1) That lemonade cannot be depended upon in this rôle; (2) That this method of sterilizing typhoid-polluted water should be discouraged.

**Studies of Media for the Quantitative Estimation of Bacteria in Water and Sewage.**—Mr. STEPHEN D. GAGE and Mr. GEORGE O. ADAMS of Boston offered a joint paper in which they stated that in a report at the Buffalo meeting figures were presented showing that by simplifying the usual culture media, higher counts of bacteria might be obtained, and that the counts on a new medium, Nahrstoff agar, were much higher than on the usual media. These studies had been continued, and while not completed, certain points were presented for consideration. In standard gelatin or agar, the beef broth was the most fertile source of variation, the amount of the nutrient matter in beef-infusion made by the usual method varying through wide limits. Studies of plain agar made with the various kinds of natural water showed that in the majority of cases the bacteria naturally present in the given water would develop in greatest numbers in a medium made with the same water. The salts naturally present in commercial agar had a detrimental effect, greater numbers of bacteria developing on media made with agar from which the natural salts had been washed out. Greater numbers of bacteria would develop on media made without glycerin than on the same media containing glycerin. With pure cultures of different kinds of bacteria on standard gelatin, agar or Nahrstoff agar the highest counts were obtained with the species studied on gelatin and the lowest on Nahrstoff agar. A reduction of the amount of Nahrstoff in Nahrstoff agar from 1.0 per cent. to 0.5 per cent. resulted in a considerable increase in the bacterial counts with various waters. When cooked in acid or alkaline solution the albumoses of Nahrstoff underwent certain changes in composition which rendered them better food material for bacteria than was the commercial product. Studies of the efficiency of water filters in removing bacteria when estimated by counts on different media showed that there was a considerable variation between the various media, the ratio between the numbers of bacteria in the raw water and in the effluent being affected by the period of incubation, the reaction and the composition of the media. With standard gelatin and Lawrence agar the ratio was less variable between different lots of gelatin. The writers recommend that a standard nomenclature be adopted for the various culture media, the names used to express, as far as possible, the composition of the media.

**On the Value of Tests for Bacteria of Specific Types as an Index of Pollution.**—Mr. H. W. CLARK and STEPHEN D. GAGE of Boston, in their joint paper with the above title, said that the principal types of bacteria used as indices of pollution were the colon type, sporogenes type, sewage streptococcus type, and occasionally the two so-called paracolon types, *i.e.* the aerogenes or enteritidis Gartner type and the chologenes type. The colon type was the most numerous of these in normal sewage, and was accordingly of the most value as a specific indication of pollution. Bacteria of the colon type could be detected in ordinary city sewage in dilutions of 1-10,000 to 1-100,000. The presumptive test as applied to the colon type, reacting as it did with some fifty-eight well-described species of bacteria, covered too broad a field unless followed by confirmatory tests. Tests for Bacillus coli at the Experimental Station at Lawrence had agreed well with results obtained by chemical analysis and by inspection of the sources of the samples. Surface waters having the greatest relative population on their watershed had shown bacteria of the colon type more frequently than others with less population. Ground waters, on the other hand, unless grossly polluted, never showed bacteria of colon type. Samples of shellfish from sources polluted and unpolluted had almost invariably shown the presence of Bacillus coli in the polluted samples and their entire absence in the non-polluted samples. Examinations for Bacillus coli in different volumes of water showed that tests in both one and 100 cubic centimeters should be made, the tests in larger volumes being confirmatory of the tests in the smaller volumes, and in cases in which a considerable number of samples were taken from the same source, tests in the larger volumes usually gave more information day by day as to the quality of the water than did the tests in one cubic centimeter. Epidemics of typhoid fever coincident with the findings of Bacillus coli in normally pure waters, *i.e.* in waters known to be safe under ordinary conditions, but becoming dangerous by the accidental entrance of polluted water, had occurred within the observations of the writers, in which, although the entrance of this pollution was known, the danger was not indicated by chemical tests or by an increase in the numbers of bacteria beyond the usual limits of variation for waters of this class. Comparative tests for the relative viability of Bacillus typhosus and Bacillus coli showed that there was a very great similarity between the length of life of the two germs under a great variety of conditions.

**Isolation of Bacillus Coli Communis from the Alimentary Tract of Fish, and the Significance Thereof.**—Mr. GEORGE A. JOHNSON of Poughkeepsie, N. Y., read a paper on this subject. He stated that it had been shown that the colon bacillus was taken up by fish, and the results of the experiment described indicated that it multiplied rapidly in the intestinal tract of the same. It had been shown that a search of a large number of fish caught in an unpolluted water failed to reveal the presence of this organism in the intestinal tract. It would seem possible, therefore, that fish, having taken up the colon bacillus from a polluted water might migrate to a water of comparative purity where they would naturally discharge the greatly increased number of these organisms. Whether the finding of the colon bacillus deposited in a water in this manner would depreciate the value of the colon test in the examination of a public water supply was a question. It would certainly appear that if the colon bacillus could be thus easily transferred from one water to another the transportation of the typhoid bacillus might be considered quite as likely. At least the above results might explain those cases in which Bacillus coli communis was found in comparatively large numbers in waters apparently open to but remote chances of fecal contamination.

**The Bacterial Examination of 104 Samples of Water, Together with a Detailed Study of the Colon Bacillus.**—Dr. WM. G. BISSELL of Buffalo, N. Y., read a paper on this subject. In connection therewith he said that after consulting with many laboratory workers it had been decided to inaugurate an investigation along the following lines:

*First Division.*—To ascertain what constituted a colon bacillus. A recapitulation of the results demonstrated that the amount of gas produced, the production of indol and putrefactive odors were not constant factors with even true coli; that many of the lactic acid organisms are a close resemblance to colon bacilli; and that it was not safe to depend upon presumptive tests alone in determining the presence of colon bacilli in the water.

*Second Division.*—The amount of water advisable to test in arriving at an indicator of pollution: One hundred and four samples of water coming from Niagara River were examined at respectively twelve and twenty-two miles below a point where the sewage of over 400,000 people was received. Different amounts of each sample were examined and the comparative frequency of the presence of colon bacilli determined. A summary of the results demonstrated that colon bacilli were present in 52 per cent. of the samples when 1 c.c. was the amount examined at the twelve-mile distance, and in but 34 per cent. when 1 c.c. was the amount examined at the twenty-two miles distance. Both sides of the river were used for farming purposes. Many samples were col-

lected during heavy rainfalls. A recapitulation tended to demonstrate: (*a*) That colon bacilli were not found in all c.c. amounts of the sample. (*b*) That there was a decrease in the number of colon bacilli, the greater the distance down the stream. (*c*) That the heavy rains did not seem to increase the number of colon bacilli, although the land was used for farming purposes.

*Third Division.*—A test was made as to the longevity of colon bacilli in natural water. Excrement from the horse, cow, and from human beings was placed respectively in each of three wells. A test was made of each well at different periods. The results tended to demonstrate that colon bacilli could live in well waters at least 109 days, and that the human variety seemed to have a greater resistance than that from other sources.

*Fourth Division.*—Tests were made to determine the degree of frequency with which colon bacilli could be found in water known to be polluted with sewage. The results obtained tended to demonstrate that not all cubic-centimeter amounts of such samples demonstrated the presence of the organisms. The writer believed that many organisms had been mistaken for the colon bacilli in water work.

*Fifth Division.*—Tests were made to ascertain the degree of frequency with which colon bacilli could be found in water not presumably polluted. This work was necessarily confined to well water. Results tended to demonstrate that there were many wells, the waters of which did not contain colon bacilli even though larger quantities were examined.

**A Simple Method for the Routine Detection of Colon Bacilli in Water.**—A paper on this subject was presented by Dr. ROYAL STOKES of Baltimore, Md. This paper proposed the use of neutral red in a fermentation tube containing 1 per cent. lactose or milk-sugar bouillon, for the routine detection of colon bacilli in drinking water. If the percentage and amount of gas, the acidity, and the typical yellow-red contrast reaction all occurred, the organism could be considered as Bacillus coli communis. This was a much shorter method than the isolation in pure culture, which took from five to seven days, and would also make it easier to carry out quantitative experiments. These four distinct characteristics would seem to be sufficient to identify the colon bacillus in simple routine work.

**Report of the Committee on the Significance of Bacillus Coli in Water Supplies.**—Mr. S. C. PRESCOTT, Chairman of this committee, said in substance that to present a statement of the opinion of the committee individually and as a whole as probably representing the generally accepted views of sanitary bacteriologists as to the significance of Bacillus coli in water, the following questions were sent to each member. The answers appended, except as otherwise stated, were practically as given below:

"1. In view of the fact that numerous investigators have found B. coli in nature when it could not be directly traced to sewage or fecal pollution, do you believe that the colon test of water is as safe an index of pollution as it was formerly regarded to be? *Yes.*

"2. Are you of the opinion that the number of colon bacilli rather than their presence should be used as a criterion of recent sewage pollution? *Yes.*

3. To pronounce a water sewage-polluted, would you require as evidence that B. coli was present in a majority of one cubic centimeter samples? *Yes, in general.*

4. Are you in favor of recommending that the examination of large samples for B. coli (100-1000 cc.) be discouraged? Four members say in reply, *Yes.* One says, *No.*

"5. In case of a strong presumptive test, what confirmation tests would you require to make certain that the organisms present were B. coli? *Full set of distinctive cultural tests.*

"6. In view of the probable presence of streptococci in polluted waters, do you think it desirable that they be isolated as well as B. coli to confirm suspicious evidence of pollution offered by B. coli? Two could not recommend this; one thought it would be advantageous occasionally, but not practicable because of increase in routine work; one believed it should be done, when possible, for the sake of securing additional data, and for its general confirmation of the colon test; and one was indefinite."

**A Critical Study of the Methods in Current Use for the Determination of Free and Albuminoid Ammonia in Sewage.**—Mr. EARLE B. PHELPS, in considering this question, said that the work which he presented was the first part of a study which would eventually cover the whole field of sewage analysis. It aimed to show what accuracy might be expected from the various processes now employed in sewage analysis, and what modifications, if any, would make them more applicable to the problems of sewage disposal.

*The Free Ammonia.*—All free and saline ammonia, the writer stated, was recovered quantitatively in the distillate. Many proteids and other nitrogenous substances gave off ammonia when distilled with sodium carbonate, introducing a serious error in the analysis. This error was greatly increased in the case of sewage, owing to the unstable nature of many of its compounds. A method for the direct reading of the ammonia was suggested. In the process of nesslerization, the error due to the temperature and other minor errors were discussed.

*The Albuminoid Ammonia.*—The ratio of the albuminoid nitrogen to the total nitrogen was determined for a number of pure substances, and for a large number of sewages. These ratios showed wide variations not only among the various substances, but among the sewages themselves.

Owing to these variations, which seemed to depend upon the nature of the substances in the sewage and not upon the amount of organic matter present, it was strongly recommended that the present method of determining the albuminoid ammonia be given in favor of a determination of the total organic nitrogen by the Kjelhahl process, a simple and rapid modification of which was proposed for use in sewage work.

**A Dangerous Food-preservative.**—Dr. CHARLES HARRINGTON of Boston, Mass., in a paper on this subject, stated that sodium sulphite was used very extensively as a food-preservative, and more particularly for its effect on the color of chopped meat (Hamburg steak) and certain canned vegetables (asparagus and corn). The assertion made in 1896 by Kionka that it was a dangerous admixture had been combated by a number of experimenters and reaffirmed by Kionka and Schulz. Dogs fed on meat containing 0.20 per cent. of the salt were found by them to present extensive lesions in almost every organ, while others fed in the same way by Lebbin and Kallmann showed nothing abnormal. In this experiment five cats were fed for five months on beef containing 0.20 per cent. and a sixth one with untreated beef. All six began at once to gain in weight, but at about the ninth week all but the control began to lose, and they continued to do so up to the twentieth week, when all were killed. The organs of the control were normal. The chief lesion observed in the others was a parenchymatous degeneration of the kidneys. Each of the five presented cloudy swelling and marked fatty degeneration of the renal epithelium. Acute interstitial nephritis was present in one case.

**The Termination of Quarantine in Diphtheria.**—Dr. T. W. SALMON read this paper, which had been written, he stated, because of the very great importance, in considering the duration of quarantine in diphtheria, of knowing just how long diphtheria bacilli persisted, in those who had had the disease, and of detecting what constituted satisfactory evidence of their final departure. One hundred consecutive cases of diphtheria, which occurred at the Willard State Hospital, had been studied with reference

to these features. The cases were analyzed in some detail in the paper, and an effort made to show: (1) In what proportion of the cases a single negative culture from the throat would have been satisfactory evidence of the disappearance of diphtheria bacilli. (2) In what proportion of the cases two negative cultures from the throat would have been sufficient. (3) In what proportion of the cases three negative cultures from the throat would have been sufficient. (4) In what proportion of the cases cultures from the throat alone would have failed to reveal the persistence of diphtheria bacilli elsewhere. The causes for failure to detect the bacilli when subsequent culture showed them to be present were briefly considered.

Election of Officers.—*President*, Dr. Carlos J. Finlay, Havana, Cuba; *First Vice-President*, Dr. J. R. Monjaras, Mexico City; *Second Vice-President*, Dr. W. C. Woodward, Washington, D. C.; *Secretary*, Dr. Charles O. Probst, Columbus, Ohio; *Treasurer*, Dr. Frank W. Wright, New Haven, Conn.

Havana, Cuba, was selected as the place for holding the next annual meeting.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION ON SURGERY.

*Stated Meeting, Held October 12, 1903.*

ROBERT T. MORRIS, M.D., CHAIRMAN.

**Methods for Suturing the Prolapsed Kidney.**—Dr. A. H. GOELET presented a paper on this subject. He said that the patient should be carefully prepared so as to minimize the disturbance resulting from the anæsthetic, and particular care should be taken to detach completely the colon from the kidney so as to obviate subsequent dragging upon the kidney when the bowel became distended. Reattachment of the colon to the kidney should be prevented by packing gauze under and in front of the kidney and resorting to early evacuation of the bowel. The suture material must not be such as to stretch or absorb. The suture should not be tied in the muscles, nor must it be removed until firm attachment had been secured. The kidney should not be attached lower down than normal. The patient must be kept on her back during the period of confinement in bed, when both kidneys were involved, or turned only on the affected side when only one kidney had been operated upon. She should not be allowed to get up until the end of three weeks. The conditions dependent upon the prolapse must receive attention. In performing the operation the patient should be placed prone with the pillow under the abdomen, and a vertical incision made through the skin of the back down to the first layer of muscle, and the aponeurosis slit upward and downward to the extent of the external wound. The latissimus dorsi should be separated by blunt hooks. Keeping to the outside off the erector spinæ muscle, the fascia attached to its upper border was split or separated with blunt hooks, care being taken to avoid opening the sheath of this muscle. The quadratus lumborum muscle was retracted, and then the fascia transversalis was exposed. Upon carefully opening this fascia the fatty investment of the kidney came into view, and usually, also, a knuckle of intestine. The fatty capsule was detached from the kidney by the finger and blunt scissors, the lower pole being freed first. If the kidney could not be delivered through the incision by traction on the capsule the patient was rolled downward. The fatty capsule should be completely detached from the kidney around both poles and on each side back to the hilum. The sustaining sutures, two in number, were inserted on the posterior free aspect of the kidney. For suture material he preferred silkworm gut which had been boiled and then preserved in a three-per-cent. solution of lysol. Each suture was inserted three times under the fibrous capsule in such a way that the strain upon it was parallel with the surface of the kidney and its capsule, and not at a right angle, as with other methods of suturing the kidney. The sutures were brought out upon the external surface of the back, and were tied over a fold of gauze, placed lengthwise of the incision. The sustaining sutures were not removed until the twentieth day. The author stated that he had done this operation 171 times upon 134 patients without a fatality, and without any failure to fix the kidney.

Dr. H. LILIENTHAL said that he had made use of the Goelet method so far as related to the insertion of the sutures into the kidney, but had not tried the plan of tying them over gauze. The method was a good one, so far as it secured a firm hold upon the kidney and raised this organ. An important feature of the method was that as the sutures were tied the kidney was raised still higher, and for this purpose the Goelet suture was decidedly superior to that of Broedel. Despite these advantages it must be said that the kidney capsule was sometimes so very friable that it would tear, no matter what method of suturing was employed. He made use of forty-day chromic catgut. The gauze packing underneath the kidney was of the greatest importance in replacing the organ. In this connection he desired to say that he had devised a middle piece for his operating table whereby the patient could be raised into the kidney position. This, in his position, was vastly superior to the use of a cushion.

Dr. ARNOLD STURMDORF said that it had been pretty well proved that simple denudation of the kidney without removing the capsule would not secure permanent anchorage of the kidney. Most operators of experience in this field made use of some flap formation for fixation, but the raising up of the capsule interfered with the nutrition of the latter. It had been proven that it was not the low position of the kidney in the abdomen that caused the symptoms, but the mobility of this organ. He could not see that it was possible to avoid mutilating the parenchyma of the kidney by the method of inserting sutures advocated in the paper. The insertion of the sutures parallel to the longitudinal axis of the kidney was nevertheless a step in advance. Sometimes in stripping off an extensive fatty capsule the kidney was cut into inadvertently.

Dr. A. ERNEST GALLANT said it was practically impossible to fix the kidney in its normal position because the diaphragm was bound to make it move; hence, one must go above the twelfth rib. In reality, the *fixed* kidney would be a painful kidney because the motions of the diaphragm would drag upon this organ. If a kidney were mobile, but did not go down low enough for the corset or waistband to press upon it, it would not be painful. If the kidney were sutured in a position in which the corset or waistband could cause such pressure, there would be distress, even after the kidney had been fixed by operation. He suggested that before operating for fixation of the kidney the surgeon should ascertain what size of corset the patient wore, and should then tie a bandage around the waist snugly to the size of the corset. He should then, before removing this bandage, make a mark on the back which would serve as a guide during the operation. He felt sure that if the kidney were fixed within an inch of this level therewould be subsequent distress. A kidney situated below the waist line would not, ordinarily cause discomfort.

Dr. Lilienthal remarked that a more accurate idea of the size of the individual's waist could be obtained by asking the woman the size of her waist rather than the size of her corset, because of the various degrees of tight lacing practised.

Dr. GALLANT said that when one recalled the dense peritoneal adhesions met with it was easy to believe that adhesions could be produced artificially which would be abundantly strong to support the kidney without resorting to the splitting process. Dr. Ramon Guitéras made use of a flap method which brought the kidney very nearly into its normal position. He believed Dr. R. T. Morris

was the first in this country to insist that the shorter the time the patient was in bed the better, other things being equal, and, personally, he believed that Dr. Goelet went to an extreme when he insisted upon the patient's remaining in bed for three weeks.

**Avoidance of Vomiting after Etherization.**—Dr. Gallant said that his own method of avoiding severe vomiting was by giving minute doses of morphine twenty minutes before the etherization. For a person weighing 100 pounds, or less, he gave $\frac{1}{12}$ of a grain, for one weighing 125 pounds, or less, $\frac{1}{8}$ of a grain, and for one weighing over 125 pounds, $\frac{1}{6}$ of a grain. In a few cases in which vomiting occurred despite this precaution the patient should be encouraged to drink very freely of hot water, even if this were vomited, it acted beneficially by washing out the stomach and thus leading to a cessation of the vomiting.

Dr. Robert T. Morris said that if the peritoneal cavity were opened an element of great discomfort was introduced, *i.e.* an intense thirst, perhaps lasting for twenty-four hours. Dr. Goelet's good results with an intact fibrous capsule were certainly not in accord with the experience of the early operators. In the history of the development of the operation it was noticeable that there had been a growing tendency to denude the kidney of its capsule more and more extensively. Dr. Goelet's suture certainly gave a firm hold, yet he would expect the capsule to tear out at certain points. Moreover this method of suturing could not be employed if the capsule of the kidney were removed. He had personally given up the use of the flap for the reason that he could not secure quite so good approximation of the muscles afterward. The final result of these operations was one in which there was a widespread interest. It was his practice to keep these patients in bed for fourteen days, and so far this plan had not been followed by any bad consequences.

Dr. Goelet thought the chief objection to fastening the sustaining sutures of the kidney to the muscle or using a flap was that the kidney could not be elevated sufficiently to bring it above the waist line and beyond the reach of corset pressure. He believed that in many women the cause of the prolapse of the kidney was the dragging down of this organ by the colon. He had only found a thin fibrous capsule in those cases in which there was an effusion under the capsule, and between it and the substance of the kidney. He had met with several such cases. He would like to know if any of the surgeons present had made use of any forceps to facilitate the dragging out and delivery of the kidney through the wound. He did not carry the suture out above the upper angle of the incision, and hence, he did not think there was any likelihood of wounding the pleura, as had been suggested. He took out the gauze drain at the end of two days because when removed at this time there was always considerable discharge. For this reason he objected to leaving the gauze in longer. While it was true that the patient might not complain of pain if the kidney were fixed low down, it should not be forgotten that even these kidneys showed abundant evidence of nephritis. He could not accept the statement that the symptoms of prolapsed kidney were due solely to the mobility of the organ, for the prolapse gave rise to interference with the flow of urine through the ureter. While absolute fixation of the kidney was not what was desired, the mobility must be considerably restricted. The failure of the earlier operators might, perhaps, be attributed to the use of transverse sutures.

**A Device for Easily Everting the Eye-lids.**—Dr. Frederic Griffith exhibited a simple device for this purpose, originating with Dr. E. H. Snow, and intended for the rapid eversion of the eye-lids for purposes of examination. It was nothing more than a hairpin, the two free ends of which were inserted into a cork for a handle. The speaker said that he had seen the eye-lids of four hundred immigrants thoroughly everted and inspected in the course of an hour by the aid of this simple little instrument.

**Appendectomy, Cholecystotomy, and Cholecystectomy.**—Dr. Goelet presented a gall-bladder containing calculi. He had first operated upon the appendix, and had performed cholecystotomy, but at that time, February, 1901, found no calculi. Subsequently, attacks of colic jaundice necessitated removal of the gall-bladder, and at this operation, done a few months ago, a number of calculi had been found in the gall-bladder.

Dr. Lilienthal said he believed that a gall-bladder that was worth operating upon at all was worth removing. He had done over fifty primary cholecystectomies within the past three years, and had not lost a single patient, although some of them had been in very bad condition at the time of the operation. He had lost three patients in whom the cholecystectomy was secondary. He did not now ligate the cystic duct until he had opened it widely and tied the cystic artery. He would not take the risk of closing the abdomen after a cholecystectomy without drainage. It was seldom that the incision for this operation need be longer than from two to four inches, notwithstanding the very long incisions indulged in by foreign surgeons.

Dr. Charles R. L. Putnam spoke of a case in which he had been able to show the part played by movable kidney by making use of mechanical pressure produced by a belt having an egg-shaped pad.

Dr. A. A. Berg said that in palpation of the full gall-bladder the surgeon often failed to detect the presence of stones. He had found that in all cases in which there was a mucous discharge from a gall-bladder fistula that there was obstruction in the cystic duct. The obstruction at the time of Dr. Goelet's first operation must have been either in the cystic duct or else he did not detect the presence of the stones because of having palpated the gall-bladder without previous aspiration.

Dr. Gallant said that he had advocated the use of a special corset to determine whether or not jaundice was due to a movable kidney. His efforts had been directed toward holding up the kidney by increasing the intra-abdominal pressure.

Dr. Morris said that American surgeons were accustomed to make use of much shorter incisions than were employed by foreign surgeons, a practice which should be commended.

Dr. Goelet said that he had done a cholecystotomy in the first instance with the object of sparing the patient from the added danger of a cholecystectomy. The gall-bladder was palpated before and during the operation, and the finger was introduced after the gall-bladder had been drained in order to be sure that at that time there was no stone present. The cystic duct appeared to be closed at the time.

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## THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

*Annual Meeting, Held October 26, 1903.*

Wendell C Phillips, M.D., President.

**Officers Elected.**—*President*, Dr. Wendell C. Phillips; *First Vice-President*, Dr. George M. Swift; *Second Vice-President*, Dr. Henry S. Stearns; *Secretary*, Dr. John Van Doren Young; *Assistant Secretary*, Dr. Edmund Prince Fowler; *Treasurer*, Dr. John S. Warren; *Censors*, Drs. Joseph Brettauer, Floyd M. Crandall, Charles N. Dowd, William H. Park, and John Van Der Poel.

**Instruction in Sexual Hygiene.**—In the report of the Committee on Hygiene, read by Dr. W. S. Thomas, this subject was considered at some length. The committee sent out a circular letter with the object of ascertaining if instruction in sexual hygiene was given in many educational institutions. Thirty-nine replies were received coming from universities, boards of education, private schools, etc. The opinion of educators seemed to be about

evenly divided in regard to the expediency of giving such instruction to the older boys, not that they were not mindful of the importance of such teaching as a means of preventing venereal disease, but because of the great difficulty experienced in selecting a proper method. Nowhere in Greater New York is instruction of this nature given, and in order that it could be introduced into the public schools action of the entire board of superintendents and of the Board of Education would be necessary. The committee was of the opinion that the means to accomplish this desirable end were so beset with difficulties that it was not advisable to recommend that such instruction be given generally in the schools of this city.

**Report of the Milk Commission.**—Dr. R. G. FREEMAN presented this report. He said that certified milk had been extended to certain new dairies during the past year and withdrawn from others. This milk was now produced on ten farms, and, as a rule, it showed a very low bacterial content. The milk was sold at ten or twelve cents per quart. The "inspected" milk retailed at eight cents per quart, and, at the present time, only 1,500 quarts were sold daily. There should be a large demand for this milk, because it was sold at the same price as ordinary milk, and was much cleaner. No certified cream had as yet been placed on the market, but it was hoped that this deficiency would be remedied in the near future. The certified milk had been examined every week, and also at irregular intervals, and it was reassuring to note that these unexpected inspections had failed to reveal any increase of the above average bacterial content. A new cap for sealing the bottles had been adopted, which prevented tampering with the milk. The inspector's services cost $730 a year, and the traveling expenses amounted last year to $499.96.

**Prosecution of Illegal Practitioners.**—CHAMPE S. ANDREWS, Esq., presented the annual report of the Counsel of the Society. In the past year a special effort had been made to stop the practice of several of our leading newspapers of inserting outrageously offensive advertisements, particularly of those posing as clairvoyants, but really doing business as abortionists. Altogether, thirty-one persons were prosecuted and thirty-one were convicted. The aggregate of the fines amounted to $2,490.

Hon. JULIUS M. MAYER, Justice of the Court of Special Sessions of New York County, discussed the report. He said that, under the law of this State, there was no definition of what was meant by the practice of medicine, a deficiency that must sooner or later be made good. He suggested that the minimum punishment now provided for the first offense should be abolished. At present the courts could not impose a sentence of over six months' imprisonment, *or* a fine of $250 for the first offense. No such limitation should be made, because many of the cases presented features which warranted a very much more severe punishment. The law in this State relating to misdemeanors usually provided that the punishment should be one year's imprisonment or a fine of $500, or both, according to the discretion of the court. With some of these offenders the combination of fine and imprisonment was very much more effective than either alone. He wished particularly to emphasize the fact, that there would be very much less of this crime against the public if these illegal practices were not kept before the public eye by the advertisements inserted in several of our leading newspapers. Great difficulties were experienced in securing the necessary evidence because, it must be remembered, the courts had held again and again that the testimony of a detective must be corroborated. Most quacks were well aware of this, and were very careful not to allow more than one person to consult them at a time. It was very rare, in this class of cases, that the victim could be prevailed upon to testify. The speaker declared that no matter how meritorious the work conducted by a public or quasi-public society, such society should not receive the fines imposed in a court of law in any criminal case. He was well aware that in the case of the Medical Society of the County of New York these fines did not aggregate more than half of the expenses of conducting such prosecutions, and that its motives were excellent; nevertheless, the principle of receiving such fines was all wrong. Again, in some of the most successful and praiseworthy prosecutions this society did not get a cent, simply because the punishment was imprisonment and not a fine. He hoped the two county medical organizations would come together in harmony and peace, and would unite, not only their efforts, but their funds, in such a way as to enable them to employ high-class men and secure the necessary prosecutions without allowing the specific fines from specific cases to flow into the society's treasury.

## Therapeutic Hints.

**Prolapse of Kidney.**—The common symptoms of prolapsed kidney are vertigo, syncope, palpitation of the heart, insomnia, hysteria, neurasthenia, and irritability of the bladder. These symptoms are dependent mainly on gastrointestinal disturbances, due either to irritation of the solar plexus or to direct traction on the duodenum by the kidney. There is often pain in the region of the kidney and in the ovarian region, back, thighs, and head. Such patients are never relieved until the kidney is lifted from the colon and permanently fixed in its normal position. Operation is the best treatment, because temporary relief of symptoms from belt or corset does not cure, and pressure from these supports provokes undesirable irritation and sometimes nephritis, while the operation is devoid of danger and the cure is permanent.

—GOULET, in *Annals of Gynecology*.

**Suggestions in Surgical Practice.**—Never sew up at once a wound that is badly crushed, or in which, for any reason, healing by first intention is unlikely to occur. Thoroughly disinfect, place the parts at rest, and remember the value of secondary sutures.

In injuries of the hands or feet, never be too eager to do a classical operation. Preserve as much palmar or plantar flap as possible, and be guided by the idea of restoring the best possible function, regardless of appearance.

Always wash and disinfect the meatus and glands in all cases in which instruments are to be introduced within the urethra. It serves little to have carefully sterilized the instruments if they are to be infected by contact with these parts.

Pressure on the edges of wounds with pledgets of cotton or gauze suffices to stop bleeding, as a rule, from all but the larger vessels. The assistant is less in the way than a number of artery forceps would be, and there is no bruising of tissues, hence more perfect union.

In vulvitis of little girls, always examine the discharge bacteriologically, but avoid awakening suspicions that may be unfounded. It may be due to thread-worms, dirt, incontinence of urine, eczema of the pudenda or strumous ulceration, as well as to gonorrhœal infection. A blunt retractor can be readily made by bending the handle of a spoon to the proper angle. A sharp retractor is made in the household by bending inward the tips of the tines of a fork. —*International Journal of Surgery*.

**Circumcision.**—I wish to enter a protest against the custom of universal and indiscriminate circumcision of male infants. It should be the duty of the attending physician to reflect the prepuce of all male children when they are a month old, relieve the corona glandis of the smegma present, anoint it with olive oil or vaselin, and replace the foreskin. This should be repeated two or three times a month by the mother, and the parts cleansed.

—H. E. TULEY, in *Archives of Pediatrics*.

**Cancer**, being a disease of the constitution, cannot adequately be dealt with by the knife only. Surgical measures need to be supplemented by medical and dietetic

treatment which attack the root of the mischief. It is then possible that a cure may result. Conditions favorable to the development of the disease are, living in insanitary houses or upon a damp soil.

—Dr. BELL, in *British Journal of Nursing.*

**Antispasmodic in Cases of Asthma.—**

℞ Tinct. hyosciami.....
Spir. meth. comp.....ää 30
Potassi iodidi..... 15
Syrupi..... 30
Aquæ menth.....pip. add 15.0

M. S. Two teaspoonfuls in water every two or three hours. —F. M. MOORE.

**Dropsy.**—A dry diet is recommended to patients with renal dropsy. Restriction of fluid in such cases does not interfere with elimination, and it does help to remove dropsy. —HUTCHINSON.

**Nosebleed.**—Grasp the nose between the thumb and forefinger, and press backward against the alveolar border of the maxilla, and downward against the teeth. This compresses the lateralis nasi and septal arteries. Satisfactory results also follow the use of tannin and acetanilid.

—*The Laryngoscope.*

**Elixir of Terpin Hydrate.—**

℞ Terpene hydrate..... 2 gms.
Alcohol..... 80 gms.
Distilled cherry laurel water..... 5 gms.
Garus's elixir..... 20 gms.
Syrup of tolu.....
Syrup of diacodion. } of each.....100 gms.
Distilled water, q. s. to make.....330 gms.

M. Tablespoonful, twice to four times daily for bronchitis, etc.

**Chronic Pharyngitis.—**

℞ Sodii boratis..... ʒii
Tinct. myrrhæ..... ʒi
Infusi cocæ foliæ..... ʒviii

M. S. Use as a gargle every two hours.

Or,

℞ Potassii chloratis..... ʒiiss
Infusi rubi fol..... ʒiv
Infusi cochleariæ..... ʒss

M. S. To be used as a gargle.

—*Journal des Praticiens.*

**Leg Ulcer.—**

℞ Zinci oxidi..... ʒx
Gelatin..... ʒv
Glycerini..... ʒi
Aq. destil..... ʒiiss

M. S. Apply with a soft brush, changing the dressing every three to ten days.

**Coal Gas Poisoning.**—Two ounces of peroxide of hydrogen can be given per rectum, or by the mouth, and repeated as required.

A piece of ice inserted in the rectum often has a quick effect upon restoration to consciousness.

—*Merck's Archives.*

**Rubefacient in Asthma.**—Sir James Sawyer recommends ethereal tincture of capsicum, solution of ammonia, turpentine, linseed oil, in equal parts.

**Chronic Rheumatism.—**

℞ Pulv. guaiaci resinæ..... ʒi
Potassii iodidi..... ʒi
Tinct. colchici seminis..... ʒiii
Syr..... ʒii
Aq. cinnamomi.....ad. ʒvi

M. et ft. mist. S. A dessertspoonful to a tablespoonful twice daily.

**Diarrhœa in Children.—**

℞ Bismuthi subcarb.....gr. ii
Acidi tannici.....gr. i
Pulv. ipecac. co.....gr. ½

M. S. One dose.

**Dyspepsia in Adults.**

℞ Bismuthi subnitr.....
Sodii bicarb.....
Pulv. sacch..... } ää p. æ.
Pulv. acaciæ.....
Pulv. zingiber.....

M. S. One tablespoonful. —WHEELOCK.

# Medical Items.

**Contagious Diseases — Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending November 7, 1903:

| | Cases. | Deaths. |
|---|---|---|
| Measles | 155 | 5 |
| Diphtheria and croup | 352 | 42 |
| Scarlet fever | 104 | 5 |
| Smallpox | 2 | ... |
| Varicella | 44 | ... |
| Tuberculosis | 250 | 139 |
| Typhoid fever | 93 | 25 |
| Cerebrospinal meningitis | .. | 1 |

**Health Report.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended November 7, 1903:

SMALLPOX—UNITED STATES.

| | | CASES. | DEATHS |
|---|---|---|---|
| Alabama, Mobile | Oct. 25–31 | 7 | .. |
| California, San Francisco | Oct. 19–25 | 2 | .. |
| Colorado, Denver | Sept. 27–Oct. 17 | 14 | .. |
| Illinois, Belleville | Oct. 25–31 | 7 | .. |
| Chicago | Oct. 25–31 | 1 | .. |
| Indiana, Evansville | Oct. 18–24 | 1 | (Imported) |
| Louisiana, New Orleans | Oct. 25–31 | 1 | .. |
| Maryland, Cumberland | Oct. 1–31 | 1 | .. |
| Massachusetts, Boston | Oct. 25–31 | 1 | .. |
| New Hampshire, Manchester | Oct. 25–31 | 7 | .. |
| New York, New York | Oct. 25–31 | 1 | .. |
| Ohio, Cincinnati | Oct. 24–30 | 4 | .. |
| Cleveland | Oct. 25–31 | 2 | .. |
| Pennsylvania, Erie | Oct. 25–31 | 1 | .. |
| Johnstown | Oct. 25–31 | 6 | 2 |
| Philadelphia | Oct. 25–31 | 13 | 8 |
| Pittsburg | Oct. 18–31 | 96 | 12 |
| | | (One case imported.) | |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Argentina, Buenos Ayres | Aug. 1–31 | .. | 12 |
| Belgium, Antwerp | Oct. 4–10 | 2 | .. |
| Brasil, Rio de Janeiro | Sept. 28–Oct. 11 | 117 | 64 |
| Colombia, Barranquilla | Oct. 5–18 | .. | 3 |
| France, Paris | Oct. 12–17 | 1 | 1 |
| Rouen | Sept. 1–30 | 5 | .. |
| Great Britain, Birmingham | Oct. 11–17 | 1 | .. |
| Glasgow | Oct. 17–23 | .. | 1 |
| Liverpool | Oct. 11–17 | 4 | .. |
| London | Oct. 11–17 | 11 | ... |
| Manchester | Oct. 11–17 | 5 | .. |
| New Castle-on-Tyne | Oct. 11–17 | 6 | .. |
| Greece, Athens | Oct. 4–10 | 1 | .. |
| Guiana, Demerara | Aug. 29–Sept. 26 | 326 | 1 |
| India, Bombay | Sept. 30–Oct. 6 | .. | 2 |
| Hawaiian Islands, Honolulu | Sept. 1–30 | 3 | 2 |
| Japan, Yokohama | Jan. 1–Sept. 19 | 2 | .. |
| Malta | Oct. 13–19 | 1 | .. |
| Mexico, Mexico | Oct. 12–18 | 2 | 2 |
| Russia, Moscow | Oct. 4–10 | 4 | .. |
| St. Petersburg | Oct. 4–10 | 19 | .. |
| Warsaw | Sept. 20–26 | .. | 3 |
| Spain, Barcelona | Oct. 11–17 | .. | 3 |
| Turkey, Smyrna | Oct. 5–11 | .. | 59 |
| Uruguay, Montevideo | June 5–Sept. 5 | 10.. | .. |

YELLOW FEVER—UNITED STATES.

| | | | |
|---|---|---|---|
| Texas, Connel | Nov. 3 | 1 | .. |
| Laredo | Oct. 28–Nov. 4 | 81 | 20 |
| Minera | Oct. 30 | 1 | .. |
| San Antonio | Oct. 27–Nov. 2 | 4 | 3 |
| Dewitt County | To Nov. 4 | 5 | 2 |

YELLOW FEVER—FOREIGN.

| | | | |
|---|---|---|---|
| Brasil, Rio de Janeiro | Sept. 28–Oct. 11 | 4 | 3 |
| Costa Rica, Limon | Oct. 22 | 1 | .. |
| Mexico, Tampico | Oct. 11–24 | .. | 4 |
| Vera Cruz | Oct. 19–24 | 41 | 18 |
| Jamaica, Port Royal | Oct. 11–17 | 4 | .. |

CHOLERA—FOREIGN.

| | | | |
|---|---|---|---|
| India, Madras | Sept. 19–Oct. 2 | .. | 4 |
| Japan, Kobe | Sept. 27–Oct. 3 | 2 | 1 |
| Nagasaki | Oct. 26 | Present. | |
| Turkey, Arghani-Maaden | Oct. 6 | 2 | .. |
| Gerger | Oct. 6 | 4 | .. |
| Syria | Sept. 28–Oct. 5 | 743 | 635 |

PLAGUE—FOREIGN.

| | | | |
|---|---|---|---|
| Brasil, Rio de Janeiro | Sept. 28–Oct. 11 | 80 | 31 |
| Egypt, Alexandria | Oct. 3–10 | 7 | 2 |
| India, Bombay | Sept. 30–Oct. 6 | .. | 76 |
| Japan, Yokohama | Sept. 13–26 | 2 | 2 |
| Mauritius | Sept. 18–Oct. 1 | 104 | 76 |
| South Africa, East London | Sept. 6–19 | 1 | 1 |
| Port Elisabeth | Sept. 6–19 | 1 | .. |
| Turkey, Syria, Damascus | Oct. 19 | Present. | |
| Hama | Oct. 19 | Present. | |
| Homs | Oct. 19 | Present. | |
| Tripoli | Oct. 19 | Present. | |

# Medical Record

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## Original Articles.

### TRAUMATIC LOCOMOTOR ATAXIA.

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NEW YORK.

LOCOMOTOR ATAXIA is here used instead of tabes spinalis, which latter term must always be associated with an actual degenerative lesion of the posterior columns. When Duchenne adopted the former he undoubtedly, to some degree, had in mind the clinical rather than the pathological character of the affection, and for many years it was made to include symptoms due to lesions both of the cerebellum and other parts, as well as the cord itself. In these days of advanced neurology the first are usually recognized without difficulty, and given their proper place, and are differentiated from the consistent symptomatic picture which is the true tabes. In the present connection it is adopted for convenience to include the various sensory and ataxic states, which may be explained by injury of the posterior nerve roots without necessary involvement of the cord itself; by toxæmic or consecutive lesions, or by peripheral or hysterical anæsthesia which gives rise to the incoördination and other of the symptoms which belong to the grave disorder. The possibility of injury as the cause of ataxia has frequently arisen in connection with litigation, and many cases have gone into court presenting a trauma dependent upon a railway accident which has been alleged to be the sole etiological factor. These cases do not seem to have been considered as true examples, for there is almost complete unanimity of opinion that genuine tabes—that is, the form with arthropathies, optic nerve atrophy, Argyll-Robertson pupil and gastric crises—can have no such origin; but in most instances is explained by syphilis. It has been maintained that when the symptoms develop in a conspicuous manner immediately after an accident it is probable that they have been expressed in a minor degree for some time before. and have not been recognized by the patient or his physician; or else have been mistaken for the expression of some other affection. In other words, they are the lighting up of a long dormant affection. Walton of Boston, whose industrious researches in this field of medicine are entitled to the highest credit both for their thoroughness and originality, some years ago investigated all the alleged traumatic cases, but was unable to find one entirely uncomplicated. Bailey while reporting a case in which the appearance of a number of classical symptoms almost immediately followed a fall upon the buttocks, and in which there was no history of syphilis whatever, is as much in doubt as others about the relation of trauma to tabes inclining to disbelieve in the possibility of such a connection. The writer, whose experience has been large, while perfectly convinced that a consistent and progressive case of the disease as a result of injury is practically unknown, has seen so many patients in whom the trauma either lighted up a spinal syphilis, or gave rise to a group of symptoms due to nerve root injury, or consecutive to spinal laceration, that he does not feel inclined to dismiss the possibility of a pseudotabes which may very closely resemble the form which is universally supposed to be so distinct an entity. It need hardly be said that rapid local tissue destruction, or its aggravation in connection with syphilis, is often due to excessive use of alcohol, and doubtless violence when suddenly applied is in some cases capable of rendering a long standing and inactive syphilitic deposit capable of producing local toxæmia and resulting mischief in the cord.

Although Marie, I am informed, performs lumbar puncture in all his cases of tabes as a routine diagnostic method, and finds a varying degree of leucocytosis in commencing tabes, I am not aware that anyone has in non-syphilitic cases made such an examination to determine the early indications of this striking disease. Possibly such changes indicating the establishment of inflammatory action might be easily found in this as well as other kinds of myelitis, for the procedure is not a dangerous one and causes little embarrassment. Those familiar with the affection, and whose experience has been at all extensive have recognized a respectable number of irregular cases which not only depend upon some cause outside the spinal cord itself but in its vicinity, besides those commonly known. The *pseudotabes* of Gilles de la Tourette, Pitres, Petit, and others is characterized by the incomplete nature and development of symptoms, and by the possibility of cure, and Kowaleski reports a case in which symptoms attributed to tabes disappeared in twenty-seven days after hydrotherapy and rest. Finally there are hypochondriacal or hystero-hypochondriacal cases in which the symptom complex is striking, but, of course, lacking in completeness, and when the psychic element is present. These are the so-called curable cases which disappear speedily after the use of "goat lymph" or specially made shoes, and many are the marvelous recoveries which are just now widely advertised by ingenious quacks, for it would appear that at present what may be called *tabophobia* is unusually common, and many ordinary forms of lithæmic hypochondria are made to masquerade as locomotor ataxia.

Reference need hardly be made to the familiar symptoms of tabes, a disease which is notably chronic, lasting sometimes even for forty years and not in itself materially shortening life. Beginning with a preataxic stage, the expressions of which in the beginning are often mistaken for those of other affections its early diagnosis is by no means easy.

This is especially true so far as the disturbances of sensation are concerned which depend upon the encroachment of the disease in a neighborhood where it involves the posterior nerve roots, the meninges, and at first parts adjacent to the cord; although later there is a central explanation for others of greater gravity. Not only do we usually with certain changes of wind, especially where the barometric pressure is low, find the occurrence of sharp, lancinating or fulgurating pains, as a rule at first in the lower extremities, with painful residual areas and points, but dysæsthesia and tactile

anæsthesia, which may involve the plantar surfaces, preventing the individual from standing unsupported when his eyes are closed (Romberg's symptom), and sometimes contributing to the production of the ataxic gait. Pupillary insensibility to direct light stimulation, with conservation of power for accommodation (Argyll-Robertson symptom) diplopia; dysuria, sexual weakness constipation, joint weariness, loss of knee-jerks and other deep reflexes, arthropathies. etc., are followed by the characteristic ataxic gait, difficulty in turning, or descending inclined surfaces or steps, sudden inhibition of muscular power through fear, gradually developing optic nerve atrophy while subsequent paralysis and atrophy of the affected muscles, and possible exaggeration of the knee-jerks occur when other parts of the cord and the posterior columns are invaded by the degenerative process. True tabes is manifested by a certain similarity of symptoms, the nature of the pains and their method of occurrence being very much alike in a given number of cases which are compared, and they are usually associated in active cases with gastric, laryngeal, rectal or vesical crises, although in many cases there may be little or no pain. The same is true of the distribution of anæsthesia, which, if plantar, is more commonly of the perineal type or, if occurring in the upper extremities, is usually found on the ulnar side of the forearm and hand. The arthropathies, although comparatively rare, cannot by any well-informed physician be long mistaken for any other form of joint enlargement, even when occurring after injury they have a character of their own, and are, as Charcot first pointed out, quite inseparable from spinal cord degeneration, and when found, in every case, have been preceded by some of the peculiar symptoms of the spinal affection. In some cases of fracture, an accident to which tabetics are prone, it will not be difficult to get a history. The same may be said of perforating ulcers and of the earlier trophic disorders which, by the uninitiated, are supposed to be due to ordinary conditions. The gait has a certain uniformity and the patient brings his heel down first, there being some spasticity, and it is only in the old cases that the disorderly titubation, which is characteristic of dementia-paralytica, is found. These facts are thus fully referred to because in the irregular cases to which attention has been directed one must be impressed by a certain peculiar disorder in progression. In most of the reported cases which are claimed to be traumatic there is, with but few exceptions, a history of sudden development and irregular progress, and usually a very rapid development of symptoms, the preataxic stage being short. The dominant sensory expressions of ordinary tabes do not appear to be important in this form, and the pains are rarely so intense as to need morphine. In cases which have come under the writer's notice, girdle and radiating pains have caused more suffering than those of the extremities, and even when the disease has advanced there have been no abdominal crises. The anæsthesia has been irregular, and rarely bilateral, except in one non-traumatic hysterical case, while in another the anus and lower rectum were anæsthetic. While the knee-jerks were lost, the writer has never found the lost pupillary reflex, and in no case has there been any optic nerve atrophy or neuritis. One of the striking and suggestive differences is found in the gait, which is far more disorderly in locomotor ataxia after trauma than in tabes of organic origin in which there is usually a syphilitic basis. While the heel impact and the trajection that belong to the ataxic gait are present, there seems to be at an early date a great deal of unsteadiness and disorder, thus resembling the Friedreich type, and when the patient progresses the action of the quadriceps is exaggerated so that the knee is lifted higher than it is in the ordinary case of tabes, and there seems also to be a species of lateral wobbling or unsteadiness. This lifting is not to be confounded with that associated with certain forms of peripheral neuritis. True arthropathies are not found in the cases to which reference is here made, and when present, as Bailey and others have pointed out, there is undoubtedly an antecedent history, and they are not attributable to injury alone. The traumatic examples that are apt to be met with are of three kinds: (1) Hysterical and neurasthenic forms—the pseudotabes of the French writers. (2) Residual cases in which, after laceration of the cord, there remains a lesion of the posterior columns. (3) Cases in which, through wrench or twisting of the body, there is tension or actual torsion of the posterior spinal nerves, traumatic neuritis with predominating sensory symptoms. (4) Cases due to initial injury with a recurrent hyperæmia and pressure.

Hysterical locomotor ataxia is, of course, attended by none of the inevitable deep indications of central degeneration, which belong to true tabes; yet it may present the sensory and motorial indicia of the real affection, which are calculated to deceive some people. The anæsthesia, as a rule, is much more profound and is rather sudden in its appearance, and the ataxia is coincident and sometimes marks a sharp début. There are never preataxic, lancinating pains, but ill-defined dysæsthesia, and there is, as a rule, a neurasthenic basis with the general familiar symptoms. In a case seen by the writer analgesia existed, and was complete and extensive. While the superficial reflexes were abolished in response to irritation of the anæsthetic area, the knee-jerks were preserved and the pupils reacted normally to light. The ataxia was confined to the lower extremities, and if the patient closed her eyes she became agitated, emotional and dropped to the ground, crying aloud as she did so. There is in tabes itself a period of swaying and toppling, however short, which precedes the fall, and the patient strives to balance himself by laterally extending his arm; but there was nothing of the kind with this patient. There was a vesical spasm and considerable discomfort, but neither retention nor incontinence. The only visual disturbance was asthenopia and the eye field was normal. She had before presented certain stigmata of hysteria, and was of a nervous family—her brother, with whom she lived, having had tabes. A trifling fall was the alleged cause, but undoubtedly there was some imitative tendency as well. After a few months' treatment a cure was effected, principally through the use of the induced current, the patient being isolated meanwhile. The entire duration of the symptoms was less than a year.

In contrast the case of J. R. G. is interesting, because of the rapidity of its progress and its direct connection with an undoubted spinal injury—possibly a laceration. It was impossible to determine the existence of syphilitic infection, and it is the writer's opinion that his present condition dated from an accident in the Harlem tunnel, which occurred January 8, 1902, when there was a rear-end collision, and the patient was thrown forward, receiving a severe wrench and possibly a blow in the dorsal region, for there was resulting severe and obstinate pain which lasted some time. According to his story he was able to leave the car but was unnerved and rapidly became neurasthenic and demoralized. After this he did not dare to do anything requiring mental or physical effort and wa

timid to a degree. He could not walk on a fallen log over a stream when in the country, and found it impossible to move about his room at night in the dark, or place his hands over his eyes when he washed his face, without pitching forward. In April or May, 1902, he began to have "rheumatic pains" and a painful girdle at a level of about the edge of the lower ribs. He has had fulgurating pains in his legs since May, 1903, and pretty much all of the year 1902 he had trouble with the bladder, passing his urine very slowly. His general break-up was so great that he went abroad in the spring of 1903, where a diagnosis of locomotor ataxia was made by Purves Stewart of London. The doctor writes me September 26: "his pupils are rather small, but react normally to light and on accommodation. The optic disks and cranial nerves are normal. He has no loss of sensation on the face, trunk or limbs to lightest touches or pricks; but along the ulnar borders of hands and inner sides of soles, including the great toes, pinpricks, though felt acutely, are accompanied by a peculiar tingling sensation; pressure on the ulnar nerves behind the internal condyles is painless. The sense of position on passive movement is impaired at the toes, ankles, and hips, fairly good at the knees. There is distinct hypotonia of the calf and the hamstring muscles. The gait is ataxic, his handwriting is deteriorating, and he feels himself clumsy when buttoning his clothes or when picking small objects out of his pockets. The knee-jerks, Achilles jerks, and supinator jerks are absent. There is some delay in micturition and he is sexually impotent." Upon his return from Europe the patient consulted me, when I found all these symptoms, and evidently an increase of the ataxia for he could only ascend and descend the stairs with the greatest difficulty, and he was in a very nervous and anxious condition, and so weak that he was obliged to spend most of his time in bed. There is the same hypotonia of the muscles of the hand as exists in the lower extremities, and he is unable to use them now at all except for gross efforts. In this case the same extreme disorderly walk is found that has been referred to when speaking of other traumatic examples, and the mental element is highly suggestive of that which belongs to the so-called traumatic neurasthenia. So far he has not responded to treatment, and it has been found necessary to direct complete rest, and forced feeding.

Two cases of a somewhat interesting nature, from the fact that certain symptoms were recurrent in both, that there was a traumatic history, and that these recurrences followed undue exertion clearly show that there is a form of traumatic pseudotabes with obscure pathogeny, but not necessarily classic posterior column degeneration. J. M. is now, in 1903, fifty years old, and has been a marine engineer for a long time. He is at present chief engineer of a coast steamer. His general health up to 1884 was exceedingly good, as were his habits, and it is impossible to find a history of syphilitic infection. In that year he fell from an upper deck into the fire-room of his ship, about twenty feet below, landing upon both feet. Strange to say, beyond a slight concussion, some tingling and burning of his lower extremities, and a slight loss of power, there were no immediate consequences. In a few days, however, he began to have pains suggestive of irritation of the posterior nerve roots, rather general analgesia of the legs and feet, myelasthenia, insomnia, and attacks of lumbar pain.

Micturition was frequent and difficult, and there was slight tenesmus after the act. His sexual power diminished; he became neurasthenic and was obliged to give up his work. In 1886 these symptoms were supplemented by ataxia and difficulty in coördination, and his walk became "wobbly" and disorderly, there being at the same time great irresolution and timidity in finding his way about the streets.

He presented himself at the Hospital for Ruptured and Crippled in this city in the summer of 1887, when he came under my care in the outpatient department. Both knee-jerks were evoked with difficulty, but the pupillary and other reflexes were but slightly affected if at all. Under absolute rest, spinal cauterization and cod-liver oil he recovered in eight months, so that he was able to return to his work and made regular trips from New York to Havana until the spring of 1899, when he contracted a Tampico fever and came to his home in Orange, N. J. In September of that year I saw him in consultation with Dr. Phelan, and found him bedridden. It was stated that he had been unable to walk for more than a month because of an extreme degree of ataxia that had rather suddenly appeared during convalescence, and when he made undue muscular exertion. When helped out of bed he walked with great difficulty, raising his knees and legs very high and applying his heels to the ground in a jerking way, quite different from the gait of true tabes. There was no paralysis of motion, but there was tactile and pain anæsthesia of the plantar surfaces, the outer toes of both feet being specially affected. He had severe gastric and visceral pains suggestive of crises, and at the time of the visit there was retention, and it was necessary to use the catheter. Both knee-jerks were still absent. After cauterization and ergotin he began to improve, and on January 2, 1900, he was able, after a few weeks of shore duty, to take charge of a new steamer, and since then has been, with the exception of slight gastric disturbance, a well and strong man.

The second is that of G. L. K., a traveling salesman of thirty-three years, who has never had syphilis, and his habits are good. He smoked moderately and occasionally took beer or whiskey. About sixteen years ago, after severe muscular action in lifting a heavy tray from a sample trunk, he suffered a sudden lumbar pain which disappeared under simple remedies and was followed, as he said, by some swelling of knees and feet. This, in turn, disappeared, leaving him with a sense of weakness, and a difficulty in locomotion which was due to ataxia. There do not appear to have been any leg pains or any bladder disturbance. In a short time he regained his ordinary vigor, resuming his occupation as commercial traveler until 1897. While in Columbus, Ohio, in that year, he again performed an uncalled for muscular act of a violent nature, which was followed by numbness in both limbs, which extended from the knees downward, the soles of his feet being, perhaps, the most insensitive. According to his story there was a variation in the extent of the pdysæsthesia and a sort of intermission, there being a period of normal sensibility, which would last for four or five days, and was followed by an absolute loss of feeling. After a week or two of this, his gait became affected, and it was with extreme difficulty that he could walk at all, because of the lack of coördination. He recovered also from this attack in a few months, and continued apparently in the best of health until eight weeks ago, when he began to have characteristic pains in both legs, which shot up through the feet; there were pains as well on the right side of the head and right arm. There was, for a month or so, some numbness in both plantar surfaces, but this was

not permanent. There was at times an imperative desire to urinate, but no other bladder symptoms. There was no constipation.

No Argyll-Robertson symptoms but both knee-jerks were gone. His gait showed a well-marked ataxia, and when he walked he planted his feet far apart, tottered and staggered, but could stand with his eyes closed. Most of the motor symptoms were present, so far as the lower extremities were concerned, and his was apparently an exceedingly easy case for diagnosis. The history, however, of the two subsequent attacks and the rapid *début* of the present one impressed me, as I learn it had Dr. Osler.

From June, 1900, when I first saw him, he has continued to improve under the use of ergotin—tri-weekly burning with the Paquelin cautery, which was substituted by blistering with vesicating collodion during his absence from New York, and absolute rest. The treatment was kept up by his physician in Cleveland, Ohio, with the result that by autumn his sensory symptoms had absolutely disappeared and his gait was but slightly embarrassed. He was able to go up and down stairs without difficulty, walk about in dark places, and do a great deal of work. During the winter of 1901 he came to New York again, and I was unable to find any ataxia whatever, although the knee reflexes were still absent, and his pupillary condition was less sluggish than it had been. At one of these visits I found a painful crop of herpes situated in the inguinal region and upon the dorsum of the penis. There were also one or two spots upon his neck and back. These were followed by great local irritation and some neuralgia. There were absolutely no other trophic or cutaneous changes. Up to the present time, October, 1903, there has been no return of the trouble.

The litigation cases are often fictitious, and might be at once dismissed from consideration were it not for the tendency which so often exists to thrash out medical symptoms in court by laymen who naturally know nothing about their significance. Such a case was that of Miss Z., who sued the Metropolitan Street Railway. The medical testimony for the plaintiff was given by three physicians whose diagnosis of "locomotor ataxia developing from myelitis" certainly is an illustration of the weakness of certain kind of expertism. It was claimed that in an accident which occurred in February, 1896, she received a blow on the back, that she was confined to her bed immediately and there remained for fourteen weeks. One of her physicians testified that there was paralysis of both lower extremities, entire loss of sensation on the right side, *increase of knee-jerks* and ankle clonus. The right leg was smaller than the left, "the reflexes of the eye do not respond the way they should to *light* or *distance*." Another who examined her testified that the disease was "myelitis running into a form of locomotor ataxia subsequently." He found that "the so-called *patella reflex was very much diminished*." There was "inversion of the foot, due to loss of power of the extensor muscles of the leg, loss of sensation, more particularly on the outer side of the right leg, diminution of the size of the right leg and *ankle clonus*. The alleged loss of sensation found appears to have been an analgesia. Another medical witness diagnosed the case as myelitis, and found partial paralysis of the right extremity, atrophy, contracture, ankle clonus, *exaggeration* of knee-jerks, loss of sensibility to touch, temperature, and pain. All these examinations were made at about the same time, and not only was there a conflict in regard to the reflexes, but the first physician appears to have had rather confused views as to the eye reflexes and their significance; there certainly was no evidence of tabes.

The patient was seen by two doctors for the company, who found absolutely nothing at all, and regarded the case, as one of malingering.

It appears from the testimony that the young woman had gone to a seaside resort and was actually dancing at the time when she was alleged to be incapacitated and on crutches.

44 East Twenty-ninth Street.

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## INTRAVENOUS INJECTIONS OF COLLOIDAL SILVER IN THE TREATMENT OF ERYSIPELAS.

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The favorable reports which have appeared in France and Germany on the use of intravenous injections of colloidal silver in various infective processes induced me to give the drug and the method a trial during the past summer. The results have been sufficiently encouraging, especially in erysipelas, to warrant publication of the cases.

I am greatly indebted to Dr. Benj. F. Tilton for placing the cases in the Erysipelas Pavilion at my disposal.

The history of the introduction of colloidal silver as a therapeutic agent and its administration, both by inunction and intravenously, have been so fully described by Netter[1] and Credé[2] that it will be unnecessary to cover the ground again.

Colloidal silver has been used with varying success in septic processes generally, as pyæmia, septicæmia, surgical infections, septic complications of infective diseases; pneumonia, carbuncle, anthrax, gonorrhœa, etc. Schmidt[3] has reported three cases of erysipelas successfully treated with it.

In the present series of cases the colloidal silver has been used intravenously in doses of 5-10 c.c. of a 1 per cent. aqueous solution. It is claimed that solutions of colloidal silver will keep for months without deterioriating, but I have had small quantities of the solution made as occasion required. The fresh solution is of a deep brown color, becoming grayish as it deteriorates.

All who have used colloidal silver agree that it is harmless. Formerly chill constantly followed the injections—it occurred in several of my cases—but it is claimed that colloidal silver as now manufactured does not cause chills. In some of my cases (not erysipelas) the temperature rose 2° or more within six hours after the injection. Only in one case did the slightest evidence of cardiac depression occur and that was not serious. I have made no attempt to study the blood changes following the injections.

*Technique.*—Any syringe with a capacity of 10 c.c., which can be efficiently sterilized, may be used for the injections. It is advisable that the syringe be used only for this purpose, as it lessens the chances of accidental infection. The syringe which I have found most satisfactory is the Edson antitoxin syringe, in which the piston consists of a metal plunger covered with rubber tissue. A new piece of rubber may be used for every injection.

Any large vein may be selected for the injection. The veins at the bend of the elbow are the most convenient. The site of the vein should be sterilized as for an operation, and covered with bichloride or carbolic gauze until the needle is ready for insertion. Before the dressing is removed a bandage should b

tied about the arm to bring out the veins. If they do not appear readily, the arm may be allowed to hang over the edge of the bed for a few minutes. In no case have I found it necessary to cut down upon the vein. A hypodermic-size needle is the most convenient, and the vein can be entered more easily if the eye of the needle is uppermost. The syringe should be held as nearly as possible in the long axis of the vein. If the vein shows a tendency to roll from under the needle, slight axis traction below the site of insertion will steady it. It is generally easy to tell when the needle has entered the vein by the disappearance of resistance before it. In fact, the needle can often be felt to "pop" into the lumen of the vessel.

If doubt exists, the piston may be slightly withdrawn and a small quantity of blood sucked into the syringe. Of course all air should be removed from the syringe and needle before the needle is inserted, and even then it is advisable to incline the syringe so that any contained air will rise to the piston. The contents of the syringe must be injected slowly. The vein should be covered with sterile gauze and bandaged rather tightly immediately after withdrawal of the needle, otherwise it may

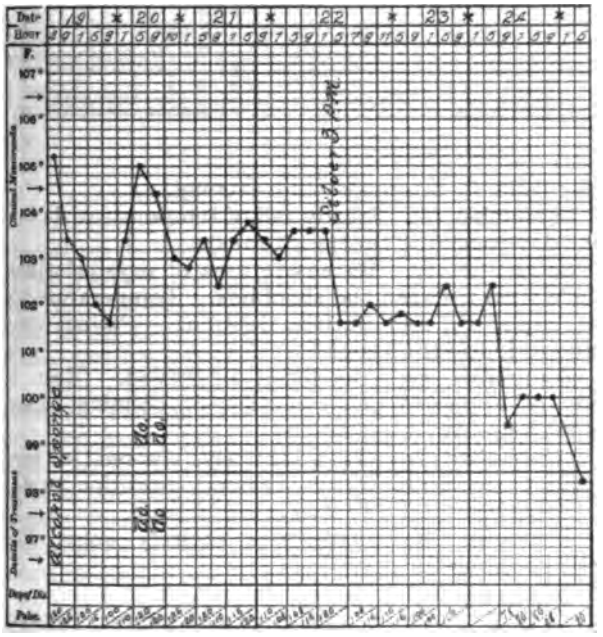

Chart No I.

bleed through the puncture and form a little hæmatoma. None of the colloidal silver should be allowed to escape into the tissues, as it produces a burning pain which may last for an hour or more. When this precaution is taken patients rarely complain of the procedure. Very little or no reaction, takes place at the site of the injection, and the same vein may be used within a day or two.

CASE I.—Thomas K., aged thirty-six years. Developed erysipelas after operation in another hospital for an old ununited fracture of the leg. Transferred to Bellevue.

General condition excellent. Heart and lungs normal. Ununited fracture of left femur, with incompletely healed operation wound. Presents a number of sharply defined erysipelatous areas along the margins of the wound, with reddish blotches scattered over the leg. Knee stiff.

August 22. Condition unchanged. Given 5 c.c. of a one-per-cent. solution of colloidal silver intravenously at 3 P.M. At five o'clock the temperature has fallen 2° F. The patient states that he feels much better and that all soreness in the leg and thigh has disappeared.

August 23. The inflammation in the leg has greatly diminished. No soreness. Patient continues to feel much better.

September 1. Wound healing nicely. No sign of erysipelas.

CASE II.—Richard F., aged thirty-four years. General health has usually been excellent. Appear-

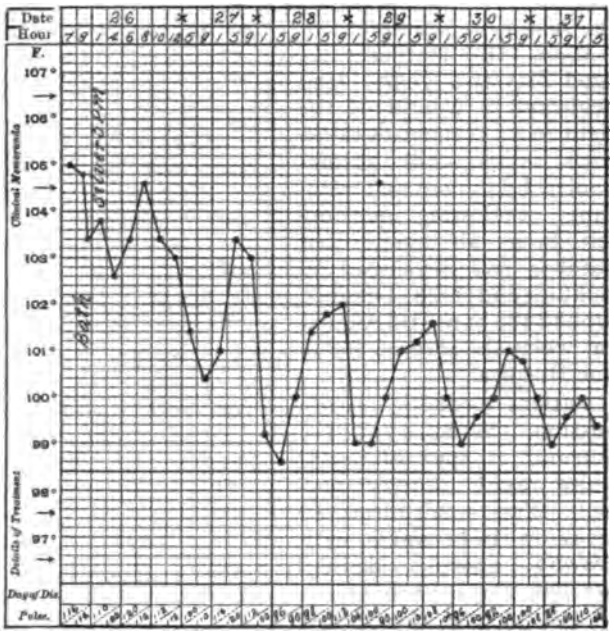

Chart No. II.

ance markedly alcoholic, though patient has drank but little for six weeks.

Something over two weeks ago patient received a slight wound of left ear. Six days before admission had a severe chill accompanied by vomiting and followed by high fever. Lay in the open fields for two or three days, then applied at several out-of-town hospitals, but was refused admission. Walked into

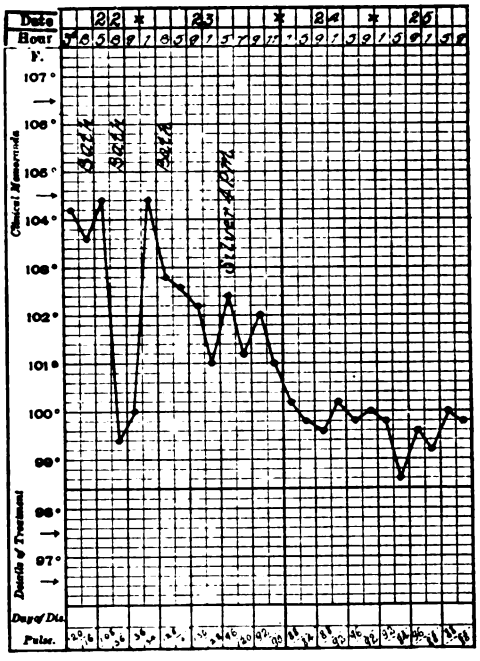

Chart No. III.

Bellevue Hospital on August 26. Heart and lungs normal. Face swollen, red and œdematous on both sides, but patient can still open his eyes.

August 26. Given 9 c.c. of a one-per-cent. solution of colloidal silver intravenously at 3 P.M.

August 27. Patient much better. Temperature down to 100.4° F.

August 28. Patient has developed slight pains in larger joints. Otherwise he feels well.

September 3. Still has some pain in joints. Erysipelas entirely gone.

September 4. Numerous purpuric spots about ankles.

Joints so painful patient cannot get up. The rest of the history is unimportant.

Case III.—Margaret R., aged fifty-two years. Had neglected a wound of the right foot. August 18 taken with severe chill accompanied by nausea and vomiting. Following morning felt lame all over. Red patches had developed on right leg and thigh. Dragged around the house till August 22, when she entered Bellevue Hospital.

Patient alcoholic on admission. Slight systolic murmur at apex of heart. Pulse rapid. Lungs normal. Two small ulcerated areas on right ankle, with brawny, sharply defined patches, varying from scarlet to purple, distributed over leg and inner surface of thigh. Right femoral and inguinal glands greatly enlarged.

August 22. A 10 per cent. carbolic acid dressing applied.

August 23. Inflammation greatly lessened. Symptoms of alcoholism have almost disappeared. Given 10 c.c. of a one-per-cent. solution of colloidal silver intravenously at 4 P.M. At 6 o'clock patient had marked chill, accompanied by nausea and vomiting.

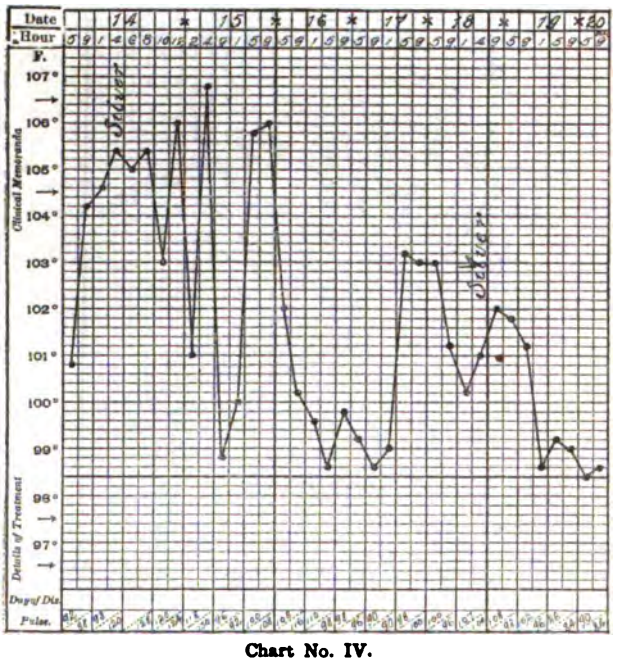


Chart No. IV.

August 24. Patient feels much better. Signs of inflammation greatly diminished. Temperature down.

September 3. Patient feels perfectly well. Local condition cured.

Case IV.—Rosie P., aged thirty-four years. No history obtainable, as the patient does not speak English.

September 14. General condition good. Entire face red and swollen, especially under the eyes. The redness is sharply marginated. Heart and lungs normal. Incontinence of urine and fæces. Given 8 c.c. of a one-per-cent. solution of colloidal silver intravenously at 4 P.M. Has restless night.

September 15. Morning temperature 98.8° F.; up again in afternoon and evening.

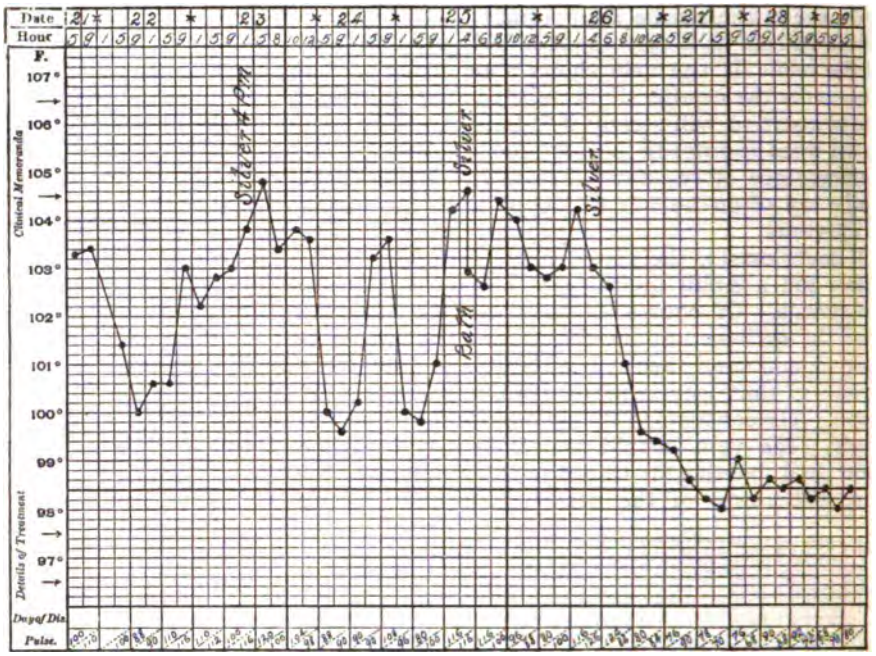


Chart No. V.

September 16. Steady fall of temperature during the day to 98.6° F. in the afternoon.

September 17. Extensive area of erysipelas has developed between the shoulders. Temperature up to 103.2° F., and patient delirious. Patient continues delirious all night.

September 18. Condition improved. Given 8 c.c. of a one-per-cent. solution of colloidal silver intravenously at 4 P.M.

September 19. Face entirely cleared of erysipelas; back nearly so. General condition good.

September 20. Temperature normal.

September 21. Erysipelas entirely gone. Patient feels well.

September 27. Patient discharged.

Case V. John T., aged fourteen years. Noticed red spot on neck below left ear August 17. No history of wound or chill. Redness and swelling gradually extended up to left ear and eye. Walked into Bellevue Hospital August 21. General condition good. Heart and lungs normal. Sharply marginated scarlet swelling extending from left side of neck up over ear to margin of scalp and left upper eyelid.

August 22. General condition continues good, but erysipelas has extended. Left eye is shut and scalp is involved.

August 23. Condition same as yesterday. Given 7 c.c. of a one-per-cent. solution of colloidal silver intravenously at 4 P.M.

August 24. Patient's temperature down to 99.6° F. Says he feels much better. Erysipelas has not extended; has perhaps subsided somewhat.

August 25. Swelling of left side of face more pronounced. Cannot open left eye. Fairly large area of erysipelas below right eye. Back of neck and upper part of thorax also involved. Given 7 c.c. of a one-per-cent. solution of colloidal silver intravenously at 4 P.M.

August 26. Face not so swollen. Erysipelas has not spread. Given 7 c.c. of a one-per-cent. solution of colloidal silver intravenously at 4 P.M.

August 27. Temperature normal.

August 28. Erysipelas has practically disappeared. Patient out of bed.

I do not feel justified in drawing conclusions too confidently from the above cases, especially as the usual treatment employed in the hospital for erysipelas was not discontinued. Being convinced, however, by an experience including some 20 cases of various diseases, of the harmlessness of the method, I can recommend that it be tried in appropriate cases. Even if the injections do not benefit the patient, they will do no harm. In some of my cases not a symptom followed the injections. So impressed am I with the possibilities that the intravenous use of colloidal silver holds, that I am actively continuing the work upon cases kindly placed at my disposal by Professor Loomis.

In conclusion I wish to thank Drs. William Wilson, D. Miltimore, and R. M. Vose for their valuable assistance.

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## CHRONIC CYANOSIS OF THE EXTREMITIES ASSOCIATED WITH POLYCYTHÆMIA AND SPLENOMEGALY.

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During the last few years there has appeared, from time to time, in medical literature, reports of cases of chronic cyanosis not associated with emphysema, organic heart disease, or poisoning from substances that reduce hæmaglobin. There are now eleven or twelve such cases on record to which I shall add one, possibly two, more. The first case seems to have been recorded by Vaquez in the *Bulletin Médical*, Paris, 1892. In 1899 Cabot published in the *Boston Medical and Surgical Journal*, December 7, 1899, the history of a case entitled "A Case of Chronic Cyanosis Without Discoverable Cause, Ending in Cerebral Hemorrhage," and in the same Journal, March 15, 1900, a second case. In 1901 McKeen published, in the *Boston Medical and Surgical Journal*, the history of a man afflicted with an unaccountable cyanosis, which, however, I am not entirely satisfied belongs to the form of disease to which the name constituting the title of this paper must, provisionally, be given. Last year Saunby and Russell of Birmingham reported a case in the *Lancet*, February 22, 1902, and recently Osler has published the notes of four cases in the *American Journal of the Medical Sciences*, August, 1903. Other cases that have been recorded are mentioned later.

The first case I saw (if it is a genuine case) was encountered in the City Hospital in the winter of 1902, but it did not occur to me that the cyanosis was other than an ancillary phenomenon of the disease from which the patient suffered, viz., an atypical form of spinal progressive muscular atrophy, until I met my second case. This patient was made the subject of a clinical lecture at the Post-Graduate Medical School last March. The case was not only what might be called an extreme example of the disease, but it shows that this peculiar association of symptoms or disease may occur in the young.

The patient, an Irish girl, twenty-four years old, employed as a domestic, states that she was in good health until her twenty-first year. She then began to complain of pain in the left side. She described the pain as a stitch which kept her from taking a full breath. The "stitch" would last a few minutes and then subside. This pain continued for about five weeks, during which period she was under treatment for neuralgia. About the same time she noticed, and it was remarked by others, that her hands and face got reddish purple, and that this discoloration did not disappear. There was no pain nor swelling with it, and it seemed to have no relationship to the "stitch" in the side, except that it came after it. In addition to the pain in the left side, she suffered at times from pain in the left shoulder, from peculiar pain in the back of the neck and base of the skull which she is unable to describe, but which was relieved by dry heat, and from syncopal sensation which, she thinks, came about once a week. She never became wholly unconscious in these fainting spells. During this period she was subject to attacks of vertigo, each one of which lasted about fifteen minutes. The attacks were so severe that she would have to sit. They recurred at varying intervals. During the past year these spells have diminished in frequency and severity until now they have practically disappeared. Other symptoms that have been troublesome are vertical and occipital headache, and occasional attacks of epistaxis. The latter she gets invariably when she has a "cold." At the onset of her illness she had frequent attacks of vomiting. At one time she says that this vomiting kept up for about a month, during which time she lost about fifteen pounds. Constipation has been a distressing symptom and is still troublesome. The pain in the side, which is the burden of her complaint, has always been worse in winter, so much so, that she has been obliged to give up service during the cold weather. In the summer she has always gained strength and has been fit for work.

Six months ago she had what was diagnosticated to be erysipelas of the left foot. The foot and the lower part of the leg took on a deeper reddish blue color, and it got puffy but not painful. There were no blisters or evidences of suppuration. The swelling lasted about a fortnight.

She came to my clinic to get relief from pain in her left side, described above, and general weakness. The cyanosis of the extremities had existed so long and without apparent inconvenience that she attached no importance to it. The appearance of the patient was striking, not to say startling. The face was suffused, the upper part particularly being of a reddish-blue hue. The whites of the eyes were nearly usurped by a deep reddish color, due to injection of the conjunctival blood vessels. This gave the eyes a very striking appearance, which was accentuated by a fairly well marked exophthalmos. The end of the nose and lips was likewise cyanotic. When the skin of the face is pressed upon lightly, no white mark appears, but when pressed hard, a white mark follows, which, however, disappears with great rapidity. The pupils, which are equal and regular, respond quickly to light and in accommodation. There is nothing abnormal to be made out with the ophthalmoscope. The surface temperature of the face is normal. The hands are of a deep, bluish-red color, the finger nails blue. There is no indication of trophic alteration in the nails or skin. The cyanosis extends to about an inch above the wrist, and then shades off through light red to the normal appearance. The skin itself is warm and dry to the touch. Pressure upon the hands is followed by white spots, which disappea with great rapidity. The feet and ankles present an appearance very similar to the hands, and need not, therefore, be described. There is no œdema or pigmentation. Examination of the heart shows that there is no dis

order of the valvular mechanism and no disease of the heart wall. The rhythm and the sounds are quite normal. There is some tachycardia, the pulse ranging about 90. The arteries are soft, the rhythm is regular but the vascular tension is evidently increased. There is no sign of emphysema or other affection of the lung, nor has the patient complained of shortness of breath or any discomfort attending breathing. The contour of the thorax presents no abnormality. There is no enlargement of the thyroid. On percussion there is to be made out an area of dulness or flatness over the entire lateral portion of the thorax extending from two inches below the inferior axillary border downward, to three inches above the crest of the ilium, the confines of the dulness laterally being a line drawn parallel to the anterior axillary line, one inch in front of it, and a line drawn from the posterior angle of the axilla to the inferior border of the scapula, and then to the crest of the ilium. The line of dulness anteriorly is not so straight as it is posteriorly. On a level of the ninth intercostal space the dulness extends farther toward the median line than the line spoken of above would confine. On palpation it is clearly evident that the cause of the dulness is an enormously enlarged spleen. It can be felt very distinctly, the surface smooth, the edges rounded. Whether or not the pancreas is enlarged I am unable to say positively, but I believe it is. The fact that the patient has attacks of ravenous appetite inclines me to that opinion, and the change in the outline of the area of flatness at the level of the pancreas tends to confirm it. There is no appreciable enlargement of the liver.

Examination of the urine showed it to be entirely normal in appearance and constitution. At no time have casts of any sort or other abnormal constituent been found, although it has been analyzed often and carefully. Examination of the blood shows hæmaglobin, 110 per cent.; erythrocytes, 9,821,000; leucocytes, 17,800; slight leucocytosis. Differential count of the leucocytes shows polynuclear and transitional, 73 per cent.; large and small mononuclear, 26 per cent.; eosinophiles, ½ per cent.; no myelocytes. The blood flowed very slowly from the stab of the ear and the finger was quite black. The first thing that impresses one in viewing a drop of blood under the microscope is the enormous number of red blood cells. They form rouleaux that have a firm appearance. The red blood cells seem to be of normal size, and diligent search, both on the part of Dr. Nathaniel Bowditch Potter, who kindly examined the blood on one or two occasions, and myself failed to reveal any nucleated red cells. On one occasion I was able to observe clotting of the patient's blood from an epistaxis. It entered the jelly stage in a small hand basin in less than four minutes, and coagulation was not attended with the slightest formation of buffy coat.

Such was her condition at the time of my first examinations, and it has not changed materially since, except that she is not so strong as she was. She gets out of breath on going up stairs, and she has noted that she perspires much more freely than formerly. She does not suffer from pain in the side as much as she did during the winter, and she says that during the summer she does not have much pain. The menstrual function seems to be undisturbed, and the flow is of the customary color and duration. Although the bowels are constipated, digestion seems to be normal. A short time ago a number of ulcers about the size of the thumb nail developed on the anterior surface of the left leg. They had an appearance similar to those seen with varicose veins. They healed slowly, even though the patient was kept in a recumbent position. Latterly, some pigmentation of the skin over the legs has developed.

The subjective symptoms were (1) pain of a neuralgic character in the left side and less often in the back of the head. (2) Vertigo, occurring paroxysmally and sensations of syncope. (3) Occasional attacks of vomiting and continuous constipation. (4) Myasthenia during the cold weather. The objective symptoms were: (1) Acrocyanosis; (2) polycythæmia; (3) tachycardia, and (4) gigantic enlargement of the spleen.

In the absence of emphysema and heart disease, this state of chronic cyanosis was quite unaccountable. Moreover, the tremendous enlargement of the spleen and the polycythæmia were entirely new to me, and it was not until Osler brought the subject up for discussion at the meeting of the Association of American Physicians, this year, that I realized it to be one of the cases mentioned by the writers above mentioned.

After studying this case, it occurred to me that the very remarkable cyanosis of the extremities which a patient I had for a long time under observation in the City Hospital, who was suffering from spinal progressive muscular atrophy, the course of which was rather atypical, might be considered to be this symptom complex occurring with or engrafted upon the spinal cord disease. Examination of the blood showed hæmaglobin 100 +, red corpuscles 8,400,000, leucocytes normal. The spleen was not perceptibly enlarged, nor were any of the thoracic or abdominal viscera diseased. The pulse varied from 80 to 95. The heart was quite normal in size and in function. The urine was often high color, but it did not contain albumin. The patient was a Jew, forty-two years old, and a peddler by occupation. The muscular atrophy, which was of the Aran-Duchenne type, had begun four years before I saw him, and had progressed rather rapidly. The bluish-red color of the extremities was of about one year's duration. It was more intense in the lower than in the upper extremities. From the knees downward the discoloration intensified, the cyanosis of the feet being profound. There was but slight cyanosis of the face. I have seen a number of organic spinal cord disease with profound alteration of surface color of the extremities, but none like this. In a case of disseminated purulent meningomyelitis the patient had a remarkable scarlet color of one leg. In ancient cases of poliomyelitis coldness and blueness of the atrophied members is the rule. But in this case the cyanosis was profound like that seen in an advanced emphysematous patient after protracted physical effort or violent exercise. Unfortunately, the blood was examined only once, and the patient is no longer under observation.

The cyanosis is the striking feature of these cases. It has been confined to the extremities in all the cases save in two reported by Osler, in which the skin of the entire body was of a dusky hue, but the extremities were the parts profoundly affected. Cold intensified the cyanosis in both the cases reported herewith. The intensity of the color of the feet and legs does not diminish very materially when the patient is in bed. The surface temperature does not seem to be materially changed, nor is the function of the sweat glands noticeably altered. Pigmentation of the skin has been noted in most of the cases in which the symptoms had existed for a considerable time.

The enlargement of the spleen seems to be nearly a constant symptom. In seven of the nine cases in the literature it has been noted, and in the case of the young woman that I report, it was enormous.

In none of the cases reported was the spleen so much enlarged as in this one. In only one case, that of Vaquez, was the liver enlarged. This case is remarkable in other respects. There were paroxysmal hæmaturia and hyperalkalinity of the blood. The enlargement of the liver did not occur, apparently, until after the patient had been ill a long time. So far as the cases hitherto recognized justify the statement, we may say that the only viscus found diseased is the spleen.

The state of the blood has been very much the same in all the cases. The polycythæmia, which is the distinctive feature, is variable. In no case have the erythrocytes been below 8,000,000, while in one case (Cabot) they were 12,000,000. The average is about 9,000,000. The white corpuscules have been considerably increased in three cases, but in the majority there has been no leucocytosis. In one case reported by Osler the leucocytes were 30,000. The hæmoglobin percentage ranges from 110 to 165. Osler thinks that it is not possible to connect the polycythæmia in any way with the "moderate enlargement of the spleen," but in the case of the young girl that I report, it would seem very legitimate to connect the two, for the cyanosis did not appear until after the development of the enlargement of the spleen, and as Osler himself points out, cases of polycythæmia with enlargement of the spleen as the sole attributable cause have been reported. One thing would seem to me fairly certain, and that is the splenomegaly in my case could not have been the result of chronic, passive conjection. The subjective symptoms of the condition need not be mentioned further, as all that have been noted in any of the cases were enumerated above.

Dr. J. N. Hall of Denver has recently (*American Medicine*, June 27, 1903) published the notes of two cases, one of which was observed in Neusser's clinic. His own case was a Jewess, sixty-one years old, who presented intense cyanosis of the face, tongue, and upper extremities, the lower limbs and trunk being slightly affected. On the face were a number of tortuous veins, almost black in appearance. The pulse was 84, the arteries moderately atheromatous, the heart slightly enlarged. The lungs were slightly œdematous. The spleen could be satisfactorily outlined, but the writer thinks it was not enlarged. The urine was of low specific gravity and contained albumin and casts. The blood was very dark, and coagulated rapidly; erythrocytes, 9,049,000; leucocytes, 6,500; hæmaglobin, 170+.

That this is no a typical case need scarcely be said. The atheroma of the blood vessels, its manifestation in the kidneys and heart, the œdema of the lungs, and the dilated tortuous superficial blood vessels of the face account for the cyanosis. Polycythæmia in such conditions is not infrequent.

The second case was that of a woman, forty years old, who presented a reddish-blue hue of the face which somewhat resembled the cyanosis of advanced emphysema. It was not constant, but it became deeper upon eating and upon excitement. There was slight cyanosis of the hands. The spleen was very much enlarged. In this case also there were large, dark veins upon the face. The blood contained 9,935,000 red cells, 22,000 leucocytes, hæmaglobin 170, and was of such thick consistency that it would scarcely flow. This case is reported very briefly, but it would seem to conform very closely with the cases reported by Cabot, Osler, and myself.

What may prove to be a very important contribution to this subject is a case of hyperglobulism and tumor of the spleen reported by Rosengart of Frankfort-on-Main in the Mikulicz and Naunyn, *Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie*, part 4, 1903, p. 495. The patient, a man forty-one years old, presented clinically, in addition to a large tumor of the spleen and moderate enlargement of the liver, a peculiar violet, reddish-yellow color of the skin, especially of ears, cheeks, nose, lips, and hands, constituting well-marked cyanosis. The tumor of the spleen had first been detected immediately after a severe attack of measles which the patient had when he was thirty-seven years old. He complained of pain in the stomach, vomiting after meals, severe attacks of vertigo, nervousness, weakness, emaciation, and dyspnœa, especially on slight exertion, such as talking. The pulse was full, from 96 to 104, the arteries elastic, the blood-pressure increased. The apex beat was not discernible, but the heart was enlarged, and a distinct systolic murmur, not closely confined, was to be heard. There was no trace of emphysema. The blood was of a dark cherry-red color, its consistence much increased. The specific gravity 1072; hæmaglobin, 190 to 200; red blood cells, about 10,000,000; white corpuscles, 12,000; the blood plaques diminished in number.

This writer, who is evidently not familiar with the English and American writers quoted above, mentions that, in 1883, Scharold (*Aerztliche Intelligensblatt*, 1883, No. 32) reported a case of acute miliary tuberculosis of the spleen which enlarged that organ to three times its normal size, and which was associated with profound cyanosis of the face and nosebleed. The case of Rendu and Widal (Société méd. des hôpitaux de Paris, June 2, 1899), in which there was tumor of the spleen, cyanosis, and hyperglobulism amounting to 6,200,000, is also mentioned.

In January of last year Türk showed, in the Gesellschaft für innere Medizin in Vienna (*Wiener medicinische Wochenschrift*, No. 5, 1902, p. 226), a case in which an enormous tumor of the spleen of ten years' standing was associated with intense cyanosis of the face, lips, ears, and hands. The blood showed 9,080,000 erythrocytes, 23,100 leucocytes. hemaglobin 180 per cent.; specific gravity, 1070. A peculiarity of the blood was the presence of megalo-, micro-, and poikilocytes, and in many of the cells polychromatophilia. Whether the case is the same one referred to by Hall, I am unable to say. Hall saw his second case with Türk in Neusser's clinic.

Other cases in which spleen tumor has been found in connection with cyanosis of the extremities have been recorded by Collet and Gallavardin (*Arch. de méd. exp. et d'Anat. path.*, March, 1901, No. 2). In this case the erythrocytes were not counted, but the general physical features of the blood were similar to the other cases.

Cominotti (*Wiener klinische Wochenschrift*, 1900, No. 39) has also reported a case of hyperglobulism and splenomegaly that may be mentioned, particularly as there was no cyanosis.

These cases are suggestive, although they may not be fitted in the same category as the cases reported by Osler, Cabot, and myself. From a consideration of them and the other cases mentioned above, I am inclined to believe that alteration of the spleen will later be shown to be an essential accompaniment of this symptom complex.

Of the thirten cases reported, seven were in males and six in females. All except the case of the girl which I report were in the middle period of life—that is, if Hall's first case is not included. So far the symptom-complex is not attributable to any cause. Of the cases reported, three have died, one in collapse, one in coma from cerebral hemorrhage, and

one in coma of unknown dependency. The autopsies of these cases did not contribute to an interpretation of the symptoms.

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## THE PROGNOSIS AND TREATMENT OF CHRONIC DEAFNESS.*

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The title of this paper is obviously unscientific, for deafness is a symptom, and not a disease; and the disease must be determined before a prognosis can be thought of.

Chronic deafness, however, is a term which so frequently finds its way into medical literature and discussion that it has come to convey a fairly definite meaning, viz., an impairment of hearing which has been more or less gradual in its development, and has persisted for a considerable period of time. It is used, therefore, advisedly as best expressing what I wish to convey.

Is chronic deafness curable? Can anything be done to relieve deafness that has persisted one, two, five, or ten years? So often is this question asked by physicians as well as laymen, that one is forced to conclude that a rather general impression exists that deafness is not amenable to treatment. Once deaf, always deaf, seems to be the popular dictum. I have thought, therefore, that a brief statement of what may be expected of rational treatment in this direction might not be without interest.

There are two general classes, to one of which every case of chronic deafness must be referred, viz.: (1) *Labyrinthine deafness* or deafness due to disease of the labyrinth, or auditory nerve. (2) *Tympanic deafness*, or deafness due to disease in some portion of the conducting apparatus, *i.e.* external meatus, drum membrane, ossicles, or Eustachian tubes. In the class of cases first mentioned, *i.e.* when the lesion is confined to the labyrinth or auditory nerves, the conducting apparatus may be in no way at fault. The sound-waves may be taken up by the drum-membrane and ossicular chain, and properly conveyed to the inner ear; but here, owing to the labyrinthine lesion, the sonorous impressions are not conveyed to the auditory brain centers, and are not appreciated as sound.

Deafness due primarily to labyrinthine disease, however, is comparatively rare, which is the more fortunate, since the prognosis is in the majority of cases doubtful, and often positively bad. Labyrinthine deafness we shall not consider in this paper.

At least 95 per cent. of all cases of deafness are due primarily to tympanic disease, or to disease originating in some portion of the conducting apparatus. In the later stages the labyrinth may also become involved, but in such cases the labyrinthine disorder is secondary to the tympanic disease, and is usually checked or relieved by treatment directed against the tympanic lesion.

The large majority of cases of chronic deafness, then, are of tympanic origin, and may be considered under the following heads:

1. *Chronic tubal catarrh*, in which there is marked narrowing, or actual stenosis, of the Eustachian tubes.

2. *Chronic hypertrophic catarrh* of the middle ear, in which the tympanic mucosa, and all the joint structures of the ossicular chain may be involved.

3. *Suppurative processes within* the middle ear, resulting in partial or complete destruction of the drum-membrane, malleus, and incus.

4. *Chronic hyperplastic otitis*, also spoken of as "dry catarrh," or sclerosis of the middle ear.

*Chronic tubal catarrh*, with stenosis or marked narrowing of the Eustachian tubes, is probably the commonest condition associated with deafness. In the early stages of these cases, the deafness is purely a mechanical one, and is due to an interference with the movements of the drum-membrane and ossicles, though these structures may be in no way diseased. The loss of ossicular mobility is dependent upon morbid changes originating not within the tympanic cavity, but in the Eustachian tube. The exact changes within the tube may vary in different cases from a simple chronic congestion of its mucous lining to a structural diminution of its lumen, or actual stenosis. But whether the obstruction be due to venous congestion, or to an actual deposition of new connective tissue, the result is mechanically the same, viz., partial or complete occlusion of the tube.

Naturally, pathological conditions within the tube may exist for a considerable period of time without producing symptoms referable to the ear, but as soon as the caliber of the tube is reduced to the point where the passage of air to the tympanum is prevented, there can be but one invariable sequence of results, viz., the air within the tympanic cavity is exhausted, and the drum membrane is forced inward by atmospheric pressure from without, carrying with it the malleus handle, and crowding the ossicles together. Under these conditions it is obvious that neither the drum-membrane nor the ossicles can vibrate as well as under normal conditions.

In this simplest form of chronic deafness, the indications for treatment are happily logical and clear, viz., measures looking to the restoration of the Eustachian tube to its normal caliber.

The plan of treatment should include recognition and correction of existing diathetic conditions, *e.g.* gout, rheumatism, etc., and of abnormal conditions within the upper-air passages, *i.e.* nasal cavities, nasopharynx, and pharynx. But the essential point of attack is the Eustachian tube. Inflation per catheter not only tends to open and restore the tube to its normal condition, but is invaluable as a diagnostic measure. By use of the otoscope, the practiced ear can, during inflation, obtain very definite data as to the exact condition of the tube, and further measures of treatment indicated.

In some cases systematic inflation at regular intervals may be all that is necessary to bring about rapid improvement and cure. In others the use of stimulating vapors, *e.g.* menthol, ether, camphor, iodine, etc., projected per catheter into the tube, may prove beneficial. The immediate result of this measure may be a vascular reaction, rather tending to a temporary increase of symptoms which later subside as the parts take on a more healthy tone. Still other cases of tubal narrowing, or stenosis, will yield to nothing short of mechanical dilatation. This may be accomplished by means of the ordinary cotton-wound wire bougie, by graduated whalebone or celluloid bougies, or by the electrolytic method devised by Dr. A. B. Duel of this city. In the experience of the writer the latter has been by far the most efficacious means of overcoming a stricture within the Eustachian tube.

But in practiced hands the method of attack does not greatly matter, *provided the end in view be attained*, viz., the restoration of the tube to

*Read before the Alumni Association of Gouverneur Hospital.

its normal patency. Where this is accomplished the effect upon the auditory function is almost invariably a marked improvement in hearing.

*Deafness Depending upon Chronic Hypertrophic Catarrh of the Middle Ear.*—This condition is invariably associated with pathological changes within the Eustachian tubes, which are usually abnormally narrow. Within the middle-ear cavity there is a chronic productive inflammation involving the mucous membrane covering the tympanic walls, the ossicles, and the ligaments holding the ossicles together. In the early stages the condition is probably one of moderate venous congestion, chronic in character, but subject to periods of amelioration. Later, as is always the case with prolonged congestion and low forms of inflammation, there is a deposition of new connective tissue. The hypertrophy may involve not only the mucosa of the tympanic walls and inner surface of the drum membrane, but all the joint structures of the ossicular chain. The process is gradual, and years may elapse before its presence is made known to the patient by an appreciable impairment of hearing .

In these cases the deafness is not difficult to explain, for we have to consider two distinct lesions, either of which alone might cause deafness:

1. Owing to the morbid changes within the Eustachian tubes, these air passages are usually distinctly narrowed, or may be practically closed, with the result that the normal passage of air to the tympanic cavity is proportionately interfered with. As invariably follows exhaustion of the air within the tympanum, the drum membrane is forced inward by atmospheric pressure from without, crowding the ossicles together and holding them in a state of partial fixation. This condition alone would cause impairment of hearing.

2. But in addition to the above, we have the tympanic lesion proper to contend with. Whether the condition here is one of chronic venous congestion, or has progressed to the stage of actual hypertrophy, the mechanical effect is the same, viz., impaired mobility of the ossicular joints; and fixation of the ossicles means impairment of hearing. The deafness, then, is the logical sequence of the disease, and a knowledge of the underlying lesions suggests the rational line of treatment.

Clearly the indications are, first, to restore the Eustachian tube to its normal tone and caliber, thus releasing the drum membrane from its position of retraction; and, second, to restore the tympanic mucous membrane as nearly as possible to a healthy condition.

For the first indication the measures suggested under the treatment of tubal catarrh may be employed, *e.g.* inflation per catheter at regular intervals; application of astringent solutions to the nasopharynx and pharyngeal mouth of the tube; medication of the tubal mucosa by stimulating vapors; these failing, mechanical dilatation by graduated bougies, or by electrolysis. The main point is the recognition of a constriction, if it exist, and the adoption of adequate measures for its correction.

With the reëstablishment of equilibrium between the atmospheric pressure on both sides of the drum membrane, there is almost invariably an increase in hearing power. The subsequent improvement is usually slow, and must depend upon the gradual return of the intratympanic structures to their normal condition. Nothing so tends to hasten this result as the automatic ventilation of the tympanic cavities through the Eustachian tubes. To this end the patency of the tube should be maintained by occasional gentle inflation. At longer intervals pneumatic massage of the membrana-tympani may be employed to exercise the ossicles and restore their mobility. The upper-air passages should be brought as nearly as possible into a healthy condition. This is most important in preventing recurrent attacks of acute tubal catarrh which react upon the ear. Drugs locally applied through the tubes have many advocates but very limited usefulness.

But no dogmatic rules can be laid down for this stage of the disease, which must vary with each individual case. This much, however, may be said as applying to all cases of this class, viz., that when a stricture or constriction of the Eustachian tube exists vigorous measures may be required, and should be employed for its correction. As soon, however, as the patency of the tube is reëstablished, our endeavor should be to assist nature to bring about a return to the normal, rather than to force this result by over-meddlesome intervention. A slower improvement, if permanent, may be of more value to the patient than the most brilliant result followed by a relapse.

*Deafness Due to Suppurative Processes within the Middle Ear.*—There is still a more or less general impression, among physicians as well as laymen, that a ruptured drum membrane means deafness. Fortunately this impression is not founded upon fact. On the contrary, fairly good hearing power is by no means inconsistent with practical destruction of the drum membrane.

Normally the drum membrane, malleus, and incus form a very important part of the perfect sound-conducting apparatus; but after their removal it is quite possible for the stapes, acting alone, to receive sonorous impressions from without and transmit them through the oval window to the labyrinth and end organs of the auditory nerve.

Accepting these statements as facts, we are prepared to consider those cases in which the impairment of hearing is the result of prolonged suppuration within the middle ear.

These sufferers constitute a large percentage of the patients applying to the ear clinics for treatment. The typical history is that of a chronic discharge from the ear beginning in childhood, and persisting for a period of years, or well into adult life. On examining these ears by reflected light, we always find more or less destruction of the drum membrane. The malleus and incus are also usually involved in the destructive process. The incus particularly is prone to undergo necrosis, and may be completely destroyed. The stapes, on the other hand, by some fortunate provision of nature, is very rarely involved in the necrotic process, and even after practical destruction of the two larger ossicles, is usually unharmed. This immunity is probably due to its comparatively protected position in the niche of the oval window, and to the fact that its blood supply is not interfered with by pressure during the progress of inflammatory processes originating within the tympanic vault.

But while the actual loss of substance varies in different cases, the drum-membrane, malleus, and incus have not infrequently lost all connection with the stapes, and have therefore ceased to play any part in the function of sound conduction. To the stapes, therefore, we owe whatever hearing power remains.

Naturally the hearing is usually somewhat impaired. But surprising as it may at first seem,

these patients, as a rule, suffer less seriously from deafness than those having any other form of tympanic disease. That is to say, the impairment of hearing is less marked, and the prognosis as to ultimate deafness is less grave.

Many of these patients apply for treatment, not on account of deafness, but for relief from the chronic purulent discharge, in which case the treatment does not come within the scope of this paper. There are other cases, however, in which the suppurative process undergoes spontaneous cure. The very loss of substance may create a passage favoring free drainage; necrotic portions of the ossicles and tympanic walls are thrown off in the form of minute sequestra; the exposed tympanic surfaces are covered in by a process of epidermization, and the discharge ceases. The patient may now seek relief for a very considerable loss of hearing power.

The treatment in these cases is surgical, and consists in the correction of any condition interfering with the mobility of the stapes. The stapes, for instance, may be buried beneath a mass of cicatricial tissue seriously interfering with its mobility. In such a case the logical treatment would be the division and removal of this tissue. When this is successfully accomplished, the liberation of the ossicle will be manifested by prompt and appreciable improvement of hearing. In other cases, constricting bands are found passing from the crura of the stapes to the walls of the oval niche; the stapedius muscle, being no longer opposed by the action of the tensor tympani, may interfere with the freedom of the stapes. Division of these structures will often result in marked improvement of unction.

These operations, when successful, often furnish the most brilliant immediate results. Unfortunately a part of the initial gain is almost invariably lost as the operation wound heals. The final net result, however, is often an appreciable improvement of hearing.

*Chronic Hyperplastic Otitis Media;* or Dry Catarrh of the Middle Ear; also called Sclerosis of the Middle Ear. The deafness occurring with this disease is the most discouraging that the otologist is called upon to treat.

In typical cases the morbid process seems to be that of a low form of subacute inflammation in which congestion at no time plays a prominent part. It is apparently a productive imflammation from the start, in which the newly formed connective tissue contracts, pressing upon the normal structures of the tympanic mucosa, which is converted into a dry, sclerotic membrane, closely adherent to the tympanic walls. The same changes occur in the mucous lining of the Eustachian tubes, and these passages are often abnormally wide. The drum membrane, therefore, is usually not retracted. Within the tympanum there is also a deposition of new connection tissue in the form of adhesive bands binding the ossicles together and to adjacent structures.

In addition to the above changes there are undoubtedly many cases in which a true osseous ankylosis exists. In such cases the chief lesion may be a hyperostosis in the vicinity of the oval window. Several post-mortem observations have been recorded by Politzer, Bezold, and others, in which a proliferation of new bone in the neighborhood of the stapes had resulted in a true osseous union between the foot-plate of the stapes and the margins of the oval window. Unfortunately we have no means of determining positively the reseence of such a lesion, which adds a further element of uncertainty to the prognosis.

Here, again, we have deafness due to impaired mobility of the ossicular chain, but in this disease the lesion is rather of the nature of a true ankylosis. The drum membrane may be normally placed and free, but the ossicles are held by constricting bands, which bind even the stapes to the walls of the ova niche and window.

The treatment, be it confessed, is less satisfactory than in any other form of tympanic deafness. In the initial stages much benefit may result from the use of stimulating vapors, *e.g.* iodine, ether, camphor, chloroform, etc., thrown into the middle-ear cavity through the Eustachian catheter. By this means the local blood supply is increased—a result favoring the restoration of the parts to their normal condition. Forcible inflation per catheter may be employed at long intervals to break down or prevent adhesions between the ossicles and adjacent structures. Occasional pneumatic massage of the drum membrane may be used to restore the mobility of the ossicular chain.

Such measures, however, are of value chiefly at the onset of the disease, and their usefulness becomes progressively less as the disease advances. Later on, when the deafness has become pronounced, but little can be expected of conservative treatment beyond retarding the progress of the disease, and possibly preventing a further impairment of function. Still later we arrive at a stage of the disease in which the drum membrane, malleus and incus, instead of aiding in the conduction of sound, act as a veritable barrier to the passage of sound waves to the inner ear. This condition palliative measures are powerless to relieve. The surgical treatment, once enthusiastically proclaimed both in this country and Europe, finds fewer advocates as the results are subjected to the crucial test of time. Nevertheless, there are certain cases for which, in the light of our present knowledge, we must either fold our hands, or look to surgery as offering the only possible means of improving the patient's hearing.

Briefly stated, the operation proposed in these cases consists of the removal under the most rigid aseptic precautions of the drum-membrane, malleus and incus, great care being observed to disarticulate the incus from the stapes without injuring the latter, or dislodging it from its position within the oval window. It is in effect an attempt to convert the condition to that described under the last class of cases, in which the stapes, acting alone, is permitted to take up sound waves from without and transmit them to the labyrinth. Personally, the the writer has never felt justified in strongly advocating this operation for the improvement of hearing; nor have the results of such cases as have come within his knowledge after being operated on by others seemed altogether favorable. Considering, however, the large number of suppurative cases in which good hearing power is retained after removal of the drum-membrane, malleus and incus, the operation under discussion seems rational enough.

Obviously in those cases in which a true bony union between the stapes and oval window exists, no improvement could possibly result from operative measures. In such cases, however, it is probable that the deafness would be extreme, and that the functional tests would give evidences of sufficient labyrinthine involvement to contraindicate the operation.

In properly selected cases, *i.e.* when serious labyrinthine disease can be excluded, the immediate result of the operation is probably almost always a decided improvement in hearing. The danger now lies in the tendency of adhesions to re-form between

the stapes and adjacent structures, and the difficulty of preventing this has led many to abandon the operation as involving too great uncertainty and risk. But in considering this, it must be remembered that in the later stages of this disease, the condition, so far as the hearing is concerned, is a desperate one.

What then should be our attitude toward this class of patients? In the opinion of the writer, it should be somewhat as follows: We should consider first the stage of the disease and the degree of deafness. In the early stages, when the impairment of hearing is slight, our efforts should be directed against any constitutional or diathetic disorders, and the local measures already described should be employed. But there is a later stage, in which the hearing is greatly impaired, though still sufficiently good to allow considerable enjoyment of life. Though unable to take part in general conversation, the patient may be able to converse without great difficulty with one person seated near him. The treatment outlined above may now be powerless to restore the hearing power, but may serve to prevent further loss. In such a case the aim should be to conserve to the patient his present hearing power. Careful functional tests should be made at stated intervals, and when it can be shown that no further impairment is taking place, the patient should be advised to be satisfied with what is still his. But when the deafness is marked, and in spite of all that we can do, becoming progressively worse, he should be told frankly that the prognosis is unfavorable and that surgical intervention offers his only chance of relief. The nature of the operation should be explained to him, and the chances of success and the chances of failure should be fully stated. The facts having been thus placed before him, the patient should be left to assume the responsibility of a decision.

Before leaving the subject a word should be said as to the four types of deafness here described: While the division of all cases of tympanic deafness into four classes may seem more or less dogmatic and arbitrary, this is necessary as a working hypothesis, without which a practical view of the subject would be impossible. With this statement it is well to admit at once that in any given case, one type may gradually merge into another. Thus a case of chronic tubal catarrh may develop later into one of chronic hypertrophic otitis; and more rarely a case of chronic hypertrophic otitis may become sclerotic in character. It is for the physician, by his careful physical examination and functional tests, to determine the lesion; or where two lesions exist, which is the more urgent.

The writer has made no attempt in this paper to discuss all the therapeutic measures at our disposal, nor the technique in applying them. Nor has it been possible in the time at his disposal to touch upon the diagnostic value and significance of the functional reactions which have such an important bearing upon the prognosis. His purpose has been solely to consider very briefly the commoner ear lesions causing deafness, and to outline the more rational lines of treatment therefor.

But to return to the original question—What can be done for the relief of chronic deafness? In considering this question, the writer is not a pessimist. He believes:

1. That there are certain cases of advanced catarrhal deafness—even among those in which no evidence of serious labyrinthine involvement can be found—which do not respond to treatment.

2. That in the large majority of cases the power of audition can be distinctly improved.

3. That in the early stages of catarrhal, or tympanic, deafness the majority of cases are susceptible of practical and complete cure.

4. That in advanced stages of catarrhal deafness rational treatment often results in an improvement, which adds greatly to the patient's enjoyment of life, though the normal hearing power may never be regained.

5. That where but slight improvement of hearing is accomplished, the result of treatment is often of value to the patient in arresting a process which might otherwise lead to very marked or total deafness.

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## INTERNAL ADMINISTRATION OF ICHTHYOL IN PULMONARY AFFECTIONS.

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In the treatment of pulmonary affections we often come in contact with cases which are on the border line of pulmonary tuberculosis; and again, cases in which the pulmonary lesions are not much advanced, but tubercle bacilli have already made their appearance in the sputum. These are the patients whom we like to send away to a suitable climate, and who, when away, do very nicely, and return, after varied periods, in good condition, and we call them cured. But we also have patients affected as stated above, who, owing to the fact that they have to earn their livelihood, are compelled to remain at home and do the best they can, and for whom the physician has to do what a suitable climate does for the better placed patients.

It has been customary to treat these patients with cod-liver oil, forced dieting, and guaiacol or creosote in some combination.

I have not had much success with these, and was forced to look for other remedies. I tried ichthyol on the first patient who presented himself, and it is with great satisfaction that I report the following cases:

Ichthyol is a natural product obtained by dry distillation from a bituminous mineral. It is soluble in water; it contains a large percentage of sulphur in a form which is at once soluble and readily assimilable. I have used ichthyol always mixed with water, never in capsules, having thus obtained better results, giving it before meals. There has been no gastric disturbances in any case except a slight diarrhœa, which is easily relieved, or some eructation, which stops as the patient becomes accustomed to the drug. It has in many cases proved for me that it will increase assimilation; improve nutrition, check waste, thereby increasing bodily weight and act as a germicide against the tubercle bacillus.

Case I.—M. K., male, age twenty-six years, collector; family history good. Has had a cough for about six months, his weight in that time being reduced from 160 to 140 pounds. Appetite poor; bowels regular; afternoon temperature from 100° to 101°. Throat clear, a few râles at the left apex; sputum negative, after two examinations. Suitable remedies reduced the frequency of the coughing attacks; but the temperature continued and the râles persisted. I then prescribed ichthyol grs. v, three times daily in watery solutions, to be taken before meals. I also ordered him to include plenty of milk, eggs, and meat in his diet, and to sleep in a room with the windows entirely open. In one week his appetite had improved, but his cough persisted.

I ordered the ichthyol increased to three drops each day until he was taking 30 drops three times daily. At the end of six weeks he weighed 167

pounds, showing an increase of 27 pounds. The coughing had entirely stopped, the râles were gone. This case was similar to others which I had previously treated under the same hygienic routine with cod-liver oil, and creosote or guaiacol, and had never obtained such results in so short al time. Ichthyol had increased the man's appetite until he was taking two quarts of milk, and also three meals, which included six eggs, daily. There was at no time any gastric disturbance, beyond a little diarrhœa, which I relieved by adding some bismuth to his milk. It is now two years since treatment was discontinued, His weight has remained stationary. Has not been coughing since. He had been under treatment but three months. It is thus clearly shown that ichthyol had increased the assimilation, whereby his nutrition had been improved, his body weight more than restored, thereby strengthening the pulmonary frontier against tuberculosis, toward which this man was certainly bound.

Case II.—Mrs. Mary S., age forty years, married; mother of seven children; menses regular. Had dry pleurisy several years ago. Was in good health afterward, until she had an attack of catarrhal jaundice three years ago, from which she entirely recovered after losing 30 pounds in weight. Soon after she began to cough. Had severe pain over the region where the pleurisy had been on the right side, and the patient looked as if there had been cancer obstructing her gall-bladder instead of catarrhal jaundice. There were râles over the right apex and signs of the old pleurisy at the base. On examination by the Health Department, her sputum showed "few" tubercle bacilli. Appetite was poor, bowels regular.

I put her on ichthyol 5 gr. three times a day. At the same time, ordered her bowels flushed twice daily. The ichthyol was pushed till she took 30 gr. three times daily. The hygienic habits of the patient were looked after. Her condition showed signs of improvement at once. Cough was moderated. The amount of sputum expectorated lessened, and its character changed from lumpy to more fluid. Her weight gradually increased until, after three months' treatment, her 30 pounds were regained. At this time her cough had entirely ceased. Sputum was reported by the Health Department to be negative, and after three years' watching, I have added this case to my list of cured cases of tuberculosis.

In this case we can see how the economy has been strengthened to withstand the warfare of tubercle bacilli even to their extermination.

Case III.—Max J., age thirty-nine years, tailor; never sick. His father's brother had died of tuberculosis. The patient is 5 feet 8 inches in height. Weight 135 pounds. Is much emaciated. Large bony framework with winged scapulæ. He has applied for life insurance, which was refused on the ground that he was too light for his height. He was given ichthyol, and in two weeks gained 10 pounds; in two months 26 pounds. The ichthyol was then withdrawn. He has retained his weight, 161 pounds, and has obtained his policy. I attribute this phenomenal increase in weight simply and solely to the increased appetite produced by the ichthyol without deranging the digestion.

Case IV.—Mrs. Fannie B., aged twenty-five years; mother of two children, eighteen and three months respectively. The mother had died of pulmonary tuberculosis. The patient had always been well until two months after her last confinement, when she contracted influenza from which she recovered, but her cough persisted. She looked emaciated Her cough was hacking; there was an afternoon temperature of 101° to 102°. The sputum showed a moderate number of tubercle bacilli.

For two weeks cod-liver oil and guaiacol carbonate were given, nursing the infant was forbidden and the general hygiene looked after, but no improvement was noticed. The sputum became blood-streaked. The cod-liver oil and guaiacol carbonate were then ordered stopped, and instead she was given ichthyol, beginning with 5 gr., gradually increasing. There were immediate signs of marked and rapid improvement.

The sputum was at once changed in character and amount. Cough entirely ceased within one month, at which time her weight had increased 15 pounds. The number of bacilli in her sputum after one month's treatment was reported by the Health Department as few. She made a gradual recovery. After nine months there were no bacilli to be found upon repeated examination. All medication was then stopped, and although I have kept this woman under observation for over two years there has been no return of either cough or tubercle bacilli in the sputum. Although I do not put this remedy before the profession as a specific, I am positive that much good may be derived from the use of ichthyol, together with judicious hygiene and a sufficient dietary.

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## AN EXTREME CASE OF BRADYCARDIA.

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The subject of this paper, Mr. O. W., is a man sixty-nine years of age and of good family history. Nervous temperament, never used alcohol except medicinally. Has smoked or chewed tobacco since his boyhood, but at irregular intervals; has had to give it up on account of it making him so nervous that he could not attend to his work of a general insurance agent. General health was exceptionally good up to fifteen years ago, when he had an attack of typhoid fever, since which time he has suffered more or less from gaseous dyspepsia, which is hard to control on account of his being a very imprudent eater and having very poor teeth. Kidneys normal, heart normal, lung slightly emphysematous, arteries soft, no atheroma, stomach moderately dilated, bowels subject to attacks of diarrhœa.

For the last year he has noticed that his pulse was hardly ever over 45 and intermitted, but he paid no special attention to it, laying it to his dyspepsia. Last May he attended a Confederate reunion and became greatly excited at meeting his old comrades, made several speeches and attempted to give the "rebel yell," when he suddenly broke down and fainted. He was carried to a nearby doctor's office, who examined him, found his heart normal, prescribed a dose of ammonia and sent him home. After this Mr. W. found that any overexertion or excitement made him very uncomfortable about his heart, and to several of his friends he said he felt sure he was going to die suddenly, and his wife tells me he was often afraid to go to sleep on account of his irregular heart action.

Some weeks after this attack I was called in to treat him for indigestion, and without any special examination, I gave him a simple stomachic, which afforded relief for the time being. I will state here that I am his family physician and knew that his cardiac valves, etc., were normal. Mr. W. at this time stopped smoking and also ceased drinking the so-called "coca cola" soda-fountain drink, which heretofore, he thought, had bolstered up his heart action, and of which he said he took three or four glasses a day.

Early on July 24 I was sent for in haste, and was told on my arrival that Mr. W. had fainted. He was rational but very depressed, and told me that he felt as if he were dying. On examining his pulse I found it only 30 per minute, so soft and flowing that I could hardly count it, and intermitting badly. I at once gave him tincture of belladonna 12 drops, and tincture of strophanthus 3 drops, in a teaspoonful of brandy, to be repeated every four hours by myself. Returning at the end of four hours, I found a slight hardening and quickening of my patient's pulse, and diminished the next dose, and so on until 8 P.M. of the 25th, when his pulse had reached 65 and was almost free from intermissions. I reduced the dosage of belladonna to 5 drops and of strophanthus to 1 drop. At this time, a trained nurse arriving, I put her in charge of the case, giving her instructions not to awaken Mr. W. unless his pulse failed, and if it were necessary to continue the drops, to decrease the amount. At 3 A.M. of the 26th I was telephoned for, and when I reached my patient, who lives just across the street, the nurse told me that Mr. W. had slept quietly all night until a few minutes before three o'clock, when he suddenly had a convulsion, and after that his pulse had entirely disappeared. I now took his pulse and found it strong enough to satisfy any one, but beating in a most peculiar manner. As near as I can describe it, during the first ten seconds it would beat five times, then as suddenly, as if my patient had died, it would stop and for twenty seconds there would be not a single pulsation, then there would be three or four beats scattered about in the last thirty seconds. The heart beats corresponded to the pulse exactly. While I was examining Mr. W. he had a convulsion, and continued to have them at intervals of a few minutes for the next twenty-four hours. These also deserve further notice. The muscular spasm seemed to involve his head and neck alone, and only with the most severe ones did he have even a tremor of the arms. The attack would always begin with a rapid rotation of the eyes, then they would be turned up as if in prayer, this, in turn, followed by a looking downward—giving the face a ludicrous frown as if trying to frighten a child—which was followed by a sudden snap of the head to the left shoulder and a cessation of all spasm for the time. This cycle of changes, timed by the watch, took up from one-third to three-quarters of a minute. During the attacks the pulse ceased and the heart could not be felt or heard to beat. The respirations were hurried and puffing, sometimes almost whistling from the lips being held rigid. After the attack was over the heart beat more rapidly, and for a few seconds respiration seemed to cease altogether.

While the paroxysms were at their worst, the temporal artery could not be felt to pulsate at all. The face was pale but not livid and never congested. Mr. W. now began to vomit, and soon this vomit showed blood acted on by the gastric juice. He denied any pain or nausea, but still every few minutes would emit a mouthful of this black stuff. Owing to this vomit, I had to try hypodermic medication, and so gave him two doses of atropine sulphate, gr. $\frac{1}{150}$, with only an aggravation of all the symptoms. During the day he steadily grew weaker, and often expressed wonder at his living so long, as with each spasm he said he sank away from earth and felt sure that each one meant death. He claimed, and I think truly, to be unconscious during the attacks. The fingers and toes now shrank and became blue and I warned the family to expect the worst. Leaving him at 10 P.M., I ordered no medicine to be given but liquid nourishment in case the vomiting should cease.

Early on the morning of the 27th, I called to see my patient, expecting to find him dead, but instead found him resting quietly, not having vomited since midnight; the pulse was 16, while the paroxysms were less frequent and less severe. Medicines were ordered as before, but in smaller doses, and for the next twenty-four hours his condition remained about the same. I then ordered an entire change of medication, starting out with a hypodermic of morphine gr. $\frac{1}{4}$, and ordered nitroglycerin gr. $\frac{1}{150}$ and caffeine gr. $\frac{1}{2}$ every three hours. Three hours later there was a most noticeable change in the man's condition. The pulse was 20 to 24, with very slight intermissions, character much better; the paroxysms were less severe, only one or two occurring in the three-hour periods. The patient now asked for food. From now on the improvement was steady, though slow. The medicine was continued in same amounts, but at longer intervals. At the end of a week the pulse reached 74, where it has since stayed. The convulsions disappeared, but any worry or excitement would bring on one and will do so even now.

Mr. W., however, as he improved, changed from a calm anticipation of death, while at his worst, to a hysterical fear that any movement as to sitting up would cause his death by heart failure, and I had great trouble in even making him sit up in bed.

He is now up and about, with a pulse of 74, regular and good. He is taking nitroglycerin gr. $\frac{1}{75}$, caffeine gr. $\frac{1}{2}$ every six hours, and expresses himself as feeling better than at any time in a year, except for waking up at night with sinking sensations that are very annoying to him. I shall keep him on the above medicines for several months yet.

In looking over my notes of his case, I am struck with the following points in Mr. W.'s illness: (1) That any one should live and remain cool and conscious on an intermitting pulse of 8 or 9 per minute, and this for twenty-four hours. (2) That the drugs suggested by the textbooks—alcohol, strophanthus, and belladonna—not only did no good, but, in my opinion, were really injurious. Also that the last mentioned, though given in full doses, failed to redden the face, dilate the pupils, or dry the throat. Mr. W. told me that he had known for the last year that even small doses of alcohol were bad for him, an opinion that both the nurse and myself verified later on, for even the small amount of alcohol used to preserve a popular preparation of peptones would invariably increase the convulsive seizures and make the heart action more irregular. (3) The exact localization of the convulsive seizures to the head and neck, and the general pallor of Mr. W.'s face, as well as the failure of the cranial arteries to show any pulsation, made me regard both these seizures and the irregular heart action as being a species of epilepsy, due to anæmia of the brain centers, and it was with an idea of increasing the cerebral blood supply that I began the use of the morphine and nitroglycerin. And I must say that small doses of morphine, given two or three times during the day of the 28th, not only quieted a very restless condition that he had developed, but also gave his face a healthy color that had been absent before.

Mr. W. called me up a night or so ago, and I found he had a very bad dream, and woke up to find his pulse so fast as to alarm him greatly. I found it 85 to 90 and perfectly regular.

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**A Big Boy.**—A case was reported in a French paper some time ago of a boy three years old who weighed 35 kilos about (77 pounds) and was 125 cm. (about 3 feet 9 inches) in height. There were two other children in the family, both girls and above the average size.

**The Surgical Treatment of Trachoma.**—J. Whitefield Smith says the surgical treatment that seeks to remove the developed granules has the following objects: First, to shorten the duration of the disease; second, to limit the amount or degree of hypertrophy; third, to lessen the inflammation and purulent secretion; fourth, to lessen the dangers of inflammatory complications of the eyeball, and sequelæ. The advantages of the author's forceps in the surgical treatment of trachoma are: The granulations are punctured at their crests and their contents evacuated without much traumatism to the conjunctiva. The incisions are uniform and practically of an even depth, so that the conjunctiva settles back against its basement membrane, producing a reasonably smooth and even surface. The tissue mainly involved in the operation is the developed granules; the intervening conjunctiva is not greatly implicated. By piercing the crests of the developed granules and evacuating them by gentle pressure, the inflammatory reaction is not very marked. In simply piercing the granules not much of the surface of the conjunctiva is destroyed, and this compensates, to a certain extent, the subsequent contraction in the disease-process. —*Illinois Medical Journal.*

**The Abuse of Flat-foot Supports.**—Wisner R. Townsend protests against the too common habit of treating flat-foot by various forms of support without consulting a surgeon. Errors in diagnosis are easily made, and ostitis of tarsus or ankle, metatarsalgia, neuralgia, or an inflammatory concretion of the parts about the inner side of the foot have been mistaken for flat-foot. In one case a sarcoma of the sole of the foot was treated for some time by braces. Moreover, when flat-foot exists, it does not necessarily follow that a support must be applied, for there are contraindications known to the profession, such as extreme spasm, extreme deformity, or inflammatory conditions. Another damage resulting from the indiscriminate use of supports, is that many cases, mild in type and easily cured by medical men, are allowed to grow worse, and the patient may become so seriously crippled that operation may be needed, or the case be incurable. The supports may not fit, may not support at all, and may increase, or even produce, deformity. Supports bought by the patient who is his own surgeon cannot be suitable when the principles of the disease are not understood.—*American Journal of Orthopedic Surgery.*

**The Reflexes in Nephritis.**—A. Lion publishes some observations on the behavior of the tendon reflexes, particularly the knee-jerks, in acute and chronic inflammations of the kidney. Many observers have already noted increased reflex irritability in various diseases, of non-nervous nature; *e. g.* Sternberg, who, in a series of one thousand cases, found that in more than one-half the cases having moderate fever due to various causes the reflexes were slightly but distinctly increased. This change was most noticeable in the early, even prodromal, stages, while with high temperatures or moderate fever of long duration the reflexes were entirely absent. The author's observations on nephritis lead him to conclude that in the great majority of cases the reflexes, and notably the knee-jerks, are exaggerated. The cause of this is assumed to be the uræmic poison which, circulating through the blood, throws the reflex system into a state of abnormal irritability. This is in accordance with v. Leube's view that nearly all the symptoms of nephritis are dependent on uræmic toxæmia. It is therefore in the chronic parenchymatous and severe acute forms of the disease that the greatest increase in the reflexes is to be expected and is found, and the author's clinical experience confirmed the theoretical conclusion that rapidly increasing knee-jerks were of grave import and portended uræmic seizures. In a very few cases with excessive œdema the sign was not present, probably owing to mechanical causes, but, as a general rule, an increase in the knee-jerks may be assumed to accompany renal lesions of severe grade, while a subsequent reduction in their activity means a change to a more favorable chronic form of the disease.—*Zeitschrift für klinische Medicin.*

**The Genesis of Epilepsy.**—Louise G. Robinovitch presents the following conclusions from her researches: A clinical study of the genesis of epilepsy shows that this convulsive disease is intimately connected with ancestral alcoholism. When closely traced to its origin, epilepsy appears to have its source, in great part, in epileptiform convulsions of alcoholic nature in the antecedents. When alcoholism in the father or mother, or in both, is absent, it is often found that alcoholism existed among the grandparents; and when the history is not sufficiently clear to incriminate any of the direct ancestry, the morbid predisposition is often indicated by the existence of alcoholism in the direct collateral family. Epilepsy may be transmitted from an epileptic parent directly to the offspring. Epilepsy may be transmitted through a generation free from the manifestations of the disease; the hereditary nature of the malady is then generally proven by the discovery of the existence of epilepsy in the direct collateral family of the preceding generation. Insanity, neuroses, psychoses, and criminality are often causes of epilepsy in the offspring. Acute contagious and infectious diseases occurring during pregnancy may cause epilepsy in the child; but it is a question whether these are to be accepted as the sole factors in the causation of the disease, for predisposing causes should be looked for. The chronic organic diseases cannot be accepted as the sole responsible factors in the causation of epilepsy. Syphilis, like other diseases, cannot be accepted as a specific factor in the causation of epilepsy. Microscopical cerebral pathology shows that an intimate relation exists between the morbid changes found in alcoholism and those found in epilepsy. This fact is logical because alcohol stands, clinically, as the main cause of epilepsy. Alcohol taken in excess in the form of wines, etc., does not cause true epileptic attacks; epileptiform convulsions are the rule in such cases; but the offspring of such subjects suffer from true epilepsy. Excessive use of absinthe causes true epileptic convulsions, and in such cases the offspring inherit epilepsy in the same manner as the offspring of the ordinary subjects of alcoholism. The birth rate is low and the death rate is high in the alcoholic family; the death rate is particularly high during infancy, the cause of death during this period generally being meningitis with convulsions. Of 140 cases of epilepsy considered, there was direct parental alcoholic heredity in 90, making a percentage of 64 plus. Considering the causes of epilepsy, it is evident that the prophylaxis is the most important agent for checking the growth of the disease.—*Journal of Mental Pathology.*

**The Ill Health of the Poet Whittier.**—George M. Gould, by means of extracts from Whittier's own letters, as well as from biographies and the testimony of friends, gives a description of the weakness, neuralgic headaches, and other pains which accompanied the poet through life. His headaches attended every mental exertion. He could not write or read continuously for half an hour, in middle or later life, without severe pain in the head. This debarred him from lectures, receptions, and public dinners unless an opportunity was given him to retire without notice and without causing a disturbance. He was supposed to be suffering from heart disease, but the author considers this and all the other symptoms to have been due to eye-strain. Compound hyperopic astigmatism complicated later by presbyopia was undoubtedly his trouble. With completed presbyopia, the reflexes ceased, and barring the infirmities of old age, there was freedom from the wretchedness of fifty years' standing. Had his life been cast among ours of to-day, he could have found instant and permanent cure of his now well-understood "nervous headaches." Every good American oculist of a few years' experience has had thousands of such patients. But there are still among us other thousands unnecessarily suffering precisely as did this most noble, pure, and lovable man.—*The Cleveland Medical Journal.*

MEDICAL RECORD:

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## HEADACHES; DIAGNOSIS AND TREATMENT.

IN the *Sammlung klinischer Vorträge* (No. 361) Siegmund Auerbach says headaches are to be known as "functional" only after careful exclusion of possible organic disease. First one excludes brain tumor; then arteriosclerosis, brain syphilis, and periostitis luetica; pachymeningitis hemorrhagica (in which, at first, violent headache alone may be present); refraction and other ocular troubles; nasal and aural disease, and dental caries. Nephritis, diabetes, and all anæmias; also gastric diseases, and constipation must be considered. Of residual "functional" headaches, we know (1) neuralgias; (2) neurasthenic and exhaustion; (3) "hysterical" (better, suggested); (4) migraine; and (5) nodule, or plaque, headaches. Of all "headaches" Edinger estimates (4) and (5) as 40 per cent. each, while Auerbach rates them as ¼ to ½ and ½ to ½ respectively. Regarding the seats of irritation, Möbius has divided irritations of the dural nerves into mechanical and chemical; the former comprising the effects of increased intracranial pressure, the latter the various toxæmic irritations.

In diagnosis we first separate *supraorbital neuralgia*; never *in*, but always *on*, the head, unilateral (but almost always called "headache") and always associated with pain on pressure over the affected nerve (with none over the opposite). In alcoholics such a neuralgia (here a neuritis) of long standing is often the only sign of an intoxication, and speedily disappears upon abstinence. *Neurasthenic "headache"* is not a pain but a *pressure sensation*, though on violent overexertion real pain (exhaustion headache) may occur, as in the healthy. The complaint is often of a band drawn round the forehead; in more severe cases of a lead-cap feeling. *"Suggested" headaches* occur principally in morbidly suggestible women, usually arise from slight causes, and are generally associated with complaints of other bodily sensations, and, on examination, stigmata. The diagnosis of *migraine* is very easy in typical attacks. Especially important is heredity (father, mother, brothers or sisters), found by Möbius in 90 per cent., by Auerbach in nearly every case. Then the beginning in youth (if not indeed in childhood), the periodicity (definite attacks with free intervals), the prodromes (feeling of general exhaustion, chilliness, gaping, etc.), the usual fiery scotomata with jagged borders, the sensory aura (unilateral paræsthesias, usually on the opposite arm and often connected with transitory aphasia), form, with the unilaterality and the vomiting, a characteristic picture. Difficulties arise from the incompleteness of most attacks; often the prodromes are absent, generally the aura is lacking, sometimes the vomiting. Here the heredity and periodicity aid, especially in differentiating from nasal headache, which may be unilateral but which lacks, in addition, the vomiting. Finally, violent migraine-like attacks occur not rarely in tabes and paresis, which are always to be suspected when the attacks first appear in middle life.

*Nodule headaches* occur mostly in women of middle or advanced age, who were free from headache in youth. The duration is mostly years or decades. As a rule the pain is persistent, violent, in the whole head, but almost without exception originating in the occipital and cervical regions, frequently radiating down the back and toward the shoulders, not ceasing at night (frequently increasing on lying), rarely associated with nausea, never with vomiting. Bilaterality is practically invariable (only one case was unilateral). "Catching cold" bears a definite and decided relation to the disease, chillings of the surface, especially when moist, again and again bringing on exacerbations and relapses; and the patients were very sensitive to atmospheric disturbances, like rheumatics. Examination almost never reveals bodily defects, but careful palpation uniformly reveals millet-seed to bean-sized nodules in the subcutaneous tissue (and the fasciæ?) of the occiput and neck; at times also of the upper back, and frequently in the parietal region, where from their incapability of lateral displacement gives the impression that their seat is the periosteum. Also palpation along the linea semicircularis of the occiput from mastoid to mastoid reveals rather hard flattish or elevated deposits with a callous feel, occurring in the most various positions in the bellies of the muscles. All these are invariably very painful on even slight pressure. Sometimes they are impalpable, but the painful points displace themselves on displacing the muscles. Examination should be made with the muscles relaxed, and between the paroxysms, as thus the hyperalgesia does not lose its pathognomonic value, and, moreover, in migraine during the paroxysm painful spots are apt to be present.

Finally, the demonstration of the nodules is not always easy, unless one has gradually refined his sense of touch by practice. Diagnosis is usually easy, the foregoing characteristics forming a clear clinical picture. Occipital neuralgias are almost invariably unilateral, occur more in separate attacks, are never of such duration, and besides, permit of the demonstration of typical painful pressure points. Syphilitic bone pains present nocturnal exacerbations. Difficulties sometimes arise from the combination of this with other forms, as no form renders an individual immune against another. From migraine, besides the above characters, another interesting difference lies in the different reaction of the two forms toward remedies. While with migraine the persistent administration of bromides does much good, it does none in nodule headache; and massage, which cures the latter, has no effect on the former. Supposing proper treatment, the prognosis is, in general, quite favorable (much more so than in migraine), cases of even years' standing being curable. Of unfavorable, or at least dubious, prognosis are combinations with severe neurasthenia or anæmia. Here the general condition should be

treated first by feeding, quinine, arsenic, and iron, and such quietants as potassium bromide plus antipyrin, plus codeine phosphate with hot cataplasms locally several hours twice a day, and especially the careful avoidance of taking cold. In nodule headache during the cure elapses often occur, almost, always in connection with taking cold. The duration of treatment varies from three to four weeks to two to three months in the severest cases. The massage must be done either by the physician himself or by a masseur specially trained to detect the nodules, and the sittings should last from fifteen to twenty-five minutes, according to the sensitiveness of the patient and the size of the nodules. The first sitting is usually quite painful, and after it the pain is generally increased. During this painful period one should not stint analgesics, and to abbreviate it, Auerbach massages twice daily for the first two weeks. As a rule after eight to ten sittings massage is no longer painful, and the subsequent exacerbations are absent. Improvement generally becomes noticeable after three (with cases of longer standing it may be five or six) weeks. The massage should be begun by a powerfully stroking effleurage with the whole surfaces of the hands of both sides of the neck from the mastoids to the acromion; then the neck should be operated from the occiput, one side at a time, the operating hand being opposed by the simultaneous accompanying counterpressure of the other; each proceeding being done ten times. The muscles and skin from the occiput to the shoulder are then thoroughly kneaded (*pétrissage*), one side at a time, the aim being to raise each muscle between the fingers. Next, the whole occipital ridge, from mastoid to mastoid, should be massaged with the thumbs or closely approximated fingers, the operator endeavoring to reach each deposit, which should be treated not more than thirty seconds. Then the region from the sagittal suture to the ears is gone over six to eight times, and the individual nodules kneaded, and finally the frontalis, forehead and lateral facial regions are gone over similarly, ending with massage with the thumbs of the great vessels at the inner side of the sternomastoid.

## RESECTION OF THE LIVER.

THIS operation is subjected to an exhaustive critique by Dr. Willy Anschütz in Nos. 356–357 of the *Sammlung klinischer Vorträge*. Though experimental total exstirpation has never succeeded, Ponfick has removed three-fourths of the organ and the remainder has regenerated to four-fifths the normal size; and v. Meister has removed seven-eighths with a mortality of but 60 per cent., the remaining one-eighth hypertrophying to the original weight. Regeneration has likewise been observed after experimental necroses by injection of carbolic acid and alcohol. Coming now to the surgical question, the diagnosis of an hepatic tumor rests upon its situation in the hepatic region, its passage directly into the liver, and its following the respiratory movements, and the impossibility of holding it back during expiration.

With long-pedunculate or laterally displaceable tumors, only conjectures are possible. Where exact diagnosis has been attempted, the point of attachment was not certainly determined in 75 per cent., in 50 per cent. it was wrongly determined, and it was correctly made out in only 25 per cent. Before the preliminary exploratory incision one does as much as he can when he decides the really practical question whether a tumor is present which is probably amenable to surgical interference. Beyond this, he is fortunate if he can determine whether it is inflammatory, cystic, or solid. Exploratory punctures with the liver not in sight are to be warned against, as one can never be sure what he is puncturing. Sometimes only microscopical examination can determine the nature of the growth, and even this will not distinguish with certainty adenoma from primary carcinoma. With tuberous adenoma and multilocular echinococcus cyst resection is strongly indicated, but it is contraindicated in syphiloma, unless the tumor is long-pedunculate when the operation commends itself on account of its simplicity. Hardly any general prognosis is possible, since the statistics can scarcely be said to have much value, as they lump together so many quite dissimilar conditions. Still the comparative small mortality of 14 per cent. is surprising, and of this the operative technique seems responsible for but a small part (two deaths from hemorrhage, two from embolism, three or four from shock).

Turning now to the operation itself, while numerous incisions have been recommended, the real point is to begin with a small exploratory incision in the median line, or along the outer border of the rectus, until one has determined whether the tumor really belongs to the liver, and its nature. In almost all cases one is now first in a position to decide whether the case is a proper one for resection. This once settled in the affirmative, the incision is now to be recklessly enlarged, in any direction necessary, and the abdominal walls laid open, wide and gaping. In moving the liver great care must be taken not to tear it, this risk being greater than is usually supposed. Free exposure of the upper surface can be secured by a resection of the lowest ribs (the pleural sac not extending below the eighth rib), but Anschütz prefers Tricomi's procedure of division of the hepatic ligaments. The fear of a resulting wandering liver would, from what we know to-day of the causation of this condition, appear to be exaggerated. The fear of using the knife or scissors in cutting into the liver tissue is certainly an exaggerated one. Where the tumor is encapsulated it has been peeled out by the fingers or a blunt instrument. The principal interest in liver resections attaches to the methods for the control of hemorrhage. As regards the latter, different operations differ much; principally with the size of the liver wound, the condition of the surrounding tissue, and the nature of the growth, the second factor being the most important. The seat of the tumor, however, also influences greatly the prognosis, deep-seated tumors being more dangerous to remove; and the prognosis is also strongly influenced by the nature of the tumor (whether presenting a gradual transition to healthy tissue, and having large afferent blood vessels). Moreover, these are questions which can never be decided in advance, whence the advisability of great reserve in giving prognostications. There is nothing in the nature of the case which forbids the application of ligatures to the normal hepatic vessels, but usually the surrounding tissues are so modified that this

ideal method is impracticable. The same is true of the method of approximating two plane surfaces of a wedge-shaped excision by means of deep sutures, which has been done successfully where the liver tissue was sufficiently firm. Of all the methods available, the thermocautery is the favorite, and, used at a constant feeble red glow, it is certainly a preëminent styptic for the capillaries and small vessels, but with the larger it mostly fails. The application to the surface of a current of hot steam is inadvisable, though that of a current of heated air has been successfully employed, but while well-founded for bleeding from small vessels, it is dubious as regards certainty in the case of that from larger ones. Tamponning may be employed either temporarily or as a permanent method of compression. Concerning the advisability of permanent tamponning much difference of opinion exists. It finds its chief field in the case of cavities remaining after the removal of tumors. Finally, troublesome though hemorrhage may be at times, the fact remains that there is but one case on record in which it was the sole cause of death, and that one of the earliest ones. Moreover, while we might have submitted to hemorrhage as unavoidable, to-day we are justified in doing so only when we have exhausted the *prophylactic* means at our command. Of these the scope of clamping and elastic ligaturing is limited, and in large resections our chief dependence should be upon a series of intrahepatic ligatures whereby the liver can be tied off, section by section, so to speak. The handling of the wound should be by gauze drainage through the lowermost end of the wound to the exterior. While theoretically, infection of the peritoneum from the bile passages might be dreaded, in reality the danger is very slight, as normally the bile is sterile. The fixation of the liver by sutures to the wound is inadvisable, as the sutures are apt to tear out, and besides the respiratory movements of the organ are seriously interfered with.

## DRAINAGE AND SEWERAGE IN TROPICAL CLIMATES.

Discussing editorially a paper by J. W. Cornwall, the *Indian Medical Record* says that in tropical towns position mainly influences the choice of a system, those near water having fewer difficulties than inland towns, those on a slope than those in a flat region, etc. The municipalities while having little to spend, must nevertheless find means for collecting and disposing of (1) excreta, (2) sewage, (3) liquid waste from factories, (4) storm water, and (5) silt (mud, sand, and putrescible matter deposited). The system must dispose of house refuse and street sweepings, as decomposition sets in rapidly and winds disseminate them. Storm water constitutes an, as yet, unsolved engineering problem. The silt varies with the character of the house and street connections, of the soil and habits of the people. After low-caste passers by, crows, kites, dogs and stray cattle have eaten their fill, the residue consists of dust, vegetable refuse, rags, paper, crockery, tins, and often considerable fecal matter, the whole decomposing readily but burning only with fuel. Pits for excreta and rubbish together attached to houses, result in putrefaction instead of nitrification, and the soakage from them pollutes all neighboring surface wells, sometimes rendering them so brackish that they are abandoned. Few of the many dozens of privies suggested for native houses work sanitarily, while the most various public latrines are generally a terrible nuisance. The best are those where both buckets and contents can be removed together and cleaned elsewhere. Collection of excreta in public carts can hardly be conducted without grave nuisance, unless the dry earth system prevails, and disposal by burying or trenching is satisfactory and profitable only when suitable land is available near the town. The ideal ground is one large enough for trenching, not more than one foot deep at the outside being dug, into which not more than nine inches of night soil is poured. Trenching requires one acre for 4,000 persons, that space becoming filled in 315 days; but, the conditions being favorable, it is quite possible to rebegin trenching, crosswise. Burial in deep pits is never to be recommended. Burning night soil plus rubbish or fuel in incinerators, is successful on a small scale at some places, but it would hardly be practicable on a large scale and has little to recommend it.

The collection of sewage is performed in various ways. The open or closed impervious catchpit, the underground pervious sinkpit, the roadside channel excavated with no lining, the open-brick drain, the open V-shaped drain made of stone slabs, and the U-shaped cemented drain. The *open side drains* have nothing to recommend them, though the arguments adduced in favor of them are that: (1) They are open to view and all obstructions are readily seen and removed; (2) there can be no collection of foul gases; (3) they cost less to build and to maintain; (4) no traps, ventilators, etc., are required; and (5) rats are not harbored. Their disadvantages, however, are overwhelming: They occupy space on the roadway, need constant repair, road detritus blows into them, everyone throws in rubbish, it is rarely possible to obtain proper gradients, and it is impossible, even with the aid of flushing, to prevent the formation of black offensive slime on the sides. *Closed sewers*, on the other hand, though not entirely free from objection, have many advantages; but to be at their best, they must be connected directly with the houses, so that all drainage passes directly into them, and no opportunity is given for detritus to find an entrance. Probably in few places can the practice of discharging sewage untreated into the sea or watercourse be defended. Waste land is generally available somewhere near towns, and owing to the rate of evaporation and the frequent impossibility of carrying on any sort of cultivation without free irrigation, the obvious method is to irrigate land with the sewage and grow crops. Only in places where the rainfall is very heavy will this be impossible all the year round. These are the very places where it is easiest to allow the sewage to run into a watercourse, and where least harm is likely to result from doing so. There is no object in treating sewage by chemical methods before utilizing it; nor, as a rule, is there any particular advantage in subjecting it to the action of bacterial filters. Experience has shown that the land is perfectly well able to deal with crude sewage for ten years in succession without getting its pores blocked by deposit, provided that the supervision is intelligent.

## VARICELLA AND VARIOLA.

Dr. Spencer L. Dawes of Albany Medical College read a paper on the above subject before the Medical Society of the County of Albany, published in the *Albany Medical Annals*, October 12, 1902. The question which Dr. Dawes discussed was the duality, or what von Jürgensen calls the "universality" of varicella and variola. Most American medical men are staunch believers in the duality of the two diseases, while perhaps the majority of Europeans who have interested themselves in the matter agree with von Jürgensen.

The author first presents a brief résumé of the history, etiology, and course of varicella, together with arguments for and against the question in point, and then describes an epidemic of the affection which came under his direct notice.

As to the history of the disease, it was first described in 1550 by Vidus Vidius and Ingrassius of Naples, who called it "crystalli," on account of the clear, crystalline contents of the vesicles; in Scotland it is still called "crystalpox," and in England "glasspox." In England Heberden first described it in 1761 or 1776, calling it "Variolæ pulsillæ." The name varicella is said to have been given it by Vogel in 1764, this, like that of variola, being a diminutive of the Latin, varus, a pimple.

Karl Hochsinger of Vienna is of the opinion that variola and varicella are etiologically the same, and gives three cases presenting somewhat remarkable features in support of his argument. A lad aged ten years, the younger of two brothers, pupils at a school in which varicella had been more or less prevalent, was attacked with varicella and kept at home. The older brother, aged thirteen years, was also not allowed to attend school, and although not isolated he remained in the house with his brother and his mother, a lady forty years old, in order to prevent spreading the infection. On the twelfth day after the outbreak of the rash in the younger brother, the elder one and mother were taken sick at the same time. The boy presented a typical picture of varicella, but the mother had a severe attack of variola. All three had been thoroughly and successfully vaccinated. Hochsinger considers in these cases the diseases as etiologically the same but clinically different, while Thomas believes them all to have been variola. Von Jürgensen, commenting on the matter, says: "It is very strange that fifteen students of a gymnasium class, who belong to the higher classes of society and were still under the protection of vaccination, should at the same time have smallpox even in its lightest form, at a time when, as Hochsinger says, not a single case of variola vera was reported in Vienna. On the other hand, the simultaneous occurrence of varicella among so many children who were at just the limit of age when the susceptibility to the disease is lost is not less strange. Add to this that the mother, who, five years before, had been successfully vaccinated for the third time in her life, and thus, according to all experience, was strongly protected from smallpox, was infected with the slightest form of the disease and had to undergo the severe type. I cannot explain these strange phenomena. I only believe that this observation, standing as it does, by itself, does not apply to the question of identity."

Dr. Dawes himself thinks the age question to be the strongest argument in favor of the duality of the two diseases, and says: "Although cases of varicella do occur in adult life, it is, to all intents and purposes, limited to the first fifteen years of life, the very great majority of cases occurring before the patient has reached his tenth year. Variola, on the other hand, attacks all ages, and when it does attack children it is usually very severe and the mortality great." Again varicella is not an epidemic disease, except in very rare instances. Variola and varicella differ widely in their morbid processes. Writing of the morbid anatomy of varicella, in Gibson's Practice, J. W. Moore says: "Notwithstanding its appearance, the chickenpox is certainly not monocular. Its thin covering and superficial position result from rapid formation."

With regard to the unusual epidemic of which the author was in charge, he states that "thirty cases occurred in a boarding school for girls, the pupils numbering sixty-five and ranging in age from nine to nineteen years. The cases were all mild, only seven of the thirty being kept in bed more than one day, although all were isolated. Although in several cases the eruption was discovered only because it was being watched for, in others it was markedly abundant. . . . Among these cases I wish to call particular attention to the fact that nine gave the history of a previous attack in infancy, all had been successfully vaccinated, several of them twice, and fifteen within eight weeks by myself."

Four cases recurred within twenty days, one within twenty-two days, one within nineteen days, and the last within twenty-two days from the previous attacks.

Dr. Dawes has done good service in once again bringing forward the interesting point as to the identity of varicella and variola. There is undoubtedly something at least concerning which to argue, although there are but comparatively few physicians in the United States who will not contend that chickenpox and smallpox are essentially different diseases. At the same time when men like Kassowitz, Hochsinger, and von Jürgensen hold that such is not their conclusion, then it may be well to pause ere looking upon the question as settled.

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**A Case of Fatal Poisoning Due to Injections of Mercury Salicylate.**—Neubeck reports the case of a woman, thirty-six years old, suffering from a generalized syphilitic exanthem, who received subcutaneously (in three doses) 2.5 grams of a 10 per cent. paraffine suspension of salicylate of mercury. Three weeks after the last injection toxic symptoms appeared, with high temperature, diarrhœa, aggravated skin eruption, and mild stomatitis. On the fourteenth day gangrene of the posterior vaginal wall produced a rectovaginal fistula. Death followed four weeks after the beginning of toxic symptoms. At the autopsy there were found abscesses in the gluteal region filled with thick pus, and ulceration of the intestines. No mercury was found in the contents of the abscesses. Three other fatal cases due to salicylate of mercury have been reported. Thirteen fatal cases due to calomel are on record.—*Dermatologische Zeitschrift.*

### Yellow Fever Aboard Ships.

Dr. Francis W. F. Wieber, Surgeon U. S. N., writes in the October number of the *Journal of the Association of Military Surgeons* concerning the above subject. The writer has had access to the records of the Bureau of Medicine and Surgery of the U. S. Department and has succeeded in unearthing a large number of valuable professional papers. Among others several were found dealing with yellow fever, and supplying much recent data on the disease. The general conclusions arrived at by Dr. Wieber were as follows: (1) Persons on board of a ship anchored at some distance from shore in a yellow-fever port, may become primarily infected with yellow fever, without having set foot on shore. (2) The infection thus caused has been traced, directly or indirectly, to the taking in of stores and provisions. (3) Secondary cases have frequently happened on board ships at a considerable distance from shore. These continued after the ships left port. (4) Epidemics on board men-of-war have been prevented by the timely isolation—sending on shore—of early cases. (5) In some instances an epidemic has not developed on ships after yellow fever had appeared, even when it was impossible to send the sick away from ship in the very beginning of the attack. (6) First cases have occurred from the sixth to the twelfth day after leaving port. (7) Transferring a ship's crew from an infected vessel to an uninfected vessel put a sudden end to the epidemic. (8) The sick transferred from an infected vessel do not necessarily cause new foci. (9) Freezing a ship for an extended period, combined with repeated fumigations, under special conditions does not necessarily kill the morbific agent.

The history of numerous epidemics of yellow fever which have occurred on board ships of the United States navy is given briefly by the author. The value of the data thus obtained is explained on the grounds that a ship is generally more or less isolated, having little intercourse with the shore. Even, however, under such conditions epidemic disease has reached vessels of our navy, and the record of 40 per cent. of the complement of a ship taken sick with yellow fever, and of a death rate of 44 per cent. of the sick, as happened on the *U. S. S. Jamestown* in 1867, while at Panama during the dry season, furnishes an experience well worth considering.

As the fact that yellow fever is transmitted by means of infected mosquitos is now believed to be beyond cavil, such insects must have reached the ships either blown thither by the wind or conveyed in clothing or provisions.

### Educational Standards of the Medical Profession of New Jersey.

The State of New Jersey has ever been foremost in raising the standard of medical education within her borders, and in this respect has set an excellent example. Dr. E. L. B. Godfrey of Camden, N. J., has recently delivered an address on "The Educational Standards of the Medical Profession of New Jersey, Past and Present." The address was given before the Medical Society of New Jersey, at its annual meeting, June 23, 1903, the matter contained therein being of the greatest interest not only to the medical profession of New Jersey but to physicians in all parts of the country. The subject of interstate endorsement was dealt with at some length by Dr. Godfrey, who, from the standpoint of eight years' experience as secretary of the New Jersey State Board of Medical Examiners, can write with a considerable amount of authority.

Referring to the question of endorsement of licenses issued after examination by other States, the writer describes the situation as being perplexing, and then goes on to say: "This perplexity arises from four causes. The unsettled state of medical education throughout the country; the wide variation in the curricula of the 156 medical colleges, in respect to their entrance examinations, methods of teaching, and requirements for graduation; the differences in State laws regulating medical practice, arising from the varying needs of different States according to their public school standards and extent of population; the diversity of opinion in the profession itself as to what should be required to obtain the title of Doctor of Medicine and State authority to practise, contribute complications to the solution of the question on a common and equitable basis."

The point is discussed as to which seem the most applicable and effective steps to be taken to settle the matter. Dr. Godfrey draws attention to the fact that of the fifty-four States and territories of the Union, as far as can be ascertained, only five have compulsory reciprocity embodied in their statutes; while in the remaining forty-nine endorsement is optional with the licensing authorities or not provided for by statute. The reasons which, in the opinion of the writer, can be adduced to prove its injustice to the profession and its detriment to the State, are as follows: (1) It makes a State medical certificate paramount to a diploma from the highest medical colleges and to the qualifications of the most distinguished practitioners in the question of endorsement, whereas such certificates should be regarded as only co-equal with the several conditions of endorsement, in justice to the profession and the colleges. (2) The system is mandatory and places an embargo on applicants of professional merit from States that cannot reciprocate by reason of higher requirements. This may be illustrated by the recent refusal of a certain State to accept the New Jersey certificate because New Jersey could not reciprocate on account of its higher standards—an injustice at once manifest. (3) Its application is limited, because State medical laws are not uniform, and the limitation will continue for years on account of differences in population and in the grade of public schools in the different States. (4) Its tenure also is uncertain. The changes continually being made in State laws to keep in touch with the progress of medicine will cause constant interruption of endorsement and consequent confusion and hardship to the profession. (5) It is contrary to the formulated ethics of the profession, because it is a revival of the "lex talionis" of the ancient codes.

There can be but slight differences of opinion among the members of the medical profession of the United States with regard to the need of some form of medical reciprocity between the States. The difficulty is with respect to the form this reciprocity should take. At any rate New Jersey has done well in pointing the way toward raising the standard of medical education throughout the country generally.

**Female Medical Students in Germany.**—Only one woman received a doctor's degree from a German university in 1900, but in 1902 there were fourteen women medical graduates—five from Halle, three from Heidelberg, two from Göttingen, and one each from Berlin, Breslau, Munich, and Freiburg.

### A Fatal Case of Poisoning by Sulphate of Quinine.

Col. R. H. Quil of the Royal Army Medical Corps writes in the *Journal of the British Royal Army Medical Corps*, October, on this rare form of poisoning. He gives a description of a case of poisoning by sulphate of quinine which came under his immediate notice. A soldier who was at the time a patient in Fort Pitt Hospital, Chatham, was assisting in the removal of some equipment from a cupboard which also contained some stock bottles of medicine, when he suddenly seized a bottle and swallowed its contents. It was found that the bottle had contained eight ounces of a concentrated solution of sulphate of quinine, there being in all 320 grains of quinine. At the lowest computation it was estimated that at least 240 grains of quinine must have been held in solution and taken. The man quickly complained of vomiting and retching, which was furthered by an emetic which had been at once administered.

On the arrival, within five minutes, of the Orderly Medical Officer, the patient was unconscious, the face of a ghastly paleness and bedewed with clammy perspiration, pupils widely dilated, and insensible to light and touch. Respiration greatly impeded, slow and spasmodic, while the pulse was barely perceptible. The treatment resorted to was active stimulation produced by means of brandy and beef tea per rectum, sinapism to nape of neck, frictions with brandy over the cardiac region, and hypodermic injection of digitalis and ether, these measures had the effect of restoring the pulse to a large extent, but in all other respects the condition remained unchanged. Soon, however, the pulse began to weaken, and in a short time was not discernible. The pulse was again revived by active stimulation, but artificial respiration had no beneficial effect. After active stimulation had again been discontinued the pulse once more failed and became completely lost. The pulse appeared and disappeared at intervals until 7.30, at which time it ceased to beat entirely, and a species of convulsion, which affected principally the lower extremities, was followed by death.

Colonel Quil in his remarks on the case said that the man had been in the hospital but a few weeks, and his general health appeared to be good, although a comrade who slept in an adjoining bed thought that he had exhibited slight signs of mental aberration. The stomach pump which was the remedy most likely to have had the desired effect was unfortunately not used, nor was strychnine injected subcutaneously.

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### Dirty Milk Cans in New York.

The *New York Tribune* of November 8 has a timely article upon the above subject. It is pointed out that although immense strides have been made toward obtaining a pure milk supply for the city, and that to reach this end almost every conceivable measure has been put into force, yet one simple but necessary precautionary means has been neglected. Milk cans are still wofully misused. According to the writer of the article the farmers are not to blame for this state of affairs. W. W. Hall, Secretary of the New York Dairymen's Association, sent the following letter to the *Tribune* which expresses the sentiments of the maligned dairymen and points out some of the abuses:

"The principal abuse to which I call your attention is the fact that no attempt is made to clean the cans before leaving the city. The little amount of milk which adheres to the inside of the vessel as it is emptied varies in quantity, according to the length of time the can is allowed to drain. These cans do not reach their owners for many days and sometimes for weeks. Milk being such a favorite medium for the propagation and growth of bacteria, the milk thus retained is thoroughly decayed upon the arrival of the cans. If they were new, they, no doubt, could be cleansed sufficiently to be used again in refilling with milk and cream; but a great many of them are old and the tin has become worn so that the iron is exposed. This being porous, it absorbs and retains germ life from the decayed milk and renders the milk utensil unfit for further use. In addition to this, some persons who are connected with the business at the New York end or the railroad men are guilty of various other things. A gentleman told me recently that he had taken the covers from cans which contained decayed eggs. The manner of cleaning these cans at factories before refilling with milk and cream is not at all thorough. Many of the shipping stations have poor conveniences. The stench arising from the cans is such that the ordinary shipping station assistant will not decently prepare them, and, having assisted in attempting to cleanse them, and having inspected the cans after the cleansing had taken place, and knowing that the stench remains as before in many of the cans, I cannot criticise the can-washer."

To this severe indictment of the manner in which milk cans are misused is added many more details which go to show that reform is needed, so far as the proper cleansing of milk cans is concerned. However, quite enough has been quoted to prove the case against the city milk dealers with regard to their carelessness concerning the cleanliness of their milk cans. It is a serious matter and should be looked into, and steps taken to compel the city milk dealers to do their duty by the public in this respect.

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### Venereal Diseases in Armies.

Venereal disease is one, if not quite the most fruitful, cause of undermining the health of the soldier in armies the world through. The report of the Surgeon-General of the army of this country shows too plainly that American soldiers contract venereal diseases as freely as do the fighting men of other nations. During 1902 13,000 admissions were from this cause, equivalent to a rate of 160.94 per thousand.

The *Journal of the Royal Army Medical Corps* for October, referring to the recent issues of the report of the British Army Medical Department, and that of the Sanitary Commissioner with the Government of India, remarks that "those portions of the report which deal with the health of the British army during the year 1901 are not altogether reassuring as to the means of control over venereal disease among soldiers." The admissions in the United Kingdom numbered 10,631. The total ratio of admissions for venereal diseases was 105 per 1,000 of strength, being higher than the preceding year's ratio by 12, but lower than the average of the preceding ten years by 52 per 1,000. The disease was most prevalent, however, among the colonial garrisons, in Barbadoes, China and Jamaica, where the admission ratio was respectively 282, 260, and 198. The admission rate in India among European troops showed some improvement, the ratio per 1,000 being 276, considerably below the ratio for the preceding ten years.

These figures are sufficiently convincing evidence of the frightful havoc wrought among both American and British soldiers by venereal diseases, and thrice blest would be the man who could devise some

means of staying this evil. Surgeon-General R. M. O'Reilly is decidedly of the opinion that the abolition of the canteen is largely responsible for the steady increase of venereal diseases in the United States army, for the reason that the soldier is now subjected to the temptations to intemperance and vice attendant on the expenditure of a full month's pay at the low resorts infesting the outskirts of our military reservations. Probably this is the view taken by the majority of those who are competent to speak with authority. The writer in the *British Army Medical Journal*, to which reference has been made, thinks that the reduction in the rate of admissions for venereal disease among the European troops in India is largely due to a greater interest taken in the matter by officers generally, the provision of means of ablution in barracks and the encouragement of their use, lectures on temperance and continence, the fostering of athletics among the men, the imposing of disciplinary restrictions on soldiers constantly admitted to hospital for venereal disease, and the placing of certain localities out of bounds. Such measures, if conscientiously carried out, would help to stem the tide of vice, and would be in the interests of both morality and health, and are at least worthy of a trial.

## News of the Week.

**The Operation on the German Emperor.**—The Berlin correspondent of MEDICAL RECORD cables under date of November 14 that the operation on Emperor William's throat was eminently successful in its results. It was performed under cocaine, the tumor being snared off after its rather broad base of attachment to the left vocal cord had been partially dissected away. There was considerable loss of blood, but the bleeding ceased spontaneously in a short time. Examination of the tumor showed it to be composed of a rather soft connective tissue, poor in cells, completely delimited from the surrounding tissues by a cell membrane, and containing pigment granules, the remains of former slight interstitial hemorrhages. The diagnosis was polypus of the left vocal cord. In a report of the operation published in the *Frankfurter Zeitung* of November 13, and believed to have been written under the direction of Dr. Schmidt, the operator, who is a resident of Frankfort, it is stated that the result of the microscopical examination was in the hands of the Emperor and his physicians six hours after the operation. This unexcelled record in rapid hardening, staining, and section-cutting was due to an invention of Professor Orth, which was used for the first time, but the description of which has never been published. The final bulletin of the surgeons in attendance, v. Leuthold, Schmidt, and Ilberg, was issued on Tuesday of this week. It read: "The healing process of the left vocal cord of His Majesty continues regularly. No more bulletins will be issued."

**The Warren Triennial Prize** was founded by the late Dr. J. Mason Warren in memory of his father, and his will provides that the accumulated interest of the fund shall be awarded every three years to the best dissertation, considered worthy of a premium, on some subject in physiology, surgery, or pathological anatomy; the arbitrators being the physicians and surgeons of the Massachusetts General Hospital. Dissertations must be legibly written, and must be suitably bound, so as to be easily handled. The name of the writer must be enclosed in a sealed envelope, on which must be written a motto corresponding with one on the accompanying dissertation. Any clew given by the dissertation, or any action on the part of the writer which reveals his name before the award of the prize, will disqualify him from receiving the same. The amount of the prize for the year 1904 will be $500. In case no dissertation is considered sufficiently meritorious, no award will be made. Dissertations will be received until April 14, 1904. A high value will be placed on original work. Papers may be sent to Dr. Herbert B. Howard, resident physician, Massachusetts General Hospital, Boston, Mass.

**The Silliman Lecturer at Yale.**—Dr. C. S. Sherrington, F.R.S., Holt professor of physiology in the University of Liverpool, has been invited by the Faculty of Yale University to succeed Dr. J. J. Thomson, F.R.S., professor of physics in the University of Cambridge, as lecturer under the Silliman Memorial Endowment. The lectures will be delivered at Yale University in the spring of 1904.

**Site for the New State Hospital.**—The committee of the State Lunacy Commission appointed to select a site in Washington County for a new State Hospital for the Insane, after a consideration of nine places has definitely rejected five, and will soon select one of the remaining four. The requirements are that the site shall contain at least 1,000 acres, and that it shall be within easy access by railroad and other means of communication. All of the sites now under consideration meet these requirements.

**The Manic Depressive Psychosis.**—Dr. Walter D. Berry writes that the dropping of quotation marks in the typewritten copy of his article with this title, published in the MEDICAL RECORD of October 3, has done an unintentional injury to Dr. Henry P. Stearns of Hartford. The latter part of the article beginning with (Stearns says) "the *modus operandi*," etc., and ending with "eliminate the weaker ones," was a quotation from the Report of the Superintendent in the Seventy-second Annual Report of the Officers of the Retreat for the Insane at Hartford, Conn., and this fact should have been marked by inverted commas.

**Uniformity in Vital Statistics.**—At the recent meeting of the American Public Health Association, held at Washington, the Committee on Vital Statistics reported that effective coöperation had been instituted between that association, the Conference of State Boards of Health, the American Medical Association, the United States Census Bureau and the United States Public Health and Marine Hospital Service for the improvement of the vital statistics of this country. Among the objects sought are the extension of adequate methods of registration, the use of uniform and comparable tables and rates in bulletins and reports, and the improvement of the international classification of causes of death. A pamphlet on "Statistical Treatment of Causes of Death" has been issued by the United States Census Bureau, requests for which should be addressed to Mr. W. A. King, chief statistician for vital statistics, Census Bureau. It has especial reference to the difficulties encountered in compiling deaths returned from several causes, and asks for the coöperation of the profession in framing a thoroughly satisfactory method of procedure in such cases.

**Street Accidents in New York.**—It is reported that 538 persons were killed by vehicles in the streets of this city during the year 1902. Compared with this, the mortality from the same course in London during the same period was only 158. The difference is in part due to the more rapid rate of progression of our trolley cars compared with the leisurely trams and still slower buses of London, but much is also

due without doubt to the more efficient management of street traffic by the London police.

**Disappearance of a "Case."**—While the members of the Newburg Bay Medical Society were holding a meeting in the reception room of the Matteawan Hospital, on November 10, and several patients were before them as subjects of discussion, one of them broke from two attendants and escaped. A reward has been offered for his capture.

**The Mystery of Miss Hickman's Disappearance Explained.**—At the conclusion of the inquest, held November 12, into the death of Miss Frances Hickman of London, the woman doctor who disappeared from one of the hospitals and whose body was found a long time afterward in a secluded part of Richmond park, the jury rendered a verdict that she committed suicide while temporarily insane. It was thought by many that she was the victim of foul play, as she had no apparent reason to take her life, but the finding by her side of a bottle which had contained poison, and the absence of any sign of violence led to the finding of the verdict mentioned.

**Diphtheria in New Jersey.**—Several towns in New Jersey are threatened with epidemics of diphtheria. In New Brunswick the Health Board is hampered by the exhaustion of its appropriation, and there is no way of securing more money until the spring. During the first ten days of this month there were thirty-five new cases reported, while during the entire month of October there were but five. In Montclair there has been friction between the Health Board and the School Board. There were twenty cases reported during the first ten days of the month, and the Board of Health ordered the closing of the schools. But the Board of Education did not take the same view of the situation as the Health Board, and the order of the Health Board was ignored, and two of the Central and Mt. Hebron schools were open as usual, the day after the order was issued.

**The Pathological Society of Philadelphia.**—At a stated meeting, held November 12, Dr. W. M. L. Coplin exhibited a specimen of chronic adhesive peritonitis, with multiple non-obstructive angulations of the colon; Dr. Morris J. Lewis and Dr. Robert N. Willson, a specimen of carcinoma developing in and from a gastric ulcer; Dr. William Pepper, one of carcinoma of the heart secondary to carcinoma of the penis; Dr. C. C. Norris, a specimen of primary carcinoma of the appendix, with report of a case; Dr. W. T. Longscope, one of primary carcinoma of the pancreas, and he reported two cases of primary carcinoma of the gall-bladder; Dr. J. D. Steele presented a communication entitled "Ulcus Carcinomatosum."

**Ear-grafting.**—An experiment has just been made in Philadelphia in the transfer of the entire pinna of the right ear from one man to another. The recipient of the ear was a man from the West who had lost that ornamental appendage and, being about to wed, wished to have the symmetry of his head restored. The donor was a resident of this city who parted with his auricle on consideration of $5,000. Although the donor signed a bill of voluntary sale of his ear, it was thought best to perform the operation outside of the State in order not to incur the risk of a charge of mayhem under the New York State law.

**Philadelphia County Medical Society.**—At a stated meeting, held November 11, Dr. Mihran K. Kassabian read a paper on "The Technique of Röntgen-ray Treatment." He discussed the several forms of apparatus employed, together with their method of application, the time and mode of exposure and the conditions to which the treatment is applicable. Dr. G. E. Pfahler presented a communication entitled "The Röntgen Ray in the Treatment of Carcinoma and Tuberculosis," reciting an illustrative group of cases showing the usefulness, as well as the limitations, of the procedure. Dr. Wm. M. Sweet read a paper on "The Röntgen-ray Treatment of the Eye and its Appendages." He pointed out that the greatest good with reference to the eye had been in the diagnosis of the presence and of the location of foreign metallic bodies and their removal, especially by means of powerful magnets. Epithelioma on and about the orbit has proved amenable to the treatment and some success has been observed in the application of the same measure for the relief of trachoma. Dr. Henry K. Pancoast presented a communication dealing with "The Röntgen-ray Treatment of Keloid." In the cases in which such treatment had been pursued it was found that the applications had to be made for a long time, and the possibility of recurrence was by no means excluded. Dr. Jay F. Schamberg read a paper entitled "The Finsen Light and the Röntgen Ray in the Treatment of Diseases of the Skin." The results from the employment of the Finsen light had been disappointing, although some good had been accomplished in cases of lupus vulgaris and lupus erythematosus. Better results, perhaps, were obtained with the aid of the Röntgen rays, not alone in the disorders mentioned but also in a variety of others. The important recommendation was made that when feasible, surgical measures should not be neglected, and thus valuable time lost. The light-treatment is especially indicated when surgical measures are not applicable or when the diseased condition is inaccessible to such measures, and also after operation had been performed. In the discussion, which was participated in by Drs. Chas. Lester Leonard, M. B. Hartzell, W. S. Newcomet, John B. Shober and W. L. Rodman, the utility of the Röntgen rays was pointed out, further, in cases of Paget's disease of the nipple and malignant diseases of the pelvic organs.

**New York State Association of Railway Surgeons.**—the thirteenth annual meeting of this society was held at the New York Academy of Medicine, November 12, under the presidency of Dr. Henry Flood of Elmira, N. Y. The following officers were elected for the ensuing year: *President*, Dr. Charles G. J. Finn of Hempstead, N. Y.; *First Vice-President*, Dr. E. P. Conn of Concord, N. H.; *Second Vice-President*, Dr. Joseph P. Creveling of Auburn N. Y.; *Secretary*, Dr. Geo. Chaffee of Brooklyn, N. Y.; *Treasurer*, Dr. J. K. Stockwell of Oswego, N. Y. On the day following the meeting Dr. Joseph A. Blake gave a general surgical clinic at Roosevelt Hospital in the morning, and Dr. Frederick H. Wiggin, at the City Hospital, Blackwell's Island, in the afternoon. It was decided to enlarge the membership in the society so as to include surgeons from the New England States, and the name was accordingly changed to "The New York and New England Association of Railway Surgeons." Twenty-one new members were elected.

**College of Physicians of Philadelphia: Section on General Medicine.**—At a stated meeting, held November 9, Dr. T. L. Coley presented a communication entitled "A Case of Stricture of the Œsophagus, Complicated by Subdiaphragmatic Abscess, Loculated Empyema, and Purulent Peritonitis." The patient was a man, who swallowed liquid solder with suicidal intent. Life was prolonged for a number of weeks, and after death the œsophagus was found constricted near the cardiac orifice of the stomach, with dilatation above this situation. Although there was no evidence of rupture, the abdominal viscera were matted together by inflammatory adhesions and a collection of pus was found beneath the left half of the diaphragm, and also three loculated

abscesses in the left pleural cavity displacing the lung and occupying the intervals between its lobes. Dr. Wm. G. Spiller read a paper entitled "Two Cases of Paraplegia Occurring in Smallpox, with Necropsy." Paralysis in the course of variola is not a common complication, and when it occurs it has been attributed to various lesions of the peripheral nerves, the spinal cord and the cerebrum. Of the two cases reported only the brain and cord preserved in alcohol were obtained in one and no lesion was discovered. In the second case lesions of a somewhat diffuse myelitis, involving, however, more especially the gray matter and particularly that of the anterior horns, were present. Drs. J. A. Scott and C. M. Montgomery presented a paper entitled "Some Statistics Regarding Croupous Pneumonia, Especially Concerning Its Treatment with Carbonate of Creosote." The constancy of the mortality from pneumonia over long periods of years was pointed out, and the likelihood of error from a consideration of small numbers of cases or of collections of cases from a large number of sources. In the Pennsylvania Hospital the mortality during a decade has been about 24 per cent., though ranging in different years from 11 to 27 per cent., the differences bearing no relation to the actual number of cases, in which likewise there were marked variations. Of seventy-two cases treated with creosote carbonate the mortality was but 14 per cent. and if only the larger of the groups of cases studied were taken into account, leaving out the smaller number with a disproportionately large number of deaths, the mortality would have been even considerably lower. The drug was given in doses of from 3 to 5 minims in the case of children and of from 5 to 15 minims in older persons. No harm was observed, but the conclusion was reached that despite the apparently better results from this mode of treatment these might have been merely accidental and not attributable to the drug used.

**A Proposed Bureau of Water Inspection.**—Dr. Daniel Lewis, State Commissioner of Health, will, it is reported, ask the next Legislature for an appropriation of $10,000 to establish a new bureau in the department to be known as the Bureau of Water Inspection and Drainage, with special reference to summer resorts. If this bureau is established, there will be obtained and kept on file in the State Health Department data regarding the water supplies and plumbing and drainage equipment at hotels and farmhouses, so that intending guests can learn of these essentials to health before going on their vacations.

**The Late Drs. O. A. White and L. P. Walton.**—At a meeting of the Medical Association of the Greater City of New York, held November 9, 1903, the report of a committee appointed to prepare a suitable minute on the death of Dr. Octavius A. White was received and adopted. It was devoted to a eulogium of the character and eminent services of the deceased, and included a tribute from the *Oakland* (Cal.) *Tribune* of May 28, 1903. The conclusion of the report was as follows: "With a public life full of noble achievements for suffering humanity and a home life illumined by the most charming of domestic traits, his memory will be cherished for years that are to come by all who knew him.

"Your committee, in presenting this minute, unanimously offer the following resolutions:

"*Resolved*, That in the death of Dr. Octavius A. White this country and community have lost a valued citizen and our profession of medicine an honored member.

"*Resolved*, That we extend to the bereaved family of Dr. White our profoundest sympathy for them in this their period of bereavement.

"*Vivat post funera virtus.*"

THOMAS E. SATTERTHWAITE,
JOHN G. PERRY,
REYNOLD WEBB WILCOX,
} Committee.

At the same meeting a report on the death of Dr. Luis P. Walton was also received and adopted. In this minute it was stated that Dr. Walton "was one of the few representatives of the old school of general medical practitioners, and in that capacity he occupied a position of peculiar confidence and affection in the hearts of a large number of patients. They sought his advice in many other matters besides those appertaining to their physical ills, and they always found in him a patient and sympathetic listener and a sound and earnest adviser. Few who have not been general practitioners themselves can realize the extent of the responsibility and of the unremitting toil involved in caring for a *clientele* as large as his. He was a genial, kindly gentleman of wide sympathies and general interests, with a vigorous, active, masculine intellect; always cheerful, courageous, sympathetic, and ardently devoted to his friends. For public professional honors and appointments he cared but little, but he was ever loyal to the profession of medicine, and generous in his dealings with its members." GEORGE L. PEABODY,
HENRY S. NORRIS,
} Committee.

**Obituary Notes.**—Dr. CHARLES MARSHALL of Huntingdon, Quebec, died suddenly of apoplexy at the house of a relative in this city on November 13. He was a graduate in medicine of the University of Bishop's College, Montreal, in the class of 1876. He was a member of the Medical Board of Governors of Quebec.

Dr. CHARLES J. VINCENT, formerly of this city, died at Bisbee, Ariz., on November 13. He went to Arizona about a year ago on account of failing health.

Dr. JAMES MCFADDEN GASTON died at his home in Atlanta, on November 15, at the age of seventy-nine years. He was a graduate of the Medical College of the State of South Carolina in the class of 1846. He was prominent during the Civil War as a medical officer in the Confederate service. After the war, from 1865 to 1883, he made his home in Brazil, practising among the colony of Southerners which was established in that country. Since 1883 he had been at the head of the department of surgery in the Southern Medical College in Atlanta. In 1895 he was president of the American Academy of Medicine, and in 1896 he was president of the Southern Surgical and Gynecological Association.

DR. GEORGE JULIUS ENGELMANN, formerly of St. Louis, but recently a resident of Boston, died from pneumonia in Nashua, N. H., on November 16. He was born in St. Louis, July 2, 1847, and was graduated in arts from Washington University in 1857, receiving the degree of A.M. three years later. From 1867 to 1873 he studied medicine in Europe, receiving the degrees of M.D. from the University of Berlin in 1871, and of master of obstetrics at Vienna in 1872. He was a surgeon in the Franco-Prussian war in the years 1870-71. He practised in St. Louis from 1873 to 1897, removing in the latter year to Boston. He was widely known as a gynecologist, and taught that specialty for many years in the Missouri Medical College. He was also an extensive traveler, and was deeply interested in archæological and ethnological researches. His collection of Missouri flints and pottery is now in the Peabody Archæological Museum at Cambridge, Mass.

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

MR. CHAMBERLAIN, TROPICAL MEDICINE AND VIVISECTION—THE QUEEN AND OLD BART'S—CHARITY DINNERS—HOSPITAL BUILDINGS: TEMPERANCE AND WATERLOO HOSPITALS—OUT-PATIENTS AND REARING CHILDREN—CANCER AND NERVE AREAS—PROSTATECTOMY—ECTOPIC PREGNANCY—EYE-TESTING—SPECTACLE-MAKERS' DIPLOMAS—HOSPITAL FUNDS—HOSPITAL SHOPPING DAY—NORTH LONDON CONSUMPTION HOSPITAL.

LONDON, October 30, 1903.

We are just now living in an atmosphere so agitated with exciting controversies that it requires some effort to detach ourselves from general debates to a consideration of medical matters. On Monday next the municipal elections take place, when sanitary and medical questions will probably obtain less consideration than usual, on account of the absorbing political movement. It is, however, worth noting that Mr. Chamberlain, by far the most considerable figure in the present world of politics, has found time in the midst of a most arduous campaign, to show once more his interest in tropical medicine. Yesterday afternoon he spent an hour in the Liverpool University, where he had an enthusiastic reception from the students, but excused himself from the request for another speech. A visit was afterward paid to the Royal Southern Hospital, the headquarters of the Liverpool School of Tropical Medicine, where he was received by the president, Sir Alfred Jones, and displayed great interest in the arrangements. It is reported that during the visit one of the nurses went to the piano and played "For he's a jolly good fellow," and the refrain was taken up by the patients. Thus a feeble echo of the excitement outside penetrated the seclusion of the hospital.

The antivivisectionists tried to draw from Mr. Chamberlain an expression of his views for a meeting they got up on Tuesday at Birmingham to protest against a license being granted to the University, of which he is Chancellor. He replied, "I am most certainly opposed to the torture of animals, but entirely approve of the application of the authorities of the University for a license to promote scientific research. I think it is a cruel libel on men like Sir Oliver Lodge, Dr. Windle, and others to attribute to them the possibility of any act of cruelty. I shall be obliged if you will read this letter to the meeting which you propose to hold."

Her Majesty the Queen has sent to the Lord Mayor £1,000 to start the appeal for funds for the enlargement and improvement of St. Bartholomew's Hospital in accordance with the recommendation of the Mansion House Committee. His Majesty the King was president of the hospital from 1867 until his accession, when he became patron, his place of president being taken, at the unanimous request of the governors, by the Prince of Wales. There will be a meeting of the governors next Thursday to consider and take action on the report of the committee on the scheme for extension of the buildings and general improvement of old Bart's.

Sir H. Burdett is still dissatisfied with the scheme of the committee and advocates, in this week's issue of his paper, the purchase of additional land so as to increase the site from six to eight or eight and a quarter acres. He says the £600,000 required for that plan could easily be raised in five years if the public were satisfied that it would perfect the hospital.

A new departure as to charity dinners may interest you. His Royal Highness the Duke of Connaught has agreed to preside at a dinner in aid of the Home and Hospital for Incurable Children, when a new method will be inaugurated, viz., no gentlemen will be invited to become stewards, but a ladies' committee has been formed to invite other ladies to be stewards, bringing their own parties with them.

On Monday, Her Royal Highness, the Duchess of Albany laid the foundation stone of the new building of the Royal Waterloo Hospital for children and women which was founded in 1816. The new structure will be much larger than the old, containing about 200 beds instead of 54. It will cost £50,000, of which only £17,236 has been collected, inclusive of about £2,500 contributed in purses presented to Her Royal Highness on this occasion.

On Wednesday the Lord Mayor accompanied by the Lady Mayoress and the sheriffs with their ladies paid a state visit to the Temperance Hospital to inaugurate a scheme for rebuilding the out-patients' department. The extensive alterations needed will necessitate so large an outlay that, on the recommendation of King Edward's Hospital Fund, it has been determined to pull down the present structure and rebuild it. The King's Fund has granted £1,500 toward the £10,000 required, and no doubt the Lord Mayor's visit—the third that has been paid by chief magistrates of the city—will tend to increase the interest and contributions of the public. The hospital was founded in 1873. A wing was erected a few years later. More than 21,000 in-patients have been treated during its thirty years of existence. The Lord Mayor and sheriffs were conducted through the wards by Sir W. Job Collins, who is surgeon to the hospital, the statistics of whose operations I gave you in my letter of the 25th ult.

On Monday Dr. Edward Cantley read a paper at the Charity Organization Society on out-patient departments and the rearing of children. He pointed out how limited was the effect of the work done among the out-patients of children's hospitals and put forward suggestions for supplementing it. The mortality returns, he found, showed during the ten years, 1891 to 1900, a yearly average of 160 out of every 1,000 children born in London died under the age of one year. More than two-thirds of these deaths were caused by diarrhœa, which almost always arises from errors of diet or mode of preparing the child's food. Quite half the infants brought to the out-patient physician were under one year, and much of the energy spent in treating them was wasted. The benefit derived from the physician's advice was in inverse ratio to the mother's intelligence. The failure of the mothers to rear their children was due to three causes—ignorance, carelessness, or criminal neglect. Dr. Cantley suggested that steps should be taken to coördinate the efforts of charitable bodies and direct their attention to the possibility of assisting mothers in looking after their children by a system of home visits. He recommended the distribution, to mothers, of a pamphlet containing simple but full instructions about the handling and feeding of their babies from the day of birth. He sketched a scheme to enable them to obtain, at a reasonable price, good milk without encouraging the neglect of breast feeding. But with a good milk supply he thought it necessary to teach mothers how to make use of it, and therefore he would have well-trained women in connection with out-patient departments to visit cases selected by the physicians and teach the mothers how to keep milk from contamination, inculcate the importance of cleanliness in all utensils, and demonstrate practically how the food should be prepared and how the infant should be washed and clothed. Such a scheme, he thought, would meet the evils he had mentioned. Ultimately the education of the poor would give the best results, but progress in that way is slow and almost imperceptible.

At the Pathological Society Mr. G. L. Cheatle gave a lantern demonstration of cases connected with the relation of cancer to nerve or trophic areas. In a former paper he pointed out that rodent ulcers and squamous epithelioma occupied certain areas which he holds are nerve areas—sensory nerve areas. He, moreover, thinks the incidence of cancer frequently occurs at points where a nerve becomes cutaneous, and most frequently at those points which Dr. H. Head described as maximum points.

Prostatectomy was discussed at the same meeting by Mr. S. G. Shattock, who had examined the series of specimens presented to the Hunterian Museum by Mr. P. J. Freyer. The two points on which there has been considerable controversy are: (1) How far the prostate portion of the urethra is preserved, and (2) is the whole prostate removed. With regard to the urethra, its preservation is now regarded as of no consequence, though it is interesting to have the anatomical points cleared up. Mr. Freyer's operation is a prostatectomy, complete from the surgical aspect, but not histologically. In his specimens the transversely fasciculated character of the surface of the capsule showed that the line of enucleation was not beyond but through it. Mr. Shattock found that in most cases the prostatectomy was not complete from the histological side. He thought in this strict sense a complete prostatectomy could not be verified except by a microscopical examination of the parts left behind.

At the Obstetrical Society Mr. J. D. Malcolm related a case of extrauterine gestation with removal of a living fœtus of between three and four months' development. An incision was made in the middle line above the pubes, a small collection of pus opened, and the amniotic liquid evacuated. The cavity was packed with iodoform gauze and the placenta undisturbed—from July 24 to August 10, when an attempt to remove it set up so much hemorrhage that it was again packed. This killed the placenta, and there was little blood lost afterward, but every bit had to be peeled off the tissues, and the removal was not completed until August 26. The patient recovered.

Dr. Lockyer related a case of tubal gestation, which ruptured and the sac became implanted on the omentum. The ovum lived for about four months. An operation was eventually performed, but the patient died twenty-

four hours afterward. Some other cases were mentioned by Drs. Hellier and Bonney.

Mr. Herman took exception to the recommendation to operate promptly in all ectopic cases when the fœtus was living, whatever the duration of pregnancy. Certain dangers were present in the first half, but rare in the second half of the pregnancy—such a rupture of the tube or sac. When the patient arrived at term spurious labor came on, and the patient was not in much danger. At six months the placenta would almost certainly be thrombosed and could then be peeled off without hemorrhage. The safer way would be to wait for suppuration, which might occur at any time and might not occur at all, and the patient might enjoy fair health to the end of life with only the inconvenience of an enlarged abdomen.

To this objection Mr. Malcolm replied that he thought operation would be more dangerous after suppuration, or if it had to be done for severe hemorrhage. He had to admit that if operation was always done as soon as the condition was diagnosed some cases would be subjected to it which might do well without—such as the patient who carried the remains of a full-term fœtus for forty-three years, as recorded in the *Transactions*, Vol. 8, by Mr. Watkins, whose patient died at seventy-four years. Nevertheless Mr. Malcolm held, in view of all the circumstances, that delay was likely to result in the development of more dangerous conditions.

Some investigations have lately been made as to the testing of the eyesight of recruits for the army. It is probable that the dot test for sight will be replaced by Snellin's text types which are in use for candidates for commissions.

Since the Spectaclemakers' Company followed the example of the Obstetrical Society and granted certificates of competency, the town is filled with *diplomas* to deceive those who do not understand the difference between opticians and oculists. Pushed on by their trade, the company have asked the College of Surgeons its opinion as to the inclusion of sight-testing in their examinations. The council at their quarterly meeting gave a full reply pointing out the dangers of any unqualified person prescribing and closing a rather long but reasoned resolution as follows: "In the ultimate interest of the public no countenance should be given to any proposal which is likely to foster the belief that tradesmen, whatever be their technical skill, and whether opticians or orthopedic or other surgical instrument makers, are safe and sufficient guides in the management and treatment of deformities or other diseased conditions."

The Lord Mayor has received from Mr. George Herring £12,312 for the Hospital Sunday Fund in conformity with his promise to add five shillings to every pound collected. Last year, you will remember, Mr. Herring gave £11,575 in the same munificent manner. In the three preceding years he contributed £10,000. This year is a record—the total collection being £64,700, which is £2,000 more than in 1902.

It seems that "hospital shopping day" is to be kept, a large number of shopkeepers having promised to devote some portion of their takings (on Tuesday next) to the King's Fund. Each trader is asked to give something on that day, but how much is not to be suggested, still less is any disclosure of the amount of business done to be asked for of any trader. Each is to settle for himself whether he gives anything, and if he does, how much.

On Tuesday a new block of Mount Vernon Hospital was opened by the Marquis of Zetland (president). This will provide forty-five additional beds. This hospital, formerly called the North London Consumption Hospital, has made great strides of late. Up to 1880 only about twenty-five in-patients could be accommodated. In 1893 additions were made and sixty beds provided, subsequently increased again to seventy, and then one hundred. Of the forty-five new beds only twenty-eight can at present be occupied for want of money, which suggests to some that the building may be pushed on at a rate too fast for the resources.

## GONORRHŒA IN WOMEN.

To the Editor of the Medical Record:

Sir: The facts, as given by the late Dr. S. Seabury Jones, in reference to the failure of the working of the Contagious Diseases Acts in different European cities are a surprise to me. I had always supposed that the licensing of prostitutes, together with their compulsory examination, if properly carried out, was the best, in fact the only, means to limit and possibly to stamp out venereal disease. The figures quoted in your editorial—"Syphilis in Its Ethical Relations"—are discouraging. Still, I very much doubt the conclusions of Bergh, Le Bert, and Jones. The evil does not lie in the systematic examinations or the licensing of prostitutes, but in the manner in which the examinations are conducted.

The general practitioner seems to have a great deal to learn yet in connection with the diagnosis of venereal disease in women. Our medical and surgical works are very defective in this particular. I refer especially to the diagnosis of gonorrhœa. I am well within the mark in saying that if a class of graduates were asked what were the primary and most important symptoms of gonorrhœa in the female, 99 per cent. would answer, those of acute vaginitis, accompanied by purulent discharge, etc. That is wrong. Gonorrhœa is rarely a vaginitis; it is *a urethritis*, exactly as in the male. I have yet to find the case in which the disease does not lie primarily in the urethra. The extension to the uterus, ovaries, or Fallopian tubes is always a later manifestation of the disease either, by direct inoculation or by absorption of gonorrhœal poison. The inflamed area around the remains of the hymen is the result of irritation such as might arise by the presence of any unhealthy discharge, and is commonly present in simple leucorrhœa. *Every* case shows an initial "bladder trouble," as the patient usually expresses it—pain or burning on making urine and usually a desire to urinate more frequently. Very often, too, clear blood is passed at the end of the act. On making a careful examination pus can *always* be pressed from the urethra at this stage. The burning is rarely so severe as in the male, and does not last so long, for obvious reasons; but the disease remains as long, probably longer. It is usually overlooked by the examining physician, who sees the patient, say, five or six weeks later, and is probably forgotten by the patient herself. And that is where the whole trouble lies. At the moment of penetration the male and female urethras come together: it is unavoidable. At that instant inoculation from one to the other occurs. The woman may have used any quantity of corrosive sublimate, carbolic acid, potassium permanganate, or any other antiseptic solution a minute previously, and the man will not escape because the patient or the physician (probably the latter) has carelessly overlooked the source of infection when he made his final examination and found no unhealthy appearance of vulva, vagina, or uterus. The lesson we learn from these plain facts is—treat a woman suffering from gonorrhœa exactly as you would the male. Every patient should be ordered to take her copaiba or santal capsules and, if necessary, to inject mild silver, lead, or zinc solutions, etc., into the urethra at regular intervals. An ordinary male syringe, or dropper will usually suffice, or, better still, the continuous current of permanganate solution under the physician's supervision.

G. S. Scott, M.D.

Lampoc, Cal.

## Progress of Medical Science.

*The Boston Medical and Surgical Journal, Nov. 12, 1903.*

**Stomachal and Intestinal Derangements and Affections of the Fauces, Pharynx, and Air Passages.**—Beverley Robinson declares that at times we find the same microorganism in the throat and in the stomach. It is not known whether these microorganisms were swallowed or were originally developed in the stomach and brought into the throat by regurgitation. The writer believes that the condition of disordered stomach or bowels is not infrequently the cause of acute coryza. What is true of simple coryza is also true of acute catarrh of the nasopharynx, and of superficial acute tonsillitis of the simple variety. The dividing line between some cases of follicular tonsillitis and diphtheria is not easy to determine. The reactions of chronic disorder of stomach and bowels to nasal and nasopharynxeal catarrh were insisted upon as far back as 1882, by W. H. Daly. Each case must be treated by itself, according to its indications. The local faulty conditions of the air-passages should be treated, while, at the same time the habits should be regulated, and the diet be made moderate in quantity, simple and nutritious.

**Some Principles Involved in the Therapeutic Applications of Radioactivity.**—William Rollins writes that for the present, when using radioactive substances in internal therapeutics, the substances cannot themselves be employed, on account of their high price. However, when a radium salt is dissolved in water it gives off "emanations," which can be collected in air in a gas-holder over mercury, and used in internal medicine. Radium in solution can be depended upon as a constant source of emanation to be used in the therapeutics. Even the emanation itself can be employed to produce fresh radioactivity. As the radiations and emanations of the radioactive substances spread in all directions, and some of them are destructive to animal tissues, the radioactive substances must be used in tubes, cases, plasters, and so on, with non-radiable walls, in order that the activity may escape only in the

required direction, and be reinforced by the induced radioactivity from the inner surface of the container. Particular attention should be given to the protection of the eyes. Activity diminishes approximately as the square of the distance, though really more rapidly on account of the complex nature of the activity. Precautions, therefore, should be taken in regard to the distance of the apparatus from the part to be treated.

*Journal of the American Medical Association, Nov.* 14, 1903.

**Special Influences of High Altitudes on the Nose and Throat.**—S. E. Solly notes the following: (1) Surgical measures are often demanded at an altitude in cases which had previously gotten along comfortably without it at sea-level. (2) The results of such procedures are at least as satisfactory as elsewhere, but more than usual care must be taken to save all secreting tissue. (3) The local symptoms of atrophic rhinitis are aggravated though the constitutional conditions are often improved. (4) The moist form of hypertrophic rhinitis is much improved. Sinus diseases do better than at sea-level. Operative cases require less post-operative care than at a low level, and there is not so much danger of infection of wounds inflicted on tuberculous tissue. On tuberculous laryngitis, high altitudes effect a favorable influence. More cases recover and local treatment is more sucsessful than at lower levels.

**Arrested Tuberculosis.**—V. Y. Bowditch tabulates the subsequent histories of seventy-nine arrested cases of tuberculosis treated at the Sharon Sanatorium from 1891 to 1902. Of the entire number 15.2 per cent. died after varying intervals of comparative health. Of the remaining cases, sixty-seven in number, excellent accounts are received with only one or two exceptions, the former having sent no report at all of recent years. She was known to be feeling well at last accounts. The latter, a case of fairly well-marked disease, has failed in strength, and doubtless will sooner or later succumb to the disease. The majority write enthusiastically of their good health, some of them having left the sanatorium ten years ago. All are employed in their homes or in occupations which, as a rule, allow them to be out of doors more than before.

**Exercise as a Mode of Treating Diseases of the Heart.**—N. S. Davis, Jr., enumerates as possible methods, massage, Swedish gymnastics, mountain climbing, and resistance gymnastics. He states that drugs, as digitalis, may temporarily contract the heart when it is dilated, and strengthen it when it is weak, but permanent recovery of strength is obtained only by improving the nutrition of the organ, and by relieving it of excess of work. Both of these results are attainable by judicious exercise of the voluntary muscles. Unquestionably, the first or immediate effect of muscular work is to increase blood-pressure, but this rise is temporary, and is followed by a more persistent fall, which is caused by the dilatation of arterioles in the hard-used muscles, a dilatation necessitated by their demand for food, and for more rapid removal of waste by irrigation. The primary increase of pressure is in proportion to the degree of exertion, but the secondary fall is more dependent on the duration of muscular movements, and the number and size of muscles used. It is, therefore, possible, by trivial exertion, to avoid an increase of pressure, and by using many of the large muscles to ultimately lower pressure very gently. This is the reason for what may be called the first rule in applying exercise to the relief or cure of heart diseases—that is, the muscular effort must be slight, but numerous large muscles must be used. The second rule for the conduct of exercise for the relief of cardiac disease is naturally that respiration must be deepened, but not hurried, for quick, irregular and imperfect respiratory movements will lessen the variations in intrathoracic pressure, impede venous and lymphatic circulations. The third rule is that the exercise must be graduated. At first only the lightest should be used, and very gradually it must be increased in vigor, and it must be adapted to each case. Under no circumstances must breathing or the heart be hurried. Massage and resistance gymnastics are the gentlest forms of exercise, and should be first used in all cases.

*Medical News, November* 14, 1903.

**X-ray Treatment of Cancer of the Uterus.**—Sinclair Tousey explains the method of applying the *x*-ray to uterine cancer. The patient lies on her back with her hips at the edge of the table, the thighs vertical and legs horizontal, resting on the table crutches, which are about eighteen inches high. A sheet covers everything but the vulva, and after the speculum in introduced, sheet lead is spread over the buttocks and thighs to protect them from the *x*-ray. The *x*-ray tube ought to be a large and powerful one, and should be of medium hardness. The writer uses one of 40 cm. capacity. The tube and the current should be so adjusted that the bones of the hand may be faintly seen at a distance of two feet from the tube. For a beginning exposure the time ought not to exceed five or six minutes of actual *x*-radiation. The time is gradually increased, as a rule. In cases in which there is a fibroid or other tumor of the uterine body, the *x*-ray is placed about nine inches from the surface and directed at the tumor right through the abdominal wall. The time of exposure in this case may be altogether about nine minutes, while the treatment is directed to different parts of the abdomen during this interval. The third part of the treatment consists in the application of the high-tension discharge by means of vacuum electrodes. The results which may be expected are remarkable. The vacuum tubes bring about complete relief from pain, and the entire treatment results in a cessation of the discharge, disappearance of the odor, and a restoration to general health.

**Treatment of Tapeworm.**—Samuel P. Gerhard, after much experience in the treatment of this affection, has found a combination of male fern and pelletierine the most suitable. The following is his method: The loss of one meal is all that is required. The patient is instructed to clear out the bowels the day previous with one or two large doses of castor oil or salts. One dose may be given in the morning and one at night, an hour or two after a light supper. The next morning, as early as possible, a dose of pelletierine tannate, 20 grains, in two capsules, is given. When this has operated freely, in about two or three hours the following treatment is begun:

| | | |
|---|---|---|
| ℞ | Olei resinæ aspidii | ℥ii |
| | Ætheris | ℥ii |
| | Hydrargyri chloridi mitis | gr. xii |

M. et div. in capsulas No. XVI.
S. Two every ten minutes.

No food is taken during this time. In about two or three hours the worm will be expelled whole, with its head fastened to its neck. It is well for the patient to pass all of the bowel movements into a vessel of warm water on the morning the medicine is taken. No traction on the protruding worm should be permitted.

*New York Medical Journal, November* 14, 1903.

**Urinary Hyperacidity.**—T. R. Broun calls attention to a class of cases due to urinary hyperacidity but presenting the usual symptoms of cystitis, viz., frequent, painful, and burning micturition and occasionally a few blood and pus cells. Within two years he has met with ten cases with these symptoms, but a careful urinary examination determined that in every case the bladder was not involved. He finds that the cases most difficult to cure are those in which there is considerable irritation of the trigonum vesicæ due to the presence of marked symptoms over a long period of time. Treatment consists in keeping the urine bland and non-irritating, general hygiene and, if necessary, local measures under the strictest aseptic precautions. The principal point in diagnosis is to differentiate the condition from a true cystitis.

**The Fable of the Egg.**—W. S. Ely advocates the use of eggs in serious conditions of nervous exhaustion, pneumonia, diphtheria, and in fevers marked by high temperature and rapid waste. He often gives an egg every hour. This number is at times well borne, and has often lessened the necessity for alcoholic stimulants. Eggs may be taken in various ways, soft boiled, shaken with milk, but most easily, I think, raw, from a tumbler in which they are freshly dropped from the shell. The patient is instructed to swallow the yolk, enveloped in its membrane, and floating in its albumen. Passing over the tongue, the yolk elongates, fits the pharynx and œsophagus in the act of swallowing, and the mouth is left clean and free from any taste. Some moral force on the part of the patient, nurse, and doctor may be required to overcome a repugnance to the treatment referred to. Abstracts of several clinical histories are given. If nausea, vomiting, and diarrhœa supervene, it may be advisable to try the whites of the eggs alone. He states that he has given the whites of forty-eight eggs daily for many days in the critical stages of typhoid fever.

**A Case of Rupture of the Quadriceps Extensor Femoris Muscle.**—A. J. Ronginsky reports the case of a man aged fifty-eight years, who slipped and fell. Examination showed the lower end of the muscle at a point about three inches above the knee-joint; the patella was in front of the tibia below the tuberosity. A marked depression existed between the bones. Walking could be accomplished with the aid of a cane only. The greatest pain he experienced was when he attempted to lift his leg, as when walking upstairs. Operation was advised but refused by the patient. Four weeks later he was in the same condition with the exception of more pain around the joint. Fixation of the patella with adhesive plaster and tight bandaging of the thigh, to fix the muscle, relieved him for a few hours only. Later the author devised a sort of a brace, made of soft leather, to fit all around the lower border of the patella; and the patella was lifted up by

attaching adhesive strips from the lower end of the quadriceps to the sides of the leather supporter. The patient's gait greatly improved under this treatment.

*American Medicine, November* 14, 1903.

**Gallstones and Gastric Hyperacidity.**—J. Kaufmann believes that the relationship between gastric hyperacidity and gallstones is of more than theoretic interest. Hyperacidity and hypersecretion of the stomach play a more important rôle in gallstone disturbances than is generally admitted. Highly acid stomach contents upon reaching the duodenum, may cause a pyloric spasm. It is natural to conclude that spasm of the opening of the choledochus is brought about by the same cause. The constant irritation of the mucous membrane of the duodenum and frequent spasms of the opening of the choledochus may lead to chronic catarrh of the gall-ducts and thus to the formation of gallstones. Operation is not necessary in all cases of gallstones. When operation is not indicated, the internal treatment tends to set the stones at rest. The Carlsbad treatment is, as a rule, best in these cases. All disturbances of the digestive tract should be corrected in order to prevent further attacks.

**The Gastrointestinal Disturbances Associated with Migraine.**—John A. Lichty declares that migraine is an affection characterized by a paroxysmal attack in which the nervous and digestive disturbances are the most prominent and often the only symptoms. Patients of this class nearly always have a neurotic temperament. The digestive disturbances are rarely the first to appear. It is generally admitted that the chief cause of migraine is heredity. Various theories have been advanced to explain the cause and symptoms of migraine. The writer has tried the various methods of treatment which have been suggested by those who have thought that the cause of this disturbance has been found. The results have been far from encouraging. The writer has therefore put aside all ideas of specific treatment and has directed his efforts only to the removal of reflex causes and avoidance of exciting causes. Correction of the disturbances of the gastrointestinal tract has resulted in the reduction of the frequency and severity of the attacks of migraine in a number of cases, while in a few cases the attacks have ceased entirely.

**Chronic Malaria: Complications and Sequelæ with Special Reference to Digestive Complications.**—John C. Hemmeter states that the complications of malaria with typhoid fever can only be substantiated by the demonstration of the simultaneous presence of the typhoid bacillus and the malarial parasite in the same individual. As to the term "typhomalarial fever," which has been used to represent a third or hybrid form of fever not identical with malaria or typhoid, 80 per cent. of the cases of the originator of this term, classed as typhomalaria, were proved to be nothing else than malarial remittent. With the present clinical methods which show by blood examination the existence or non-existence of malaria by blood examination, and the widal reaction, confusion on these points should be done away with. As to the association of dysentery with malarial fever, the physician, in addition to his ability to recognize the malarial parasite, must also be able to recognize the various microorganisms that might cause dysentery. It is of the greatest importance that the physician be able to make blood examinations. The characteristics of chronic malaria are as follows: (1) During many months recurrences of malaria from time to time. These may be typical or masked attacks of chills and fever; (2) anæmia; (3) splenic tumor, eventually together with liver enlargement; (4) the same species of malarial parasite is demonstrable in the blood during the entire time; (5) decline of the general constitution. The writer calls attention to various complications of malaria besides those of the digestive system. Malarial cachexia is spoken of as a sequelæ, as is also hypertrophy of the heart.

*The Lancet, November* 7, 1903.

**The Prevention of the Recurrence of Nasal Polypi.**—E. S. Yonge calls attention to the necessity of removing more or less of the underlying bone, in order to prevent recurrence of the nasal polyps. To gain free access to their usual site it may be necessary to remove the middle turbinate in part at least. This can be done with cutting forceps, the area being anæsthetized with 10 per cent. cocaine applied on narrow gauze strips carefully tucked in about the turbinate. In severe cases of multiple polypi, especially those associated with ethmoidal suppuration, the method of Lack may be employed. The essential part of this operation is the thorough scraping of the lateral mass of the ethmoid with a large ring knife. The operation approaches the dangerous region of the cribriform plate, and should be performed with a large ring-knife, the finger being introduced from time to time to determine the condition of the parts, and note the progress made.

**A Case of Pleuropneumonia accompanied by Abdominal Disease.**—P. Rose reports the case of a girl of five years, who died of pneumonia. Before death a lump had been noticed in the right iliac fossa. The patient had evidently had abdominal pain and tenderness. She passed a little flocculent stained mucus, but no blood, although she strained considerably while at stool. A diagnosis of intussusception was made. None was found, however, at the autopsy, which showed, in addition to the lung condition, that the region of the ileocæcal valve was affected. For about one inch to one and a half inches on both sides of the valve, there were recent crimson extravasations of blood in the submucous tissue, presenting flame-like patches half an inch in diameter. The lower inch of the ileum was œdematous, and the crowded solitary glands were swollen and presented a sago-like appearance with a crimson background of extravasated blood. There were similar extravasations in the adjoining mesentery. The remainder of the intestine and other organs were normal. The intestinal appearances were explainable only in the theory of a small intussusception which had reduced itself.

**On the Nature of Curschmann's Spirals.**—These are the bodies in the sputa of asthmatics, and E. E. Laslett is of the opinion that some, if not all of them, are due to the same cause as are the casts of fibrinous bronchitis (Goodhart's theory). He reports the case of a woman aged twenty-six years and suffering from asthma. As many as a dozen Curschmann's spirals were coughed up in twenty-four hours. Associated with them were casts of the smaller bronchi. The spirals showed in some instances a division into two distinct branches at one end. The symptoms in Laslett's case were about half-way between asthma and plastic bronchitis. The forced inspiration of the patient, followed by prolonged and difficult expiration, suggested asthma, while the long duration of the coughing spells and the presence of casts in the sputa pointed to fibrinous rhinitis. It is generally believed that the spirals are due to a twisting movement given to a mass of mucus in one of the bronchial branches. Laslett believes that in reality they are casts of the smaller bronchial branches, similar in nature to the casts of a plastic bronchitis. In support of this view, he calls attention to the following points: (1) fibrinous casts frequently show spiral terminations; (2) these terminal spirals are practically identical in structure with the true Curschmann spirals, also present in the sputum; (3) the spirals, at least in this case, owe their peculiar structure largely to the arrangement of the great number of cells present; and (4) some of the spirals terminate in two equal branches of smaller diameter than the parent stem. This fact alone makes it difficult or impossible to believe that these structures are formed by a spiral movement.

*British Medical Journal, November* 7, 1903.

**The Treatment of Eclampsia by Hypodermic Injections of Morphine.**—W. Boxer Mayne reports two cases of eclampsia in which the hypodermic injection of morphine promptly checked the convulsions. The first patient was a woman aged thirty-two years. One injection of morphine, gr. ½, croton oil, ♏ij, was given, and the recovery was uneventful. The second patient was a primipara aged twenty-three years. The physician was called to the patient when she was in a comatose condition following a fit. An injection of morphine sulphate, gr. ½ and strychnine, gr. $\frac{1}{30}$, was given. The patient was wrapped in a hot wet pack. Later calomel and a mixture of bromide and diuretics were given. Progress was uneventful.

**Puerperal Septicæmia Treated with Antistreptococcus Serum.**—W. J. Caie reports a case of puerperal septicæmia in which the improvement dated from the first dose of antistreptococcus serum. Each injection of serum was followed by a lowered temperature, though repeated injections were required to combat the septic process. The serum should be absolutely fresh and should be administered as soon as it is known that the case is septic. A delay of hours only, in using the serum may make all the difference in averting a fatal result. The high mortality of the disease warrants the use of drastic measures in the very early stages.

Richard Jones also reports a case. The patient was a woman aged thirty-one years. She was a multipara and was confined by a midwife. The following day she complained of headache with flushes and chills and pain throughout the body. The condition became steadily worse, and a week after the confinement the first injection of serum was given. In all, nine injections of serum were given. There were no cultivations made, but there is little doubt, so the writer believes, that the case was due to streptococcus pyogenes, producing streptomycosis. Of course puerperal infection may be independent of streptococci, but the combination of such symptoms as, rigors, high temperature, very rapid pulse and breathing,

sweats, and very rapid bodily waste, points without any doubt to streptococcus infection.

**Tuberculosis of the Nervous System.**—E. F. Trevelyan first discusses the various forms which the tuberculous infection may assume in the nervous system. These forms consist of tuberculosis of the dura mater, tuberculous meningitis in its more general and limited forms, tuberculous masses in the brain and cord, and a possible miliary tuberculosis of the brain itself. As to the limited meningitis, the author has nine cases in his series in which a localized thickening over a limited area of the cortex was noted; the most marked case was in a boy of seven years. Tuberculous masses in the brain are not infrequent. The relatively rare tuberculous tumors of the dura are nearly invariably multiple, and grow from its inner vascular surface in the posterior fossa or from the falx cerebelli. As to the mode of infection of the brain and meninges, it is admitted that a complete examination almost invariably reveals an older tuberculous focus somewhere in the body. The actual infecting focus may exceptionally be small and easily overlooked, and it is plain to see that the oldest lesion is not necessarily the infecting one. The route by which the bacilli travel from the infecting focus to the meninges or brain is far from being satisfactorily worked out. It is either by the blood or lymphatic vessels. It is strange that the lesions of the ordinary tuberculous meningitis should, as a rule, focus themselves about the middle cerebral artery and its branches, whereas tuberculous tumors are more frequently found in the distribution of the basilar and posterior cerebral arteries. The points of importance, according to the writer, in the examination of the spinal fluid are the presence of the tubercle bacillus and lymphocytes in the deposit, and the results of the inoculation test. Although the writer cites some remarkable recoveries from severe tuberculous meningitis, he declares that the prognosis must still be looked upon for practical purposes as hopeless.

*Deutsche medicinische Wochenschrift, October* 29, 1903.

**The Treatment of Constipation in Infants.**—Clamann treats constipation in infants by introducing a well-oiled soft-rubber catheter several inches into the rectum. If necessary it may then be moved in and out several times, but usually its mere presence is sufficient to excite active peristalsis. The method may be used for weeks, the only consideration being that the diet is suitable and the motor activity of the gut sufficient.

**Hemisystole and Bigeminal Pulsation.**—Riegel believes that the phenomenon described by v. Leyden as hemisystole is really due to a bigeminal pulsation. In v. Leyden's cases two rapidly successive systolic impulses at the apex were accompanied by two venous pulses but by but one arterial pulse. He therefore assumes that with the first apex beat both ventricles contract, while with the second only the right ventricle has an additional systole. The author considers that the condition is due to an interruption of the normal diastole by a premature and weak bigeminal systole, which, however, makes itself distinctly palpable at the apex, owing to the fact that it occurs when the heart has not yet had time to resume its natural relations. This frustrate systole is not sufficiently powerful to distend the arterial walls which at that moment are contracting as a result of the first systole, therefore no palpable second impulse occurs, though sphygmographic tracings sometimes show a slight secondary elevation. The phenomenon usually occurs after the administration of digitalis, the author has found that small doses of the drug favor its production just as much as the larger ones which v. Leyden mentions.

**The Morphology and Chemistry of Fatty Degeneration.**—Riffert attacks the standpoint of those who would explain the phenomena of fatty degeneration by chemical methods alone, and points out the fallacies that occur when pure chemistry is applied to biological problems. He denies that more than a slight portion of the fat in fatty degeneration arises from amounts previously present in the cell, and affirms that for the most part it represents an infiltration of fat into damaged cells. Fat occurs in the cells under two conditions, both of which are forms of infiltration. The one is a storing up of fat in the normal fat cells (and those of the liver?), the other a deposition of fat in diseased cells. This latter is equivalent to fatty degeneration, though not in its older sense. Chemical analysis has shown that the fat content of a kidney with marked fatty degeneration might be no greater than the normal amount. Chemical methods, however, take no account of the morphological differences existing in various parts of the organ, and an increased amount of fat present in the cells of the loops, for example, often occurs with a decrease in other portions of the tubule; indeed, degeneration of the entire tubule rarely takes place and even then not uniformly. Many of the results of the chemical experimenters have been derived from studies of animal organs, and are open to criticism on this account also, as pathological changes of this nature do not reach the same degree of intensity in animals as in man.

*Münchener medicinische Wochenschrift, October* 27, 1903.

**A Previously Unrecognized Action of the Rontgen Rays on the Animal Organism.**—Albert-Schönberg found that by exposing male rabbits to the Röntgen rays for a considerable length of time they lost the power of reproduction. Whether this loss is permanent or temporary has not yet been determined. The animals did not suffer in general health and their sexual appetite and power of copulation did not suffer any impairment. The impotence thus introduced is due to a primary necrospermia, which ultimately goes on to azoospermia. Eleven guinea-pigs and rabbits were exposed to the rays for periods varying from one hundred and ninety-five to twelve hundred and eighteen minutes during a space of from one to eleven days, and then kept in company with females for weeks or months. Although previously fruitful none of the females become pregnant, and autopsies of the males showed total absence of motile spermatozoa in the seminal vesicles.

**The Nature and Etiology of Granular Kidney and Its Treatment.**—Edel, in consequence of the benefit attending his system of graduated exercise in the treatment of cyclical albuminuria, was led to transfer the method to cases of well-developed chronic interstitial nephritis. In spite of the prevalent belief that muscular exertion increases the permeability of the renal epithelium for albumin, his cases were benefited by mountain climbing, and he explains the discrepancy by attributing it to the lack of differentiation of the periods of rest and exercise in examining the urine as ordinarily done. His observations on patients show that warmth and carbonic acid baths appreciably diminish the blood-pressure and the percentage of albumin. In many cases these effects may be prolonged by moderate exercise instead of rest. Rest in bed has somewhat the same effect, due apparently in part to its acting like a mild bath, since simply rest in the recumbent position is less effectual. Of about equal value is the inhalation of amyl nitrite. Mountain climbing produced a moderate rise in blood-pressure, but a well-marked drop in albumin excretion and a permanent improvement in the general condition of the patient. The author considers that the renal lesion depends on some anomaly of the vascular system, which is chiefly manifested by a narrowing of the vessels. This he ascribes, in many cases at least, to a neurosis having its origin in neurasthenia as well as in the usual etiological factors of gout, alcoholism, lead-poisoning, and arteriosclerosis.

**The First Successful Ligation of the Hepatic Artery for Aneurysm.**—Kehr describes the first case in which this condition was treated by ligation of the hepatic artery, the patient making an uneventful recovery. The patient was a man of twenty-nine years, who had been suffering for several years with gall-bladder symptoms, the most characteristic feature of which was repeated severe hæmatemesis and anæmia. The diagnosis of hydrops of the gall-bladder, with duodenal ulcer and hepatic aneurysm, was made. On operation the gall-bladder was found greatly distended with grumous fluid and behind it a large pulsating tumor, recognized as an aneurysm of the hepatic artery, was felt. The gall-bladder was extirpated, and the hepatic artery, bile duct and portal vein were isolated in the hepato-duodenal ligament. The hepatic artery was then divided between double ligatures and the aneurysmal sac opened and cleared of clots. The patient made an uncomplicated recovery, and was discharged six weeks after operation. The author calls attention to the fact that while ligation of the hepatic artery in healthy animals produces death through necrosis of the liver, in such cases as this, in which the slow formation of the aneurysm allowed a collateral blood route to be formed, branches of the phrenic arteries take up the duty of nourishing the organ .

*Berliner klinische Wochenschrift, November* 2, 1903.

**The Temperature Course after Splenectomy.**—Moraczewski reports a series of analyses of the urine and fæces of a patient whose spleen had been excised seven months before and who was under treatment for pneumonia. Nothing especially worthy of note was observed except that both leucocytes and erythrocytes fluctuated considerably during the ten days the patient was examined, and that the phosphates and potassium salts in the urine diminished as the leucocytes increased, while the calcium salts accompanied the leucocytes in their rise.

**A Gastric Phenomenon Accompanying Migraine and Epilepsy.**—Mangelsdorf has found that the stomach of migraine patients undergoes a considerable increase in size

during the attack, the enlargement taking place in all directions. Further study of the subject has shown that epileptics are similarly affected, and that both classes of patients after a longer or shorter time acquire a permanent state of gastric atony. The effect on the stomach is supposed to be due to some central nervous stimulus, as obscure as the nature of the diseases themselves. Four hundred and nine migraine patients examined by the author showed the symptom in every case but one, that of a fourteen-year old girl who had had but few attacks.

*French and Italian Journals.*

**The Treatment of Pleurisy.**—J. E. Dubé says that all cases of pleurisy which are not secondary to heart disease, to cancer of the lungs, or infectious disease, should be considered as tuberculous. The patient should, therefore, not be weakened by excessive purging, by diuretics, or diaphoretics. He should be kept in bed, and well nourished. Intense pain should be relieved by morphine, or by wet cupping. Antipyretics should be given if necessary, and diuretics and laxatives in moderation. Digitalis and caffeine may be administered. Thoracentesis is not a radical cure, but it is useful where there is considerable fluid and where asphyxia or syncope are threatened.—*L'Union Médicale du Canada*, October, 1903.

**Suprarenal Extract in Gastroenteric Atony.**—Giuseppe Marricardi has made a study of the action of Vassali's preparation of the medullary substance of the suprarenal capsule of oxen and reaches the conclusion that it is beneficial in atony of the stomach by reason of its myokinetic properties. It is less markedly useful in intestinal atony if given by the mouth, but is efficacious when given in enemata, and is rapidly purgative. From 30 to 100 drops should be used in the enema. In gastric troubles the suprarenal extract arrests fermentation, and tends to increased body weight. In cases of intestinal occlusion of nervous causation, the remedy administered in an enema may be of diagnostic value.—*La Riforma Medica*, October 14, 1903.

**Variations in the Weight of Children Sent to the Mountains for Treatment.**—A writer, non-medical, records his observations of the effect of mountain-air treatment on children, and concludes that of two children of the same sex and age, the one to derive the most benefit is always the one of least weight. Of two children weighing the same at the start, the one to get the most benefit will be the oldest, and the female. Of a boy and a girl under the same relative conditions as to their body weight compared to their age, if the age of the girl is three-quarters less than that of the boy. the boy will show the greater gain. If the age of the girl equals three-quarters of that of the boy, both will derive equal benefit. If the age of the girl is more than three-quarters that of the boy, she will be the one to gain the most.—*Le Bulletin Médical*, October 17, 1903.

**Anomalies of the Lingual Artery from the Operative Point of View.**—M. Mériel and M. Florence conclude from their observations: (1) That Pirogoff's triangle is of such variable dimensions as to be sometimes practically non-existent. (2) That in consequence it is better to give up trying to utilize it, and to look for the artery in the posterior triangle, called the triangle of Béclard. (3) In this latter triangle the artery will usually be found parallel with and near the side of the hyoid bone. If necessary, it can be looked for near the original trunk. Of course, ligature of the lingual artery will usually be done according to Whitehead's recommendation, on the buccal plane. Nevertheless in some cases, as when the tongue is removed by the subhyoid route, or a large cancer is to be extirpated according to Poirier's method, it may be useful to ligate the lingual artery in the manner described.—*Bulletins et Mémoires de la Société Anatomique de Paris*, July, 1903.

**Surgical Intervention in Diseases of the Stomach.**—Andrea Ceccherelli concludes from a series of observations of cases operated on for stenosis due to inflammatory processes, syphilis, tuberculosis and cicatricis: (1) The results are better the earlier the intervention. (2) General conditions improve markedly, especially after gastroenterostomy. (3) The stomach returns to its normal conditions after this operation, but not quite so well after pyloroplasty. (4) Motility returns more completely after gastroenterostomy. (5) Emptying of the stomach is hastened for a few days after operation, but gradually returns to normal. (6) The hydrochloric secretion becomes almost normal. (7) The new pylorus holds its contents. (8) In gastroenterostomy a reflex of bile is observed, but not in pyloroplasty. (9) Gastroenterostomy is the operation to be chosen in cases of benign stenosis. because there may be relapses after pyloroplasty.—*Gazzetta Medica Lombarda*, October 18, 1903.

**The Treatment of Affections of the Heart by Exercise and Motion.**—Fernaud Lagrange states that in Stockholm heart disease suggests medical gymnastics as treatment, just as in France it suggests digitalis. The author observed patients thus treated for a long while and saw many who reached an advanced stage of asystole daily lose more and more of their cyanosed appearance, dyspnœa and œdema, while their pulse became stronger and more regular, and the urine became clear and abundant. The patients themselves are so convinced of the value of the treatment that they hasten to take it up again at the first symptom of circulatory disturbance. It is matter for surprise that treatment based on reasoning so rational and so physiological, and supported by so many successful results, should not have been more enthusiastically adopted in other countries.—*Journal de Médecine de Paris*, October 25, 1903.

**Anæmia in Children.**—Among other causes of anæmia G. Carrière mentions overfeeding. An excess of alimentation causes gastric stasis and intestinal autointoxication, and resorption of the intestinal poisons destroy the red globules and cause anæmia. The author has observed three cases in which overfed children were restored to health simply by moderating their diet, without any other treatment. Anæmia in children may also be caused by chilling, which is not surprising, as the writer has proved by experimentation that cold induces a marked destruction of red corpuscles. Overtaxing the physical or mental strength is another frequent cause of anæmia. The author recommends the usual hygienic measures, and in the way of medication praises the cacodylate of sodium. It is best to use it for a while, beginning with three-drop doses twice a day and increasing a drop at a dose until ten drops are taken twice daily. This may be kept up for eight days, diminished drop by drop until the primary dosage is reached, and a rest of ten days is then taken. Iron treatment may be instituted later.—*Le Nord Médical*, October 15, 1903.

**Treatment of Cerebral Apoplexy.**—G. Paquin protests against blood-letting in this affection except in cases of intense congestion. The difficulty consists in making a positive diagnosis, as to whether thec ondition is due to cerebral softening, to a simple neurosis, to an embolus, congestion, or hemorrhage. Bleeding in the case of softening would be disastrous. Moreover, even in the case of congestion various authorities have demonstrated that bleeding is inefficaceous; that the more blood is lost, the stronger fuller, and harder the pulse becomes, while the heart beats are violent and irregular. The author reports three cases which he treated by placing the patients in a semi-sitting posture, applying ice to the head, mustard plasters to the epigastrium, thighs, and legs, and hot water bottles to the feet. A purgative water was given in large amount, and as soon as the symptoms improved, a little bromide of potassium. Milk and raw eggs were the first nourishment allowed. Strychnine and iodide of potassium were given later. Recovery was very satisfactory.—*Le Bulletin Médical de Québec*, October, 1903.

**Subdiaphragmatic Massage of the Heart.**—M. Bourcart describes his experiments on dogs, and reaches the conclusion that in cases of accident, due to chloroform, and in case of death by strangulation, massage of the heart through the diaphragm (the technique of which he describes in full) will often restore the patient to life. The danger is much less than when the thorax is opened. Subdiaphragmatic massage can be performed while artificial respiration is being applied, the rhythmical pressure to the diaphragm aiding rather than hindering the process. The patient should be placed in a position to relax the diaphragm, by slightly elevating the pelvis, and laparotomy having been performed, the hand is introduced and the heart seized through the diaphragm. Care must be taken not to compress the coronary arteries, nor the bronchi, while the massage is being applied, injections of normal salt solutions or of adrenalin hydrochlorate, 1 to 10,000 may be given.—*Revue Médicale de la Suisse Romande*, October 20, 1903.

**The Cytological Study of Inflammatory Exudates from Serous Membranes.**—Angelo Signorelli concludes from his researches: (1) In inflammations of the serous membranes there is a general and a local cellular reaction. (2) The general reaction is shown by polynucleosis. (3) Lymphocytosis is the expression of a local reaction on the part of the organs and lymphoid tissues of the serous membranes and subjacent tissues, and occurs in all subacute and chronic processes, and in acute processes after the inflammatory period has subsided. (4) There is a true and a false lymphocytosis, the latter being due to newly formed or embryonal tissue which resemble lymphocytes. (5) In some processes, as tuberculosis for instance, the lymphocytosis may be in part accounted for by a special irritative action of the toxins on the locally inflamed tissues. (6) A definite cytological process exists for every inflammatory irritation of a serous membrane.—*Il Policlinico*, October, 1903.

# Book Reviews.

Diseases of the Nose and Throat. By Charles Huntoon Knight, A.M., M.D., Professor of Laryngology, Cornell University Medical College. Fellow New York Academy of Medicine, of the American Laryngological Association, etc. Philadelphia: P. Blakiston's Son & Co., 1903.

The author states in his preface that the matter here presented has formed for some years the basis of his lectures to students, and it is for them that he particularly writes. He includes only the essentials of anatomy, leaving its details to special textbooks. He regards many questions in rhinology and laryngology as still unanswered. Such questions are the action of the vocal bands, theories of intranasal pathology, laryngeal innervation, etc. Consequently he presents his views from the standpoint of a writer who has, indeed, settled convictions, but who is open to the influence of new testimony.

The book is divided into twenty-four chapters and covers practically everything a student needs to know. One cannot read it without being convinced that it is the outcome of an exhaustive study of the literature of the subject and alike the record of a long clinical experience. Its tone is eminently conservative, yet an acquaintance is manifested with the very latest operative procedures and therapeutic measures. The author has a courteous consideration for the opinions of others, but is very definite in his reasoning for the course he advises with reference to various clinical problems. He has carried the art of condensation to a remarkable degree without the sacrifice of either clearness or good rhetoric. His teaching is abreast of the day, is safe and stimulating. His pages are not merely academic expositions of nose and throat maladies, but vividly present them in such a way as can come only from careful study and long clinical experience. The book has an attractive dress and a good index.

Manual of Practical Anatomy. By D. J. Cunningham, M.D. (Edin. and Dublin), D.Sc., LL.D., D.C.L. (Oxon.). Third Edition, 12mo, pp. 1166. Philadelphia: J. B. Lippincott Company, 1903.

The second edition of this excellent anatomical guide contains several new and interesting features, chief among which are the illustrations, which are of exceptional artistic finish, and the exposition of the new doctrines concerning the relative changes of the viscera dependent on different attitudes in the living body. The descriptions are admirable in their perspicuity and terseness, and are well calculated to appeal to the earnest student, whose aim is to get the most out of his reading in books of convenient size. The manual is well calculated to supplement the classic textbook in anatomy which has made its author the leading teacher in his branch.

A Textbook of the Diseases of Women. By Thomas A. Ashby, M.D. Professor of Diseases of Women in the University of Maryland; Fellow of the American Gynecological Society; ex-President of the Medical and Chirurgical Faculty of Maryland and of the Baltimore Gynecological and Obstetrical Society; Honorary Member of the Medical Society of the District of Columbia; Consulting Gynecologist to the Mt. Hope Asylum, to St. Agnes Hospital and to the Hebrew Hospital of Baltimore, etc. With 233 Illustrations. Baltimore: Williams & Wilkins Company, 1903.

This work of 650 pages is intended for the use of medical students and practitioners of medicine. A short historical sketch of gynecology introduces the text. The anatomy of the external and internal ofgans of generation and the development of the reproductive organs are described in detail, and there are profuse illustrations. Physical diagnosis is then taken up in a thorough manner, and the various methods of examination of the genital organs are carefully described. The management of gynecology, is considered from two standpoints—medical and surgical. The hygiene of menstruation, as well as its anomalies, is dwelt upon. Aseptic surgery, although treated rather briefly, is nevertheless sufficiently full and clear to impress the reader with its great importance. The writer has used the anatomical method in arranging his text, believing this to be the simplest and most direct way of dealing with the various subjects. From a consideration of the simplest phenomena, he leads up gradually to the more complex. Diseases and malformations of the external and internal genital organs are given a prominent place. Various operations upon the organs of the pelvis are described in order to give a practical knowledge of operative gynecology. These operations are fully illustrated. A chapter is devoted to peritontitis and cellulitis, while another takes up the diseases of the urethra, bladder, and ureters. The original value of the book is enhanced by 233 illustrations. There is a very good index. The arrangement of the text is clear and systematic, appealing to the reader at the first glance.

Nurses' Guide to Surgical Bandaging and Dressings. By Wm. Johnson Smith, F.R.C.S., Principal Medical Officer, Seamen's Hospital, Greenwich. Philadelphia: J. B. Lippincott Company; London: The Scientific Press, Limited.

This convenient little pocket reference book of 165 pages explains the modern scientific treatment of wounds, and gives instruction in dressing and bandaging. It is profusely illustrated, and is completed by an index.

Clean Milk. By S. D. Belcher, M.D. Research Worker in the Rockefeller Institute for Medical Research, Attached to the Research Laboratory of the Department of Health of the City of New York. With an Introduction by William Hallock Park, M.D., Professor of Bacteriology and Hygiene in the University and Bellevue Hospital Medical College, and Director of the Research Laboratory of the Department of Health of the City of New York. New York: The Hardy Publishing Company, 1903.

This attractive book deals with a subject of the greatest value to humanity. The author begins with the cow-yard and pasture, describing the relation of the yard and the pasture to the cleanliness of the herd. She tells how to improve the cow-yard. The cow barn is treated comprehensively. This chapter includes equipment, storage, ventilation, light and tuberculosis in cattle, and care of the barn, winter stabling, and cows' bedding and feeding. The question of the preservation and bottling of milk is carefully considered. The opportunity of the dealer and the duty of the consumer are discussed. This little book is a mine of information on the subject which it treats. It is profusely illustrated.

A Handbook of Obstetric Nursing, for Nurses, Students, and Mothers; Comprising the Course of Instruction in Obstetric Nursing Given to the Pupils of the Training School for Nurses Connected with the Woman's Hospital of Philadelphia. By Anna M. Fullerton, M.D., formerly Obstetrician, Gynecologist, and Surgeon to the Woman's Hospital of Philadelphia, Physician-in-charge and Superintendent of its Nurse School; and Clinical Professor of Gynecology in the Woman's Medical College of Pennsylvania; late Lecturer on Surgery and Operative Midwifery in the North India School of Medicine for Women. Sixth Revised Edition. Illustrated. Philadelphia: P. Blakiston's Son & Co., 1903.

The writer has brought a great deal of valuable information together in this little book He considers the pelvis with its possible deformities, pregnancy with its signs, management, and accidents. The duties of the nurse during labor and the care of the new-born infant are described. The book contains a variety of illustrations, and is qualified to prove useful to nurses, patients, and physicians.

The Exact Science of Health Based upon Life's Great Law. By Robert Walter, M.D. Vol. I—Principles. New York: Edgar S. Werner Publishing Company. London: Kegan Paul, Trench, Trübner & Co., Ltd., 1903.

The writer says in his preface that the title of this book is not intended to proclaim infallibility, but is meant to declare to the world at large a science of physiology and system of health which are based upon discoveries exactly analogous to those which have placed astronomy and chemistry in the category of the exact sciences. He compares life's great law with the law of gravitation. He dwells upon the instinct of self-preservation with which every particle of living matter is endowed. Among the subjects treated are Social and Scientific Paradoxes, Transmutation Fallacies, Vital Science in Its Relation to Philosophy, Causes and Occasions and Their Relations, Life's Secondary Laws, Sanatory Medicine, Its Truths and Errors, and Good Health; How to Regain and Maintain It.

The Practice of Medicine. A Textbook for Practitioners and Students, with Special Reference to Diagnosis and Treatment. By James Tyson, M.D., Professor of Medicine in the University of Pennsylvania and Physician to the Hospital of the University; Physician to the Pennsylvania Hospital; Fellow of the College of Physicians of Philadelphia; Member of the Association of American Physicians, etc. Third Edition, thoroughly Revised and in Parts Rewritten. With 134 Illustrations, including Colored Plates. Philadelphia: P. Blakiston's Son & Co., 1903.

In the seven years that have passed since the first edition of this work saw the light it has made for itself an assured place in the literature of medicine comparable to that held by Niemeyer or Bristow a quarter of a century ago—and for the book itself little more remains to be said. In the present edition, the author tells us, the section dealing with the infectious diseases has been subjected to

special scrutiny and revision, the additions and alterations here being so numerous as to necessitate a resetting of this entire portion of the work. The sections dealing with pathology, symptomatology, and diagnosis are throughout classical in their completeness and accuracy of description, but we cannot always praise the writer's therapeutic recommendations; they are apt to be rather old-fashioned, the newer methods being more or less ignored. We can find no reference, for example, to the use of the salicylates or of creosote in pneumonia, yet these, the latter at least, have received the endorsement of some of the highest authorities in medicine in this country. We do not expect a writer to favor any plan of treatment which he may not believe in, but he should, in all fairness to his readers, at least mention therapeutic methods which are employed with satisfaction by a very large proportion of medical practitioners. However, this fault is apparent in only a few instances, and it is the one fly in the ointment, the only thing, indeed, that prevents us according to Dr. Tyson's book unstinted praise.

ADENOMYOME DES UTERUS. Von THOMAS S. CULLEN, Hülfsprofessor der Gynäkologie an der Johns Hopkins-Universität, gynäkologischem Assistenten am Johns Hopkins Hospital in Baltimore, Maryland, U. S. A. Mit 45 Abbildungen im Text. Berlin: August Hirschwald, 1903.

THIS is one of the works dedicated to Dr. Johannes Orth in celebration of his 25-year professional jubilee by his assistants, pupils, and friends. The little volume gives the results of the author's work on this subject in the Pathological Laboratory of the Johns Hopkins University, which is so justly noted for its rich material. Adenomyome is treated in its different varieties and locations. The text has 45 illustrations. The book will prove a valuable addition to the work on this subject already accomplished.

HYDROLOGIE. Par HENRI CAUSSE, Chargé du Cours l'Hydrologie à la Faculté de Médicine et de Pharmacie de Lyon. Paris: F. R. de Rudeval, 1903.

THE writer considers carefully the composition of potable water, and describes the process of the estimation of its constituents. He then considers the gases that may be dissolved in water. Another chapter is devoted to bacteriology. Next the contamination of water is discussed. Lastly, the subject of French mineral waters is treated. The name of the author speaks for the excellence of the work.

NOSE AND THROAT WORK FOR THE GENERAL PRACTITIONER. By GEORGE L. RICHARDS, M.D., Fall River, Mass. Fellow American Laryngological, Rhinological, and Otological Association, etc. New York: International Journal of Surgery Co., 1903.

THIS manual is made up of a series of papers recently published in the *Journal of Surgery*. Intended, as it is, for the general practitioner, the author has followed conservative lines and has omitted historical matters and those concerning which discussion is still in an unsettled state. Yet he has succeeded in clearly setting forth the main facts of laryngology and rhinology in a concise form. His statements are definite, and on disputed points he gives the convictions derived from his personal experience, which has been large. Such books can rarely state anything new but to tell an old story in an attractive way, and to stimulate the reader's thought in the telling is a faculty not possessed by all writers. The book is well printed, but we could wish for greater clearness in some of the illustrations.

THE PRINCIPLES AND PRACTICE OF HYDROTHERAPY. A Guide to the Application of Water in Disease. For Students and Practitioners of Medicine. Second Edition, revised and enlarged. By SIMON BARUCH, M.D., Professor of Hydrotherapeutics in the New York Post-Graduate Medical School and Hospital. Visiting Physician to the J. Hood Wright Memorial (Formerly Manhattan General) Hospital; Consulting Physician to the Montefiore Home for Chronic Invalids; Member of the New York Academy of Medicine; Formerly Gynecologist to the Northeastern Dispensary; Physician for Eye, Ear, and Throat to the Northwestern Dispensary of New York City; Physician and Surgeon to the New York Juvenile Asylum, and Chief of the Medical Staff of the Montefiore Home for Chronic Invalids. With Numerous illustrations. New York: William Wood & Company, 1903.

THE fact that a new edition of this work has been demanded within so few years is certainly fair evidence of the growing popularity of hydriatric procedures. This is due to the modern scientific methods in the profession, which demand remedies which will give results beyond dispute in place of the empirical method so often based on nothing but tradition.

At first sight the author's claims for so many beneficial results from the use of water would seem extravagant did we not recollect that not only water, but heat, cold, mechanical, and chemical irritation are included means, all of which, in turn, are graduated by the length of each procedure and the differences in application. The work follows the main lines of the first edition in being primarily intended for the general practitioner, with demonstrations of methods which can be obtained in any household, along with the more accurately adapted technique which should be given in properly equipped institutions.

The newer portions include the latest points on physiology such as would have a bearing on the subject, and a very interesting discussion of the phenomena of reaction. An entirely new chapter on the hydrotherapy of mental diseases has been added, while the now unnecessary plea for the use of water has been dropped. Throughout the book the author has given reasons for all methods employed and has placed them on a rational basis, while his long experience has enabled him to offer a perfected technique such as would be best adapted to special conditions, together with the variations likely to be needed in individualizing their clinical application.

The addition of clinical histories serves to elucidate the more general descriptions in the text, and affords convincing evidence of the value of properly applied hydrotherapy.

The work, in short, is indispensable to all therapeutists who would work scientifically and effectively in the treatment of acute and chronic disease. It is the best work of its kind in the English language, practical, convincing, and written by an authority on the subject whose experience extends over a third of a century.

CLINICAL EXAMINATION OF THE URINE AND URINARY DIAGNOSIS. By J. BERGEN OGDEN, M.D., Late Instructor in Chemistry, Harvard Medical School; Assistant in Clinical Pathology, Boston City Hospital. Second Edition. Philadelphia, New York, and London: W. B. Saunders & Co., 1903.

THIS work will meet the most exacting demands of the physician, and will be found preëminently useful just where most books of the kind fail, *i.e.* in presenting with sufficient fulness the clinical significance of the changes found in the urine. The practical value of a guide to urinary analysis is usually well shown in the judgment displayed by the author in the description of the methods of detecting albumin and sugar, and when this test is applied in the present instance the book is not found wanting. Only the most reliable tests and methods are described, and that very lucidly and minutely. We note with some surprise that so little is said concerning the filtration of the urine: a few specific directions, with, perhaps, a caution against certain methods of clarification, would surely not have been amiss. This edition has been thoroughly revised, particularly in regard to the determinations of urea, uric acid, and total nitrogen; and cryoscopy and $\beta$-oxybutyric acid have also received attention.

PHYSICAL DIAGNOSIS OF DISEASES OF THE CHEST. By RICHARD C. CABOT, M.D., Physician to Out-patients, Massachusetts General Hospital; Assistant in Clinical Medicine, Harvard Medical School. Second Revised Edition. With One hundred and forty-seven Illustrations. New York: William Wood & Company, 1903.

THIS new edition of Dr. Cabot's work shows a few changes, but is practically the same as its predecessor. Among the additions we note the descriptions of the newer instruments such as are used in the measurement of arterial pressure. The author points out how useful these may prove in the records of cases of heart, kidney, and suprarenal diseases, intracranial hemorrhage and surgical shock.

The work is an eminently satisfactory one, and is especially adapted to students. Many of the errors which have been handed down in the smaller works have been eliminated in the volume, thus making it a much safer book from which a student may learn. The illustrations are numerous and the diagrams very helpful.

DAS TRACHOM ALS VOLKS- UND HEERESKRANKHEIT. Von Dr. J. BOLDT, Oberstabsarzt und Regimentsarzt des 9. Westpreussischen Infanterie-Regiments No. 176. Berlin: August Hirschwald, 1903.

THE author of this work presents a most careful consideration of the subject. The volume is one of 240 pages. The history of trachoma is given from the date of the writing of the papyrus of Eber, 1550 B. C., to the present time, and all the notable epidemics of trachoma are mentioned.

The second part takes up the geographical distribution of trachoma, the consideration of which occupies sixty pages. The symptoms and course of the disease are next described in an exhaustive manner. This is followed by a consideration of the etiology, to which thirty-two pages are devoted. The diagnosis, treatment, and prophylaxis of trachoma are then taken up and discussed in a manner equally exhaustive. To the bibliography ten pages are devoted.

The work is not illustrated. However, it is one of value to all ophthalmologists, since it presents all that is known of trachoma up to the present time.

# Society Reports.

## NEW YORK ACADEMY OF MEDICINE.

SECTION ON MEDICINE.

*Stated Meeting, Held October 20, 1903.*

LEWIS A. CONNER, M.D., CHAIRMAN.

**Clinical Observations on the Late Effects of Typhoid Fever on the Heart and Vessels.**—Dr. WILLIAM S. THAYER of Baltimore was the author of this paper. He said that the infrequency of endocarditis as a complication of typhoid fever was well known, yet three cases had been observed in one hundred autopsies at the Johns Hopkins Hospital. That the cardiac lesions, as such, might account for sudden collapse could scarcely be doubted. The not infrequent arterial thromboses, notably in the vessels of the extremities and of the brain, which were probably the result of local infections of the vessel walls in most cases, needed only to be mentioned. The relation of acute infections to development of atheroma of the aorta and of arteriosclerotic changes generally had not received sufficient attention in this country. There was much which suggested that many acute infectious diseases, including typhoid fever, played an important part in the etiology of arteriosclerosis. Some observers believed that after acute rheumatism typhoid fever was the infectious disease most frequently resulting in changes in the heart and vessels. Out of fifteen patients between five and forty-eight years of age, which Landousi followed for nine years, there were three with evidences of cardiac disturbances. These three persons, five, three, and two years after typhoid fever, showed sudden hypertrophy and cardiac irritability. The angiocardiac lesions were important to recognize, not so much because of the prognostic reserve that they demanded during the course of the disease itself, as for what they imposed upon us for the future. Dr. Thayer said he had sent out about 1,400 letters with the object of inquiring into the condition of persons who had been in the Johns Hopkins Hospital with typhoid fever. The periods elapsed since their discharge ranged from one month to thirteen years. Out of this number he succeeded in having 182 appear for examination. Their ages ranged from three to sixty-nine years. Of these persons, 110, or 60.4 per cent., had a pulse rate between 60 and 90, and 16, or 8.7 per cent., had a pulse rate of 110. There was an irregular pulse in 13 cases. In 164 of the patients the blood-pressure was taken with the Riva-Rocci instrument. In order to rule out the confusion commonly arising from a full vessel the blood was milked out of the arteries and veins with two fingers, while with the third finger an attempt was made to roll the empty vessel under the finger. Over 50 per cent. of persons of twenty years of age in this group showed palpable radial arteries. Great care was taken to inquire into the occurrence of other disease since they had left the hospital. The rapid pulse in many of these persons was probably due to nervousness. Looking over the records of the hospital it was found that out of these 182 cases the palpability of the radial arteries had only been noted in 48 instances during their stay in the hospital. Dr. Thayer then made 276 estimations of the blood-pressure upon persons who were all presumably healthy individuals. The averages thus obtained showed a distinct and uniformly lower blood-pressure than in the old typhoid cases. So far as possible the observations were made under the same conditions in both series. Among the old typhoid cases there were 53 in which the blood-pressure was above 160 mm., and this list comprised 50 per cent. of those under thirty years of age. Of these 53 cases there were only 17 in which there was a history of alcoholism. The next step was to elminiate from the list those cases in which there was a history of pneumonia, erysipelas, smallpox, syphilis, and alcoholism. The average blood-pressure was 2 mm. less than in the uncorrected list. During the last few months he had made a series of examinations to determine the palpability of the radial and temporal arteries in 426 persons, not hospital patients. This gave a percentage of 17.6 of palpability of the arteries as compared with 46.8 per cent. in the old typhoids. The distance of the apex of the heart from the median line was next determined in 180 cases between the ages of twenty and fifty, and the average distance was found to be 9.1 cm. In 102 of the cases this distance, on admission to the hospital, averaged 8.7 cm. It should be remembered that most of these examinations were made while the typhoid was at its height. In 181 cases examined months or years after convalescence, cardiac murmurs were noted in 84, or 46.8 per cent. The majority of the murmurs were soft systolic ones with the maximum intensity in the aortic or pulmonic area. In 82 out of the 182 cases examined a reduplication of the second sound was made out, in all but one instance limited to the base at the pulmonic area. In 10 cases the reduplication was heard throughout the entire cycle. The blood-pressure in these cases was slightly below the general average. In the cases exhibiting accentuation of the heart sounds the pulmonic second sound was accentuated in 50.9, and the aortic in 43.4 per cent. Of the 182 cases there were 7 of more or less marked cardiac hypertrophy with valvular lesions, 5 mitral and 2 aortic, in which the history pointed to the typhoid fever as the only etiological factor.

The speaker said that this research seemed to indicate that these old typhoid cases were materially older, from the point of view of their hearts and arteries, and the fact tended to support the view that typhoid fever was a disease which was the primary cause of a fair number of cases of cardiac hypertrophy and dilatation occurring rather early in life, and without any history pointing to any other etiological factor.

Dr. FRANCIS P. KINNICUTT said that it was not uncommon for physicians to be puzzled by certain cardiovascular cases occurring in the early decades of life, and if these observations of Dr. Thayer were confirmed by further investigation, they would afford us a new and interesting explanation of these hitherto perplexing cases.

Dr. MORRIS MANGES said that if the paper did nothing more than explain the occurrence of arteriosclerosis in persons of twenty or twenty-five years of age, it would prove of great value to the profession. He met with many such cases in hospital practice, and he knew that many of the patients had had neither acute articular rheumatism nor typhoid fever. It was not improbable that any of the acute infectious diseases might give rise to these cardiovascular changes, a broader view which, he thought, might prove to be more in accordance with the facts. It seemed very strange that this original research had not been made before. The conditions were so vastly different during the course of typhoid fever and in health that he was doubtful if it was right to compare some of the observations as had been done in the paper, but the position taken by the author was sufficiently strong even without these doubtful figures.

Dr. ALEXANDER LAMBERT said that all the little pieces going to make up this research fitted so nicely into one another that, without any striking differences, they nevertheless furnished, when combined into one harmonious whole, a very convincing argument in favor of the correctness of the author's position. He would like to know whether the hospital records showed that these patients had suffered from nephritis. It was undoubtedly true that it usually took a year for a person to get over the effect of an attack of typhoid fever.

Dr. THAYER said that he did not lay any great stress upon the measurements of the distance of the apex of the heart from the median line during the typhoid fever and afterward. The measurements of the heart during typhoid fever were generally distinctly larger than after

recovery, and, hence, he expected the differences, if any, would be against the line along which he was working. It was undoubtedly true that other acute infections acted similarly to typhoid fever. In studying carefully the aorta in typhoid cases he had been impressed with the frequency with which large atheromatous plaques were found in these cases. He felt that, in this country, too much stress had been laid upon alcoholism, and too little upon the acute infections as causes of arteriosclerosis.

**Sequelæ of Typhoid Fever in the Nervous System.**—Dr. PEARCE BAILEY read this paper. He said that, according to his experience, while typhoid fever might be, as it was sometimes called, "the nervous fever," it was certainly not the neurologist's disease. It had been shown that lesions of the spinal cord, chiefly of the motor cells of the anterior horns and the spinal ganglia, were found quite commonly after typhoid fever. It was probable that the spinal paraplegias were due, in large part, to embolism and thrombosis It was probable that neuritis of typhoid fever arose from infection or from pressure. Cerebrospinal pressure was regularly increased during typhoid, but this disease also affected the peripheral nervous system. The poison attacked acutely, but rarely with sufficient violence to produce definite focal symptoms. Typhoid fever furnished abundant evidence of general and serious involvement of the whole nervous system, but it was exceptional for any one part to be singled out. In typhoid fever, spinal affections and peripheral nerve affections seemed to go together. The multiple involvement of peripheral and separated nerves was not usually seen in any other infectious disease. Aside from meningitis, hemiplegia was the most frequent brain complication of typhoid fever. It occurred most commonly during or after the third week. It was more frequent on the right side than on the left, and hence, was often associated with aphasia. The hemiplegias usually involved both the face and the extremity of the affected side, and did not seem to exert an unfavorable influence on the course of the typhoid, or prove fatal. Neuritis was by far the commonest organic sequela of typhoid fever in the nervous system. Pain was very prominent, and it often followed the distribution of individual spinal nerves without appreciable loss of power in the muscles supplied by the nerves. It was probable that these affections represented slight inflammatory rather than trophic processes in the nerves. Of the more pronounced nerve inflammations, the most frequent were those of the ulnar and peroneal nerves. Curiously enough the musculospiral nerve, the one usually so susceptible, was very rarely affected in typhoid fever. Inflammations of two or three nerves together were much more common than ordinary multiple neuritis; he could recall no case of multiple neuritis after typhoid fever, and found none reported in the recent literature. Ptosis and paralysis of the external recti had been frequently observed. Interference with the recurrent laryngeal nerve was particularly frequent. In a previous study he had collected two cases of Landry's paralysis following typhoid fever. The typhoid spine was originally supposed to be due to periarthritis of the dorsolumbar region. It was quite commonly associated with neurotic symptoms. Of the chronic degenerative diseases of the nervous system, multiple sclerosis was the only one in which there was any plain relation between it and typhoid fever.

Dr. JOSEPH COLLINS said that he too had found nervous diseases rather infrequent following typhoid fever, especially when viewed from the standpoint taken by the reader of the paper. However, when viewed from another standpoint, he felt that typhoid fever was a real factor in the causation of many nervous diseases. That point of view was from the vascular changes this disease produced in the nervous system. He was disposed to think that the only diseases of the nervous system which were directly dependent upon typhoid fever were arteriosclerosis and disseminated sclerosis. He had noted that, at the period of life when arteriosclerosis was looked upon as a natural accompaniment, typhoid fever did not call out this change. He regretted that more had not been said of the functional conditions following typhoid fever. He saw a good many cases of the depressed type of neurasthenia following typhoid fever. Some were due to arterial degeneration, but many to the overwhelming of the sympathetic system by the toxic products. Some of the cases referred to by Mitchell as typhoid spine bore a close resemblance to ordinary traumatic neurasthenia. He saw many cases which were diagnosticated as subacute myelitis, but he believed were, in most instances, really syphilitic spinal paralysis, and these were very commonly preceded a short time by an attack of typhoid fever.

Dr. WALTER MENDELSON said that in nearly all cases of typhoid fever the general practitioner was apt to see some affections which impaired the functions of the brain. We were, perhaps, not always justified in calling them neurasthenic. Cases of insanity occurred occasionally as a sequela of typhoid fever.

Dr. J. RAMSAY HUNT said that he had seen very few cases of the nervous sequelæ of typhoid fever. One of them was a case of multiple neuritis, and he mentioned it in order to throw out the suggestion that cases of this kind might very possibly be really alcoholic, and arise from the very free use of alcohol during the typhoid fever and while the patient was greatly exhausted. Cranial nerve palsy following typhoid fever was quite rare, and it was quite difficult to say whether these palsies were of peripheral or nuclear origin. Cases of pseudomeningitis occurred in the course of typhoid fever. In these cases there were no evidences of meningitis on gross examination, but histological examination showed very slight round-cell infiltration of the pia along the septum. Such cases suggested a slight anatomical basis for many cases of so-called functional nervous affections following typhoid.

Dr. W. L. BANER said that a distressing minor affection frequently following typhoid fever was the occurrence of areas of anæsthesia, which persisted for months or years.

Dr. MANGES said that in a large typhoid service at the Mount Sinai Hospital nervous sequelæ were very rare. No mention had been made in the paper of one complication, tetanus. He had had one such case in which a complete picture of tetanus was present in the fourth week. It subsided in four days. A marked heightening of the reflexes was supposed to indicate a bad prognosis, and it was certainly true that increased patellar reflexes were common.

Dr. ALEXANDER LAMBERT mentioned a case of tetanus with typhoid that he had seen, and which had never before been reported. In that case there was fixation of the jaw and complete opisthotonos.

Dr. THAYER said that the paper and discussion had impressed him with the very great seriousness of an attack of typhoid fever, and this suggested the necessity for controlling this disease as was being done in the case of tuberculosis.

Dr. LEWIS A. CONNER said that about the only nervous sequela that he had encountered after typhoid fever was the peculiar lassitude and inability to resume work for many months after this disease. This seemed to be a very common condition.

Dr. Bailey, in closing the discussion, said that he had not gone into all the clinical details; his object was simply to bring out the point, that during the acute course of typhoid fever the whole nervous system, both central and peripheral, showed definite organic changes, which were usually more or less temporary. They were, nevertheless, just the kind of changes which predisposed to the development of functional nervous diseases, including hysteria and melancholia.

## NEW YORK ACADEMY OF MEDICINE.

SECTION ON PEDIATRICS.

*Stated Meeting, Held October* 8, 1903.

HENRY HEIMAN, M.D., PRESIDENT.

**Gangrene of Toes in a New-born Infant.**—Dr. S. V. HAAS presented an infant, four weeks old, born by the aid of forceps after a tedious labor. The day after its birth the left lower extremity was noticed to be cyanotic up to the knee. After about one week a general eruption appeared, which was stated to resemble prickly heat. When ten days old there was an attack of enterocolitis. When first seen by the speaker, one week ago, the left foot was swollen and the great toe and last phalanx of the second toe were black and gangrenous, necessitating immediate amputation of the affected part. Enlarged glands could be felt in the neck, axilla, and groin. The case was presented for diagnosis.

Dr. MARTIN W. WARE said that he suspected the case was one of syphilis, because of the involvement of the bone. If only the soft parts had been involved he would be disposed to think that the condition was the result of embolism, originating in infection of the umbilicus.

Dr. SARA WELT-KAKELS said that she was interested because she now had under her care a child of twenty months with gangrene of the little finger of the right hand, and, in addition, an erythema nodosum. It was thought that originally there had been a spot of that kind on the little finger, and that it had become gangrenous as a result of the application of some strong lotion. In other respects the child appeared to be well.

Dr. L. E. LAFETRA said that he understood that in the child presented there was dry gangrene present at first, produced by embolism. He was far from being convinced that the disease was specific.

Dr. H. HEIMAN remarked that the disease being unilateral would also be against its being luetic. He would like to know whether the mother had received ergot during labor.

Dr. Haas said that the liver and spleen were apparently normal and the family history was negative. The urine had been examined with negative result. He had at first been inclined to look upon the case as possibly one of dermatitis exfoliativa neonatorum of Ritter. He did not think the patient had received ergot during parturition.

**The Hemorrhagic Diseases and Their Allies in the Light of Modern Pathology.**—Dr. F. L. WACHENHEIM read this paper. He said that the customary inclusion of the hemorrhagic diseases in the blood diseases was extremely unsatisfactory. Spontaneous hemorrhage was caused by the yielding of the intercellular cement of the vascular wall as a result of the impairment of nutrition. Authorities did not agree as to whether the malnutrition or the thrombosis was the prior condition. Degeneration of the vascular endothelium must follow deficient food supply or the presence of a poison in the blood. Experience had shown that these two factors were invariably combined. It should be borne in mind that toxins differed only from true foods in that they damaged the cells. Potassium chlorate was an excellent example of the class of poisons which destroyed the hæmoglobin; the nitrites acted in a similar manner. Apart from the hæmoglobin poisons, the blood poisons presented nothing distinctive. Recent investigation had shown the action of the toxins on the blood cells to be somewhat complicated. Snake poison might be regarded as a type of blood toxin. Obstructive jaundice presented certain features which were closely allied to those of hæmophilia. In icterus there was no evidence of special blood dissolution or hæmolysis. Agglutinins had been demonstrated in the blood in jaundice, and such formation of agglutinins we knew only occurred in the presence of toxæmia. The characteristic feature of hæmophilia was not so much spontaneous bleeding as deficient coagulation. The symptoms of scurvy closely resembled those of chronic mercurialism, and it was evident that this disease was due to a chemical poison. It was now generally accepted that scurvy was the result of an exclusive diet on certain articles of artificially prepared food. The speaker was of the opinion that scurvy and rachitis unquestionably belonged to the same group. He then passed in review the chemical blood poisons, non-infectious taxæmias and infectious toxæmias. The conclusion was reached, that spontaneous bleeding by itself formed a most unsatisfactory pathological basis for classification. Some observers looked upon scarlatina, rheumatism, and ordinary sepsis as only different forms of sepsis. Endocarditis frequently followed tonsillitis without any of the usual rheumatic manifestations. He had seen typical rheumatic endocarditis combined with chorea in children who had never presented appreciable joint symptoms, but only moderate soreness and tenderness. The relation between chorea, rheumatism, and endocarditis was now generally conceded to be direct and intimate. Purpura hemorrhagica represented a group of infectious diseases of the septic type.

**Etiology of Rickets.**—Dr. P. W. NATHAN presented this paper. He said that the essential part of the pathological process was defective calcification. Up to the present time no local condition had been found that could be considered the cause of this defective calcification, and hence we must feel for the explanation of the anomaly outside of the skeleton. While it was true that total absence of calcium chloride from the food of the infant, even though this food were otherwise suitable, would lead to the production of the lesions of rickets, such a process was artificial and did not represent what was clinically known as rickets. Mother's milk, cow's milk, and the usual infant foods contained calcium in sufficient, and sometimes in excessive, quantities. Zweifel had propounded the theory that a deficiency of hydrochloric acid, and the consequent faulty assimilation of calcium, explained the production of rickets. The evidence presented by him was very interesting, but was not altogether conclusive. Even if his experiments and his conclusions were accurate, the theory was necessarily false because the premises were false. He assumed that hydrochloric acid was deficient in infancy, although there was abundant evidence to the contrary. An excess of potassium chloride in the food no doubt increased the sodium chloride loss, but this only occurred so long as the sodium chloride was in excess in the economy. Zweifel himself was not able to produce a sodium chloride deficiency. Other experiments had shown that even in the severest cases of rachitis the assimilation of calcium went on normally. Dr. Nathan said that for a period of about eighteen months he had had under observation three infants, each about three months old. They were given monocalcic phosphate and sodium chloride, and were fed on condensed milk, but despite this the evidences of rickets were quite marked about the time they reached the age of seven months. So soon as the infants were given a more suitable food they improved. The author then kept records of a large series of cases, some treated by the internal administration of phosphorus, others by giving calcium phosphate, while over one hundred were treated without medicine. It was found that those receiving medication did not show any more improvement than those receiving no medicine. The exposition of the anomaly of metabolism by which rachitis was produced was reserved for a future communication.

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**The Discovery of Radium.**—The analysis of pitchblende led to the discovery of two strongly radioactive substances: Polonium, so named after Mme. Curie's native country, and which was discovered by M. and Mme. Curie; and radium, which was found by them in collaboration with M. Bémont. It may be mentioned, by the way, that, though we have only heard of radium within the last few months, it was discovered as far back as 1898.—*Pall Mall Magazine.*

## NEW YORK COUNTY MEDICAL ASSOCIATION.

*Stated Meeting, Held October 19, 1903.*

ALEXANDER LAMBERT, M.D., PRESIDENT.

Dr. FREDERICK HOLME WIGGIN presented several specimens.

**Presentation of a Patient Five Years after Resection of Rectum and Sigmoid Flexure for Carcinoma.**—This was the first case. The patient had come to him with the diagnosis of hemorrhoids. On endeavoring to excise the gut, traction on the bowel caused the latter to give way. Laparotomy was performed, and revealed the fact that the disease extended up into the sigmoid flexure and involved also a portion of the descending colon and a mass of glands. A radical operation was done, and the descending colon was drained through the rectus muscle considerably above the umbilicus. The abdominal wound was closed, but the perineal one was left open. To his surprise she made an excellent recovery. He kept her under observation for eighteen months, and then lost track of her until very recently, when she was found to be in excellent condition. For the past few months there had been tenderness around the artificial anus and a discharge of pus. The patient was exhibited.

Drs. PARKER SYMS and J. RIDDLE GOFFE examined the patient. They reported that, so far as could be ascertained, there was no evidence of recurrence internally, and the induration about the artificial anus was apparently not a return of the growth. The result was certainly remarkable, and should be considered a cure.

Dr. ALEXANDER LAMBERT thought that the infiltration of the abdominal wall was due to infection rather than to a recurrence.

**Axillary Contents.**—The second specimen consisted of the contents of the axilla, removed in July from a lady who had been operated upon for carcinoma of the breast. There was no evidence of inflammation of the old scar.

**Loose Fibroids.**—These fibroids were found free in the peritoneal cavity, with no connection with the uterus. They had derived their nourishment from the mesentery.

**Fibroids Removed by Hysterectomy from a Case Presenting Unusual Symptoms.**—The patient had been very much prostrated at the time of coming under observation, and the uterus enlarged. Under hypodermic injections of ergot the uterus was quickly reduced in size, and then it was easy to discover the presence of a number of fibroids. There were grave mental symptoms present, and it was because of these that the operation was undertaken. The vaginal operation was done, but was found rather difficult. There was an unusual amount of bleeding from the vaginal wall. Following the operation the pulse was between 84 and 100, and the temperature varied from 99 to 100.4°F. The next morning she suffered from nausea and severe abdominal distention. Lavage of the stomach and saline infusion were employed, and by afternoon her condition was apparently decidedly improved. However, a few hours later she suddenly complained of severe pain about the heart, and exhibited great dyspnœa. Death occurred that evening, apparently from central thrombosis.

**Specimens of Appendicitis.**—Several specimens were shown. The first was from a man who had been suffering from severe cystitis, and who had suddenly begun to complain of pain in the region of one kidney. Appendicitis being suspected, laparotomy was performed, and this revealed a long, inflamed appendix, with two gangrenous spots, and a large concretion in one end of the appendix. Recovery was satisfactory. Another, and fatal, case occurred in a child who had complained only of a belly-ache.

Dr. LAMBERT said that the clinical picture presented by Dr. Wiggin's case of hysterectomy was that of sudden occlusion of one of the coronary arteries. It was probable, from the appearance of the veins, that a number of clots were situated around the field of operation, and that a portion of one of these had broken off and passed into the circulation. This seemed, at first thought, rather strange, but no less an authority than Professor Welch had made the statement, that while the lung was an excellent filter for clots from the right heart, nevertheless a number of small clots did pass into the general circulation by way of the left heart.

**Adenocarcinoma of Sigmoid.**—Dr. JAMES P. TUTTLE presented a fresh specimen of adenocarcinoma of the sigmoid flexure removed, a few hours previously, from a gentleman of about fifty years of age. The man had begun to suffer nine months ago alternately from diarrhœa and constipation. There was a history of a syphilitic infection twenty-eight years previously. A tumor was found between the bladder and sigmoid flexure. The patient improved under antisyphilitic treatment, and so nothing more was done for eight months. When seen by the speaker, two or three months later, deep examination with the proctoscope was practically negative. The man was kept under observation, and, under active antisyphilitic medication for five weeks, improved in general health, but the tumor did not diminish, and he continued to pass blood and mucus daily. A specimen was removed with forceps and examined, but no carcinomatous tissue could be found. Then an exploratory operation was done, and this adenocarcinoma removed. The tumor was situated within one inch of the descending colon in the sigmoid flexure, and almost completely obstructed the intestinal canal. The lesson from this case was obvious.

**Ectopic Gestation.**—Dr. J. RIDDLE GOFFE exhibited a specimen taken from a woman of thirty-four years, with a child of six months at the breast. She had menstruated regularly on September 4, and since October 8 there had been an irregular discharge of blood with three distinct attacks of severe abdominal pain. A diagnosis of unruptured ectopic gestation was made. A vaginal operation revealed a small ectopic gestation in the right tube, and a considerable quantity of fluid and clotted blood.

**Gangrenous Dermoid Cyst of the Ovary.**—Dr. PARKER SYMS presented a specimen removed ten days previously, from a girl of sixteen. The symptoms had begun very suddenly, and when first seen by him, on the third day of the illness, her pulse was 130 and temperature 100°F. A large tumor presented on the left side of the abdomen. From the sudden onset and the rapidity of the pulse, as compared with the temperature, the nature of the condition was suspected before opening the abdomen. Operation revealed a dermoid cyst of each ovary. The one on the left had a double twist in its pedicle which had produced gangrene of the cyst.

**President's Address: Physiological and Therapeutic Action of Alcohol.**—Dr. ALEXANDER LAMBERT delivered this address. He said that the common teaching in the past had been that alcohol, in moderate doses, was a heart and cerebral stimulant, that it was a food and that it possessed the power of restraining tissue waste. But modern research had modified these views somewhat. Alcohol in moderate doses had no effect on the heart itself in a healthy subject, either of stimulation or depression; in larger doses it was a decided cardiac depressant. Similarly, in moderate doses it caused no increase in the pulse rate. It had no direct action on the vascular wall or upon the arterial pressure in the doses mentioned. The flushing of the face seen after small or moderate doses took place before there was any change in the blood-pressure. This was evidently due to some action on the nervous system, although no direct effect of such small doses upon the vasomotor centers could be demonstrated experimentally. Dr. Richard C. Cabot of Boston had recently found in typhoid fever that therapeutic doses of alcohol had no effect upon the circulation. That alcohol was an indirect circulatory stimulant in cases of shock, and under other special conditions, was certainly true. Abel

said that alcohol was a moderate respiratory stimulant, and that increased heat dissipation was invariably associated therewith. He looked upon alcohol as an indirect stimulant of the respiratory center, an effect less marked in the human being than in the lower animals. Cabot, however, showed that alcohol had practically no action, as a respiratory stimulant, in human beings when diseased. Alcoholic fluids greatly increased the flow of gastric juice and its content of acid and the total solids. This occurred even when alcohol was absorbed from the intestine. Whiskey, sherry, brandy, and porter all acted in this way. Strong alcoholic beverages, such as whiskey and brandy, did not markedly retard salivary digestion. The inhibition of amylolytic digestion was out of all proportion to the alcoholic content, and was dependent upon certain volatile ingredients. The weaker the gastric juice, the greater the inhibitory action of a given amount of alcohol. The presence of a small amount of fusel oil tended rather to increase the action of the gastric juice. White wines, containing about 11 per of alcohol, when taken in small amounts, tended to increase digestion. Ale, lager beer, and porter, taken in small quantities, had no inhibitory influence on the gastric digestion, but in larger amounts they inhibited proteolysis, because of the comparatively large amount of extractive they contain. Under ordinary conditions there was not much chance for alcohol to reach the bowel because of its rapid absorption from the stomach. The acid clarets and white wines were more inhibitory than sherry, although the latter contained twice as much alcohol. Ginger beer often exerted as much inhibitory effect as a corresponding amount of lager beer or Bass' ale. It should be remembered that this inhibitory action of alcoholic fluids was usually temporary, owing to the very rapid absorption of the alcohol, and, as a result of such absorption, there followed an increased flow of gastric juice, so that one very nearly counteracted the other, and the ultimate effect on digestion was, if anything, favorable. Rosenthal believed that alcohol tended to disturb rather than aid intestinal absorption. This was true no doubt when toxic doses were taken, but was not true of small doses. The experiments of Atwater to determine its nutritive value were models of scientific accuracy and completeness. The importance of alcohol as a remedy and of alcohol as a food was never lost sight of by this investigator. The total income of hydrogen, oxygen, carbon, and nitrogen, as well as the outcome, was carefully determined, as was also the amount of heat generated, and the amount of work done. He found that the amount of alcohol given off from the body was about 1.9 per cent.; hence about 98 per cent. of the alcohol taken in moderate doses in health was oxidized within the body. The amount of carbon dioxide and of oxygen after the ingestion of alcohol was changed but little. It was found that when the diet contained no alcohol the total energy of the food burned in the body was practically identical with the energy given off from the body by heat and muscular work, *i.e.* about 522 calories. Nearly the same result was obtained when alcohol was included in the diet. The author concluded that the law of the conservation of energy obtained with the ordinary diet as with the alcoholic diet. Many recent experiments showed that alcohol always protected the body fat. Atwater concluded that the power of alcohol to protect the body tissue from consumption had been clearly demonstrated. In this way alcohol served the body as food. Alcohol appeared to exert at times a specific action as a drug. In small doses it seemed at times to have a tendency to increase the disintegration of proteids, an action which, although not conclusively proved, seemed to be very probable. This was the only justification for calling alcohol a proteid poison, and such action was exceptional, and the exact conditions under which it occurred could not now be defined. The opinion that alcohol was more rapidly oxidized in the body than other substances, such as carbohydrates, had not been proved experimentally. Atwater came to the conclusion that the diet with alcohol was slightly less economical than the ordinary diet, but that the difference was very slight. General observations and the results of practical tests on a large scale showed that alcoholic beverages were of doubtful value, and were often harmful in the case of those who were required to do much muscular work. Alcohol would lessen the sensation of fatigue by its action on the nervous system. Alcohol would enable a brief spurt to be made, but it would not sustain muscular action, and its use was followed by depression. All acts requiring nicety of adjustment were interfered with by even small quantities of alcohol, and this agent lowered the acuteness of the cerebral centers and interfered with clear and logical action of the mind. Alcohol, therefore, should no longer be considered a stimulant, but rather a narcotic. Its only really stimulant action was upon gastric digestion. Although alcohol had been proved at times to be a food, such action should be considered strictly medicinal, or, as Atwater had said, it should be employed when the user was unable, because of debility or disease, to obtain fitting nourishment from ordinary foods. It should be remembered that alcohol was still a useful remedy, and one that should be employed in medicine, but it should not be forgotten that it, like other drugs, was a poison.

## Therapeutic Hints.

**Syrup of Iodide of Iron.**—This should be given after meals and best not combined with other drugs according to M. D. Hoge, Jr. It is useful:

1. In the *early stage of phthisis* in drachm doses three times a day. It promotes secretions, acts to some extent as a diuretic, and the weight of the body is increased.

2. In the *dry, rasping coughs and colds* which have been unsuccessfully treated, with resulting constipation and locked-up secretions, ten to fifteen drops every four hours will soon relieve the congestion, and expectoration will be abundant.

3. In *amenorrhœa and dysmenorrhœa, in scrofulous women especially*, it has a most happy effect—the menstrual flow in cases of amenorrhœa often being quickly reëstablished; the dose is thirty drops three times daily.

4. In *anæmic patients suffering from rheumatic gout*, one drachm given with pure cod-liver oil, often proves of very great benefit.

5. *Pale strumous-looking children*, with enlarged cervical lymphatic nodules associated with chronic catarrh of the throat or enlarged tonsils, are much benefited by ten-drop doses after each meal. It here acts as an alterative, rapidly bringing about an absorption of the swollen lymphatics.

6. In *cases of delayed resolution following croupous pneumonia*, iodide of iron acts as a tonic and reconstructive.

7. In the *incontinence of urine of children* it has been highly recommended in doses of from twenty to thirty drops in water after each meal.

—*Virginia Medical Semi-Monthly.*

**Acne Simplex**—The most useful method of treatment in severe cases seems to be curettage of all lesions with a broad, sharp curette, covering a large area at one sitting. Of equal importance is the extraction of all comedones, and the opinion is advanced that if careful search, with a lens if necessary, is made for incipient comedones their extraction thus early will do much toward the prevention of future acne lesions. Massage, not according to any fixed rule of manipulation, but merely by gently pinching the skin of the affected area, is also considered of great value, and as a topical application sulphur in some form is acknowledged to be the most efficacious. Many argue strongly against the employment of unguents in any form, and suggest that in massaging finely powdered pumice-stone be used to keep the fingers from slipping. We

have recently seen very happy results from the substitution of sulphur for the powdered pumice. Laxative and general hygienic measures are of well-known and undoubted advantage.—*Annals of Gynecology and Pediatrics.*

**For Nasopharyngeal Irritation with Cough.—**

℞ Menthol ..... 0.20
Acidi borici ..... 4.00
Petrolati ..... 30.00

S. Insert a portion of the ointment as big as a bean into each side of the nose several times daily.

—*Journal de Médecine.*

**Tonsillitis.—**

℞ Carbolic acid ..... 1
Resorcin ..... 8
Spirit of menthol ..... 20
Glycerin ..... 30
Distilled water ..... 450

S. Gargle.

**Granular Pharyngitis.—**

℞ Iodi ..... 0.40
Potassii iodidi ..... 0.80
Syr. Menth. pipis ..... 50.00
Aquæ dest ..... 250.00

M. S. Gargle. If too irritating, add an equal quantity of water.—*Journal de Médecine.*

**Fissure of the Anus.**—Apply pure carbolic acid thoroughly, then alcohol, and pack with gauze.

**Hepatic Colic.—**

℞ Olive oil ..... 150 to 400
Cognac ..... 15
Yolk of egg ..... 2
Menthol ..... 0.5

M. Take in the morning, in two doses, 15 minutes apart. —CHAUFFARD in *Progrès Médical.*

**A Rational Aphrodisiac.**—Strychnine sulphate, 1 grain; phosphorus, pure, ½ grain; atropine sulphate, ¼ grain; resin cannabis, 2½ grains. Make 100 pills, and give one or two from three to six times a day as required. When once an effect is produced they should be given less frequently.

—W. C. ABBOTT, in *Texas Courier of Medicine.*

**Dandruff.—**

℞ Resorcini ..... ℥i
Tannoformi ..... ℥i
Acidi salicylici ..... gr. v

Dissolve in

Aquæ ..... ℥i
Spir. vini rect ..... ℥iii

M. Filter. S. Apply to scalp once daily.

**To Make an Emulsion.**—The physician can secure in his office a sufficiently permanent emulsion by shaking oil in a clean bottle until the inner surface is well oiled. Then add alternately powdered acacia, water, and oil, shaking after each addition.

**Injection in Syphilis.—**

℞ Hydrarg biniodidi ..... gr. iss
Potassii iodidi ..... gr. ix
Sodii phos ..... gr. xv
Aq. dest ..... ℥ii
Decinormal saline sol ..... ℥ii

M. et ft. solutio. S. Sixteen drops by hypodermic injection daily. —ANTHONY.

**How to Administer Anæsthetics.—**

1. Don't give chloroform when there is degenerative disease of the myocardium, or when there is a decided fall in the blood-pressure.

2. Don't administer ether where nephritic trouble exists, or when there is any abnormality, acute or chronic, of the respiratory organs.

3. Don't give any anæsthetic until a thorough examination of the heart, lungs, and kidneys has been made.

4. Don't give enough of an anæsthetic to produce blood saturation. Give only sufficient to maintain surgical anæsthesia.

5. Don't give any agent in the heart depression incident to anæsthesia which lowers blood-pressure, but rather those which increase vascular tonus.

6. Don't watch the surgical operation, but give your undivided attention to your patient.

7. Don't fail to remember that every anæsthetic is dangerous and should not be administered except with caution and intelligence.

8. Don't think that accidents will not occur to you, but be prepared to meet any emergency that may arise, and be certain to have everything in readiness for that purpose. It is better to be prepared and not have an accident than to have an accident and not be prepared.

9. Don't fail to bear in mind that as an anæsthetizer you have entrusted to your care a human life, and that it is your duty carefully to guard its interests in every available way.

—E. L. MARÉCHAL, in the *Mobile Medical and Surgical Journal.*

## New Instruments.

### A NEW FORM OF INSUFFLATOR.

BY SAYER HASBROUCK, M.D.,
PROVIDENCE, R. I.

THE history of medicine shows that the therapeutic value of medicated powders has always been recognized, and the only drawback to their use has been the lack of a satisfactory appliance for their application. The fact that so many attempts have been made to supply this need is my excuse for describing one that so far has proven satisfactory, both to myself and my friends, who are now using it daily. Simple in construction, still it seems to overcome the many objections and faults of those that have been suggested in the past.

Many of the appliances now in use either fail to work with a sufficient amount of powder for more than one or two applications, or work fairly well for only a short time. This appliance will be found to work as well with the receptacle full as with a small amount, and when care is taken to keep the powder dry, it is found always ready to deliver either a mere dust or a "snowstorm" of powder, as desired.

It is designed as a single-handed appliance, the handiest form possible. The air-tube that extends into the receptacle is open at its lower end, allowing the tube to be filled with powder to the same level as the powder in the receptacle. The special feature of the insufflator is the lateral perforations permitting the compressed air from the bulb to dust, as it were, the upper surface of the powder and further forces it into the delivery tube without attempting to raise the whole mass of powder, or pack it, as is the usual result with most insufflators now in use. With my apparatus the amount of powder used is easily under control by the pressure given to the air-bulb.

The illustration shows the insufflator with the straight extension tube in place and ready for the

gynecologist. There is also a curved extension tube intended for laryngeal or postnasal work, or for application of powders to the tonsils, as the curved end may be directed up, down, or to the right or left; without these it will be found more convenient for superficial surfaces and ear-work.

It seems to make little or no difference whether it has been carried upside down or not, as it at once responds on pressing the air-bulb.

The insufflator is made by the Pulvola Chemical Company, New York.

## Books Received.

*While the* MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

MALADIES DES PAYS CHAUDS. By PATRICK MANSON. 8vo, 776 pages. Illustrated. C. Naud, Paris. Price, Fr. 12.

A TEXTBOOK OF PRACTICAL GYNECOLOGY. By D. TOD GILLIAM, M.D. 8vo, 634 pages. Illustrated. F. A. Davis Company, Philadelphia. Price, cloth, $4.00; half Russia, $5.00 net.

THE TREATMENT OF CERTAIN MALIGNANT GROWTHS BY EXCISION OF THE EXTERNAL CAROTIDS. By ROBERT H. M. DAWBARN, M.D. 8vo, 192 pages. F. A. Davis Co., Philadelphia. Price, cloth, $2.00 net.

THE MEDICAL EPITOME SERIES, ANATOMY. By HENRY E. HALE, M.D. 12mo, 389 pages. Illustrated. Lea Brothers & Co.

A MANUAL OF HYGIENE AND SANITATION. By SENECA EGBERT, M.D. Third edition. 8vo, 473 pages. Illustrated. Lea Brothers & Co.

THE NATURE OF MAN, STUDIES IN OPTIMISTIC PHILOSOPHY. By ELIE METCHNIKOFF. Translated by P. C. MITCHELL, M.A. 8vo, 309 pages. Illustrated. G. P. Putnam Sons, New York. Price, $2.00 net.

PHYSIOLOGISCHE UND KLINISCHE UNTERSUCHUNGEN ÜBER DAS GEHIRN. By DR. EDUARD HITZIG. 8vo, 618 pages. Illustrated. August Hirschwald, Berlin.

THE MEDICAL EPITOME SERIES, PHYSICS AND INORGANIC CHEMISTRY. By ALEXIUS MCGLANNAN, M.D. 12mo, 816 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK, 1903. 8vo, 514 pages. Illustrated.

PRACTICAL NURSING. Vol II. By ISLA STEWART and HERBERT E CUFF, M.D. 12mo, 203 pages. Illustrated. William Blackwood & Sons, London. Price, 3s. 6d. net.

SURGERY, ITS THEORY AND PRACTICE. By WILLIAM J WALSHAM M.B. Eighth edition. By WALTER GEORGE SPENCER, M.B. 8vo, 1227 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia, Pa. Price, $4.50 net.

A TEXTBOOK ON THE PRACTICE OF MEDICINE DESIGNED FOR USE OF STUDENTS. By JAMES MAGOFFIN FRENCH, M.D. 8vo, 780 pages. Illustrated. William Wood & Co. New York. Price, $4.00 net.

PSYCHOTHERAPY IN THE PRACTICE OF MEDICINE AND SURGERY. By SHERIDAN LEAVITT, M.D. 8vo, 247 pages. Illustrated. Garner-Taylor Press, Chicago.

PHYSICIAN'S POCKET ACCOUNT BOOK. By J. J. Taylor, M.D. 12mo, 200 pages. The Medical Council.

A MANUAL OF THE PRACTICE OF MEDICINE. By A. A. STEVENS, M.D. Sixth edition, revised. 12mo, 550 pages. Illustrated. W. B. Saunders & Co. Price $2.25 net.

THE EVIL FORCES OF WOMAN'S LIFE. By ANNA M. [illegible], M.D. Second edition. 8vo, 144 pages. W. B. Saunders & Co. Price, cloth, $1.50 net.

MANUAL OF MEDICINE. By THOMAS K. MONRO, M.D. 8vo, 200 pages. W. B. Saunders & Co. Price, $3.00 net.

[illegible] AND DISEASES. By [illegible]. 8vo, [illegible] pages. W. B. Saunders & Co. Price, cloth $5.00 net.

[illegible] 8vo, [illegible] pages. [illegible]

[illegible] 8vo, [illegible] pages. [illegible]

## Medical Items.

**Contagious Diseases — Weekly Statement.** — Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending November 14, 1903:

| | Cases. | Deaths. |
|---|---|---|
| Measles | 246 | 9 |
| Diphtheria and croup | 423 | 38 |
| Scarlet fever | 163 | 5 |
| Smallpox | 1 | ... |
| Varicella | 71 | ... |
| Tuberculosis | 314 | 154 |
| Typhoid fever | 102 | 14 |
| Cerebrospinal meningitis | ... | 3 |

**Health Report.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended November 14, 1903:

SMALLPOX—UNITED STATES.

| | | Cases. | Deaths. |
|---|---|---|---|
| Alabama, Mobile | Nov. 1–7 | 2 | .. |
| Illinois, Belleville | Nov. 1–7 | 11 | 1 |
| Chicago | Nov. 1–7 | 3 | .. |
| Indiana, Indianapolis | Oct. 25–31 | 2 | .. |
| Louisiana, New Orleans | Nov. 1–7 | 3 | 2 (imported) |
| Maine, Grand Isle | Oct. 1–31 | 25 | .. |
| Massachusetts, Haverhill | Nov. 1–7 | 1 | .. |
| Michigan, Detroit | Nov. 1–7 | 2 | .. |
| Missouri, St. Louis | Oct. 25–31 | 1 | .. |
| New Hampshire, Manchester | Nov. 1–7 | 5 | .. |
| New Jersey, Camden | Nov. 1–7 | 1 | .. |
| New York, New York | Nov. 1–7 | 2 | .. |
| Ohio, Cincinnati | Oct. 31–Nov. 6 | 1 | .. |
| Cleveland | Nov. 1–7 | 1 | .. |
| Dayton | Nov. 1–7 | 2 | .. |
| Warren | Nov. 1–7 | 1 | .. |
| Youngstown | Nov. 1–7 | 1 | .. |
| Pennsylvania, Erie | Nov. 1–7 | 1 | .. |
| Johnstown | Nov. 1–7 | .. | 1 |
| Philadelphia | Nov. 1–7 | 42 | 4 |
| Pittsburg | Nov. 1–7 | 30 | 14 |
| Rhode Island, Providence | Nov. 1–7 | 1 | .. |
| Tennessee, Memphis | Nov. 1–7 | 6 | .. |
| Utah, Salt Lake City | Oct. 25–31 | 1 | .. |
| Wisconsin, Milwaukee | Nov. 1–7 | 1 | .. |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Austria-Hungary, Prague | Oct. 11–24 | 21 | .. |
| Belgium, Antwerp | Oct. 18–24 | 2 | .. |
| " " Brussels | Oct. 18–24 | .. | 1 |
| Colombia, Barranquilla | Oct. 19–25 | .. | 1 |
| France, Marseilles | Sept. 1–30 | .. | 85 |
| Paris | Oct. 18–24 | 8 | .. |
| Great Britain, Bradford | Oct. 10–24 | 4 | .. |
| Glasgow | Oct. 24–30 | 18 | .. |
| Leeds | Oct. 18–24 | 1 | .. |
| Liverpool | Oct. 18–24 | 4 | .. |
| London | Oct. 18–24 | 26 | .. |
| New Castle-on-Tyne | Oct. 18–24 | 10 | .. |
| Sheffield | Oct. 18–24 | 1 | .. |
| Italy, Catania | Oct. 16–22 | .. | 1 |
| Palermo | Oct. 18–24 | 1 | .. |
| Java, Batavia | Sept. 27–Oct. 3 | 5 | .. |
| Malta | Oct. 11–17 | 5 | .. |
| Mexico, Mexico | Oct. 19–25 | 3 | 1 |
| Tampico | Oct. 25–31 | .. | 1 |
| Russia, Moscow | Oct. 11–17 | 1 (new) | 5 |
| Odessa | Oct. 11–17 | 1 | .. |
| St. Petersburg | Oct. 11–17 | 33 | 1 |
| Warsaw | Oct. 4–10 | .. | 4 |
| Turkey, Constantinople | Oct. 12–25 | .. | 4 |
| Smyrna | Oct. 12–18 | .. | 46 |
| Venezuela, Puerto [illegible] | Oct. 16 | Present | |

SMALLPOX—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Manila | Sept. 13–26 | 2 | 1 |

YELLOW FEVER—UNITED STATES.

| | | | |
|---|---|---|---|
| Texas, Carmel | Nov. 3–10 | 10 | .. |
| [illegible] | Nov. 4–10 | 120 | 18 |
| [illegible] | Oct. 30–Nov. 6 | 10 | .. |
| San Antonio | Nov. 2–10 | 3 | 1 |
| Del[illegible] | Nov. 4 | 1 | .. |

YELLOW FEVER—FOREIGN.

| | | | |
|---|---|---|---|
| [illegible] | Oct. 23–29 | 2 | 2 |
| Mexico, [illegible] | Oct. 4–10 | 6 | 3 |
| [illegible] | Oct. 4–10 | 19 | 20 |
| [illegible] | Oct. 4–10 | 376 | 34 |
| [illegible] | Oct. 4–10 | 3 | 1 |
| [illegible] | Oct. 4–10 | 1 | .. |
| [illegible] | Oct. 4–30 | 7 | 1 |
| [illegible] | Oct. 4–10 | .. | 1 |
| [illegible] | Oct. 25–31 | 43 | 15 |

CHOLERA—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Manila | Sept. 13–26 | 148 | 134 |
| [illegible] | Sept. 13–26 | 3,101 | 1,439 |

CHOLERA—FOREIGN.

| | | | |
|---|---|---|---|
| [illegible] | Sept. 20–26 | 1 | 1 |
| [illegible] | Oct. 4–10 | 1 | 1 |
| [illegible] | Oct. 11–17 | 4 | 2 |

PLAGUE—UNITED STATES.

| | | | |
|---|---|---|---|
| California, San Francisco | Oct. 20 | 1 | 1 |
| [illegible] | Oct. 23 | 2 | 2 |
| [illegible] | Oct. 29 | 1 | 1 |

PLAGUE—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Manila | Sept. 13–26 | 2 | 2 |

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## Original Articles.

### ELECTRICITY IN GENERAL PRACTICE.

BY W. B NEFTEL, M.D.,
NEW YORK.

IT has often been asked if electrical treatment could be employed with advantage by the general practitioner, and of late, with the introduction of various new, complicated and costly apparatus, the question has become more urgent.

In my opinion, based on a long and extensive experience in electrotherapeutics, every educated physician, every general practitioner should resort to electricity in suitable cases. In the first place, because some grave affections of the nervous and muscular systems, the diagnosis of which is difficult and often impossible, can be easily recognized by electrical exploration and successfully treated by the same means that serve for their diagnosis. Again, because the brain, the spinal cord, the eyes, the nerves, the muscles are electrical organs, and their functions are accompanied by electrical phenomena in accordance with certain well formulated physical laws. *A priori*, therefore, these organs and their functions must necessarily be influenced by electrical treatment—an assumption corroborated by clinical observation. Besides these special organs, the whole body is an electrolyte and as such is subject to the electrolytic and kataphoric action of the current.

Since the experimental researches of Hertz have widened the domain of electricity, having proved that all manifestations of light are electrical phenomena, phototherapy, Roentgen rays, etc., have to be included in electrotherapeutics.

The modern theory of ions, the recent researches on radioactive substances, on Hertzian waves and on the ultimate constitution of matter-electrones, have added so much to our knowledge of electrical energy that the application of electricity to science, art, and the various requirements of common life is constantly increasing. There can be no doubt that electricity is destined to play an important part in the hygiene and the therapeutics of the future.

The history of medical electricity is the history of electricity in general, as every discovery in this science was immediately applied to physiology, medicine and surgery, and some of the greatest discoveries in electricity were made by physicians (Galvani, Helmholtz, Dubois Raymond, and others) and by many physicists and chemists who were originally medical men. In fact, until the middle of the nineteenth century electricity found its application almost exclusively in medicine.

The objection that complicated costly apparatus are a drawback to the employment of electricity by the general practitioner, is more imaginary than real. These apparatus and some modern innovations in electrotherapy are necessary only to the specialist for further researches, etc.* For the general practitioner a good portable apparatus for the galvanic and faradic currents is sufficient. It must contain a galvanometer, a rheostat, a commutator; electrodes of different sizes, some of solid metal and some pliable, and special electrodes for the eyes, ears, larynx, uterus, rectum, etc., an interrupter and a faradic brush. This is sufficient for electric exploration and treatment.

With these simple apparatus the laws of electrophysiology were discovered and the most important researches and studies accomplished in electric diagnostics and electrotherapeutics (classical electrotherapeutics).

In every branch of therapeutics empiricism preceded the scientific knowledge of remedial agents and of their mode of action. Thus, previous to the discovery of iodine and its salts, physicians empirically employed it in the form of a burnt sponge (spongia usta) in the treatment of goitre and enlarged glands; for centuries iron was administered in anæmic and chlorotic conditions without any knowledge of hæmoglobin and its functions; cinchona bark was used in intermittent fevers, before the action of quinine on plasmodium malariæ had been discovered. Electrotherapeutics makes no exception to this rule, and electricity, too, was used empirically in the remotest antiquity in the treatment of different chronic diseases of the nervous system. Hippocrates, Galen, Plinius describe a method of treating rheumatism, gout, headache, neuralgias, anæsthesia, paralysis, etc., by placing in the baths of the patients electric fishes whose shocks produced a beneficial effect.

But electrotherapeutics really begins with the invention of the electric machine and the Leyden jar. Much was then written on static electricity, on its action upon the human system in health and disease, with many remarkable observations and reports of wonderful cures. The treatment with static electricity became very popular, but was soon taken up by laymen and charlatans and applied to every kind of disease. A more critical examination of the merits of such electrical treatment disappointed the profession and the method fell into discredit and gradually into complete disuse. It so remained for nearly a century, until about 1880 Charcot reintroduced the treatment with static electricity in hysterical affections.

In reading the publications of the early period of static electricity, one is struck at the wonderful cures reported by men of science and conscientious, honorable physicians.† However, at present we are able to explain these results by assuming that some of these cures were obtained by psychical impression —suggestion in hysterical cases. Similar results are of daily occurrence in the practice of every physician, but they are not published under false pretenses.

Suggestion has been the subject of much discussion, but there still remains a great deal to be said for and against it. In fact, every kind of treatment, almost every action of the intelligent human being, is more or less prompted by suggestion or auto-

*Details of these will be given in a separate article

†Kratzenstein: "Abhandlung von dem Nutzen der Electricität in der Arzneiwissenschaft." Halle, 1743.
Jallobert: "Experiences sur l'électricité." Paris, 1748.
Cavallo: "Essay on the Theory and Practice of Medical Electricity." London, 1780.

suggestion. Some systems of treatment are to a certain extent based on suggestion and even surgical treatment is not entirely exempt from it. Thus the removal of the uvula in hysterical cough, or the more serious operation of oophorectomy in affections of an hysterical nature, act mostly by suggestion and could be replaced by much milder methods. The same can be said of numerous tenotomies of the eye muscles, the bloody dilatation of the urethral orifice, etc. In electrotherapeutics, too, suggestion cannot be excluded, but it does not prevent the current from exercising its physical and physiological effect on the nerve centers and on the whole body in the healthy and morbid conditions. On the whole, however, suggestion sometimes does as much harm as good. Thus, the accumulation in a patient's mind of wrong and unhealthy suggestions which resist every rational treatment often retards the restoration to health. Such patients say: "I have already tried this unsuccessfully," or "It has done me harm." They object to acids, alkalies, iron, quinine, etc., to exercise, rest, and, in fact, to everything indicated in their case.

Miss C., aet. thirty-five, was treated for years by eminent physicians and gynecologists. Her condition became precarious and alarming and Dr. J. Marion Sims referred her to me in 1868. I found the heart weak, a bad circulation and general malnutrition. She was anæmic, emaciated, and suffering from dyspepsia, amenorrhœa, insomnia, and malaria. She said she could not take milk, "as it always gave indigestion," nor could she taste eggs in any shape, "they made her bilious"; fish invariably acted as a poison, so did some kinds of meat; sugar or sweets gave her the gout; tea and coffee increased the insomnia; one-tenth of a grain of quinine would drive her crazy. It took a long time to rid her of these morbid suggestions. She ultimately recovered under the galvanic treatment, and is now a healthy old lady, enjoying all the nourishing articles of food which she formerly disliked. One of her favorite remedies at present is quinine, which she takes whenever necessary in pretty large doses.

Mr. ——, an eminent jurist, with an inherited neuropathic constitution and for years a sufferer from an aggravated form of neurasthenia which resisted every treatment here and abroad. When he consulted me I decided to observe the patient for a while before selecting a method of treatment. Very soon, however, he unexpectedly came to my office in great distress with a severe headache, gastralgia, pains in the extremities and general prostration. He had not slept for forty-eight hours, and had scarcely taken any food. His family physician had to administer morphine hypodermically, which alleviated somewhat the suffering, but the headache, præcordial distress, various hyperæsthesias and prostration continued. I employed galvanization of the brain, under which the morbid symptoms immediately subsided. The patient then told me whenever the barometer was high and the atmosphere clear and bracing he would invariably have such attacks of distress and nervous prostration; that years ago a distinguished neurologist explained to him this peculiarity of his disease, and in his own experience he had found it correct. It is obvious that suggestion had something to do with the severity of the attacks; but it does not follow that the success of the electric treatment was equally due to suggestion, because the action of electricity in the living body, like in any other electrolyte, is objective and positive, and is as certain as the production by electricity of heat, light, motion, etc., in inanimate bodies. In electrotherapeutics, therefore, besides the psychic effect of a possible suggestion, the physical, chemical, and physiological effects of electricity are always present and known to every one who experimentally studied electrophysiology.

In referring to the early history of electrotherapeutics I merely wanted to show its true relation to suggestion.

Before speaking of electric treatment, a few illustrations of the diagnostic value of electricity may not be out of place.

Professor M., about sixty years old, a distinguished American surgeon, consulted me in 1870 on account of a left facial paralysis which developed quite rapidly several weeks before he came to me. It was considered of cerebral origin because of the presence of arteriosclerosis, accordingly an unfavorable prognosis was made. The electric examination, however, gave degeneration reaction (of moderate degree) in all the muscles controlled by the affected facial nerve. Such a result does not occur in cerebral hemorrhages (for instance, in the internal capsule). I made the diagnosis of peripheric or rheumatic paralysis (affection of the peripheric-motor neuron), and the favorable result of the electric treatment confirmed the diagnosis.

Miss D., aet. 37, had an attack of fever with severe headache and pains in the left arm. These symptoms disappeared in a few days but were followed by paralysis of the right extremities; the paralyzed upper extremity gradually regained its function, but the lower one remained paralyzed. The case was pronounced hysterical paralysis. She placed herself under my care in 1900, two years after the paralytic attack. Her general health was very bad, her complexion sallow, she was emaciated and suffered from headache, indigestion, insomnia, constipation, and general debility; she used a crutch, walked with great difficulty, and could scarcely go up or down the stairs. The paralyzed lower extremity was cold to the touch and very much atrophied, especially the extensor and abductor muscles. In some of these, the direct and indirect electromuscular contractility, both faradic and galvanic, was abolished, in others it was greatly reduced, while in all other contiguous muscles the electromuscular contractility remained normal. The case was evidently one of poliomyelitis anterior of the adult, in which some of the ganglionic cells of the anterior horns were entirely destroyed, others more or less injured, the rest remaining intact. The attack was probably caused by the invasion of pathogenic bacteria into the spinal cord from the intestinal canal, the predisposing cause being the long-continued constipation. Poliomyelitis anterior of the adult is analogous to the infantile spinal paralysis, but gives better results, the arrest of growth in the infant being against a favorable prognosis. Miss D. was treated daily with galvanization of the spine and with very strong galvanic and faradic currents of the nerve trunks and of all the paralyzed muscles. A long experience has taught me that the stimulation of the muscles and nerves influences them favorably in a direct way, and besides, is propagated through them to the affected motor ganglia of the anterior horns. This stimulus improves their nutrition and functional activity, enhances the circulation and thus leads to the restoration of the injured ganglia. In the present case the gradual improvement was noticeable from the beginning of the electric treatment. After two months the patient could walk, even up and down the stairs, without a crutch, and went home, intending to return to New York in a few months. The improvement continued during her absence. An additional treatment of two weeks produced a still further improvement in the extensor and abductor muscles, the atrophy of the limb dis-

appeared and scarcely anything abnormal could be noticed in her locomotion. Possibly some of the restored motor ganglia and nerves had vicariously taken up the functions of the degenerated ones.

In cases of myasthenia gravis and myotonia an examination with the faradic current alone is sufficient for the correct diagnosis; the characteristic myotonic and myasthenic reactions are pathognomonic of these morbid conditions and render diagnostic errors impossible.

Not only the general practitioner but the oculist and aurist might derive valuable assistance from the electrical explorations and treatment. The classical researches of Brenner* have demonstrated that when the normal auditory apparatus is placed under the influence of the cathode a distinct sound is heard at the closing which is not heard at the opening of the circuit. When, however, the active electrode is the anode. the sound is quite loud at the opening of the current, but no reaction is perceived at the closing. The galvanic reaction of the auditory apparatus is therefore analogous to Pfluger's contraction-law of the motor nerve, *i.e.* the nerve is excited at the beginning of catalectrotonus and at the end of analectrotonus. This normal formula may differ quantitatively and qualitatively in pathological conditions; the acoustic reaction may be excessive—hyperæsthesia of the auditory apparatus, or it may be considerably reduced—torpor; again, it may be abolished—paralysis, or it may be perverted when the reaction takes place at the wrong moments of excitation.

On these abnormal reactions is based the rational galvanic treatment of intractable noises, tinnitus aurium and other morbid conditions.

Equally important is the diagnostic value of the galvanic vertigo. When the normal auditory organ is placed in a certain way, under the influence of the galvanic current, vertigo will take place, with a tendency to fall toward the side of the anode. In cases of one ear being affected the inclination of the head will be on the side of the affected organ, regardless of the electrode (Babinsky's sign). In cases of bilateral lesions of the labyrinth with deafness there will be neither vertigo nor any inclination of the head. In hysterical deafness, on the contrary, the vertigo and inclination toward the anode will persist like in the normal condition.†

The galvanic reaction of the optic apparatus, like that of the acoustic, is of diagnostic and therapeutic value.‡

In the normal condition of the eye, under the influence of the anode a blue disk surrounded by a violet ring is seen, and under the influence of the cathode the disk is of a yellowish green and the ring yellow. In some cases, instead of a round blue and yellowish green, a black and white disk of oval form is seen. At the appearance and disappearance of the disk, a flash of light is perceived. The sudden increase and decrease of the current-intensity acts as the opening or closing of the current.

The galvanic reaction differs in various morbid conditions of the optic apparatus, and the current exerts a beneficial effect, especially on its nervous and muscular structures.

No strict rules can be laid down with regard to the indications for the employment of either the galvanic or faradic current. Sometimes both currents, for different purposes, can be used in the same case. Generally speaking, the galvanic current acts directly upon the brain, the spinal cord, all the nerve-centers and the organs of the higher senses. It produces a modification of the excitability in the nerves—*electrotonus*—and is thus indicated in paralysis and convulsions, in anæsthesias, hyperæsthesias, and neuralgias.

The faradic current is indicated as a local and general stimulant and tonic. It stimulates the motor, sensitive, and vasomotor nerves; it acts by reflex upon the centers of circulation and thus affects the general nutrition. It is also indicated in neuritis.

The galvanic current is mostly indicated in plethoric and the faradic in anæmic persons. This is naturally subject to many exceptions.

In my opinion the contraindications to the use of both galvanic and faradic currents are fevers and acute inflammatory diseases.

**Faradic Current.**—The faradic current is of great value to the general practitioner in a variety of chronic and emergency cases of daily occurrence.

There are different methods of using the current:

1. By applying the active electrode to a motor nerve or muscle and the other at some distance—Duchenne's *electrisation localisée;* by this method he discovered many physiological and neuropathological facts and inaugurated the scientific electrodiagnostics and therapeutics.

2. One electrode is applied to some part of the body while the other is moved over the affected region—labile application.

3. Both electrodes are kept steadily in their places—stabile application, while the current is gradually increased to a maximum and reduced to zero several times—swelling or surging currents.

4. While one electrode is kept steadily in its place the other is alternately applied and removed, the current being at high intensity—tetanizing current. The same result is obtained with a strong current when both electrodes are kept in their places, the active being provided with an interrupter.

5. The indifferent electrode is kept in one place while the active, in the shape of a metallic brush, is moved over the affected part—faradic brush.

Finally, the faradic current may be used simultaneously with the galvanic current—galvanofaradization. This method is more powerful than when the two currents are used separately, because the nerves and muscles are stimulated while in the electrotonic state.

*Faradization of the Phrenic Nerves in Suspended Animation.*—In 1862. when making some experiments on dogs in the physiological laboratory of Prof. George Harley in the University College, in London, chloroform anæsthesia was prolonged until respiration and heart's action ceased and life appeared extinct. Applying one electrode of a strong faradic current to the neck over the phrenic nerve, the other electrode was applied and removed about eighteen times in a minute at the phrenic nerve of the other side; this called forth strong contractions of the diaphragm and other respiratory muscles and restored the animal to life.

Several times in suspended animation, caused by anæsthesia during operations, I was called upon to demonstrate to physicians in New York the efficiency of this method on human beings. The electrodes were applied steadily to both phrenic nerves while the current was alternately increased and diminished until respiration was restored.

This method in a modified, much milder form gives excellent results in a variety of cases of nervous prostration, of collapse, of heart failure. In dyspnœa, too, whether in consequence of pulmonary congestion or œdema of the lungs, etc., it can ad-

*Brenner: "Electrotherapie," 1868.

†Babinsky: "Comptes rendus de la Société de Neurologie de Paris," 1902.

‡Neftel: "Galvanotherapeutics," 1871. *Virchow's Archiv*, Bd. 97, 1880.

vantageously replace inhalations of oxygen. The effect of these inhalations is problematic, since the blood or rather the erythrocytes which are the real carriers of oxygen are unable to absorb more than the quantity of oxygen normally diluted in pure air. In all these cases faradization of the vago-sympathicus is often followed by an immediate improvement of the cardiac and respiratory symptoms.

*Treatment of Writers' and Piano Players' Cramp.*—An ascending galvanic current is passed through the nerve trunks of the affected extremity and is followed by tetanizing faradic currents applied to the extensor and flexor muscles. The treatment is repeated daily until recovery.

Miss E., aet. 23, of a good constitution, suffered for two years from players' cramp in consequence of strenuous exercising on the piano. She had to give up playing altogether, as the mere touching of the keys called forth a cramp. I treated her as follows: An ascending galvanic current was sent through the right brachial nerve, the cathode being steadily applied first to the brachial plexus and then to the nape of the neck, the anode to the brachial nerve and its ramifications at the wrist. The current was gradually increased to a considerable intensity during several minutes and diminished. After this faradic swelling and tetanizing currents were applied alternately to the extensor and flexor muscles of the arm, forearm, and hand. The patient felt the arm invigorated from the first treatment, which was daily repeated until the disappearance of the affection. She had no relapse. I treated by the same method with good results writers' cramp, both the spasmodic and the paralytic forms. The rationale of my method consists in reducing the morbidly exaggerated excitability of the motor and sensitive nerves by the galvanic current, while the tetanic contractions, induced by the faradic current, render them less sensitive to the comparatively milder contractions in writing or playing.

*Dilatation of the Stomach and Gastroenteroptosis.*—In 1876 I described* the following method of treating chronic gastric catarrh with dilatation and lowering of the stomach: Two flat electrodes are applied to distant parts of the stomach, increasing to a maximum the current intensity and diminishing it to zero. Having repeated this several times, the electrodes are placed opposite each other in other directions and the current-intensity again repeatedly increased and diminished. These applications are made daily and supplemented with rational dietetic régime and medicinal treatment. Later, after Glenard's publications on enteroptosis, I continued to employ the above described method, adding faradization of the bowels and other abdominal viscera, since dilatation of the stomach is always accompanied more or less by enteroptosis.

Mr. F., aet. 50, suffered from an aggravated form of dyspepsia, contracted in the mining districts of the West, where he could not be regular in his diet or mode of living. The most unpleasant symptom was an accumulation of gas in the stomach and bowels, with frequent loud eructations, which excluded him from society. He was anæmic, emaciated, the bowels costive, alternating with diarrhœa and other symptoms of chronic gastrointestinal catarrh and gastroenteroptosis in a marked degree. I treated, with swelling faradic currents, the stomach, colon and other intestines, at first daily and later three times a week or occasionally, combining the faradic treatment of the abdominal organs with galvanization of the brain. During a prolonged treatment all morbid symptoms disappeared by degrees.

That the faradic current reaches the stomach and bowels is plainly visible and palpable, especially in emaciated persons. Besides this direct influence, produced by the strong currents, there is a correlation, by reflex action, between the stimulated external regions and the subjacent organs, in consequence of which their circulation and nutrition are favorably modified.

*Movable Kidney.*—The movable kidney being a visceral ptosis, I treat it with faradic currents in a similar way to other forms of enteroptosis. It is of frequent occurrence in women, especially on the right side, owing to an anatomical predisposition, and is mostly caused by tight lacing.

Mrs. G., mother of two children (1896), suffered from dyspepsia, costiveness, and pain in the right lumbar region, which at times compelled her to keep the bed. She was very anæmic, emaciated, with a dilated stomach and gastroenteroptosis. The lowered right kidney could be palpated through the thin abdominal walls. The treatment was as follows: Two good-sized electrodes were firmly applied to the hypochondriac regions and the current-intensity considerably increased and diminished several times during half a minute; the electrodes were then placed somewhat lower—on the line of the umbilicus; then on both inguinal regions and the current repeatedly increased and diminished at each place; one electrode was then applied to the epigastrium and the other to the hypogastrium, again increasing and decreasing the current as before; now leaving one electrode at the epigastrium, the other was removed to the left hypochondrium and then changed to the right, every time using the current in the same way. One electrode was then placed upon the right lumbar region, the other upon the right hypochondrium, and finally both electrodes were applied to either side of the lumbar region. At every place of application the swelling faradic currents were allowed to flow for half a minute, producing strong muscular contractions. The treatment was continued daily for a month and occasionally repeated later. It gradually removed the dyspeptic symptoms, the costiveness, the gastroenteroptosis and kidney trouble, and restored the patient's health.

*Hernia.*—Many years ago, in treating gastroenteroptosis with the swelling faradic currents, I observed the beneficial influence they exerted upon inguinal and femoral hernia whenever it complicated enteroptosis.

Mr. K. (1874) complained of dyspepsia, gastralgic pains, frequent eructations, insomnia, costiveness; he was irritable, with symptoms of gastric catarrh and considerable ptosis of the stomach and colon. He wore a truss, for two years, on account of a right inguinal hernia (the size of a small fist when protruding). I treated him by the method above described, the morbid symptoms gradually disappeared and his general health steadily improved under this treatment. He told me that some time ago, during the treatment, he had laid aside the truss, the hernia showing no tendency to protrude, even under forced coughing. Encouraged by this unexpected result, I intensified the faradization of the abdominal muscles, especially at the hypogastric and inguinal regions, thus producing strong tetanic contractions of the abdominal and partially of the crural muscles. From that time the patient has not had a trace of hernia and consequently never again needed a truss.

Since this experience I treated successfully by this method a number of cases of hernia in every

*"Die Behandlung der Magenectasien," *Centralblatt für die medicinische Wissenschaft*, 1876.

one of which I found an undeveloped condition of the abdominal muscles, either congenital or acquired. Under the tetanizing faradic currents the muscles increased in size, became strong and prevented the protrusion of the hernia. I begin the treatment by applying to the inguinal regions large electrodes of a strong galvanic current with frequent voltaic alternations; this is followed by swelling faradic currents, the electrodes remaining in the same place; now one of the electrodes remains on the inguinal region while the other is applied separately to each abdominal muscle with swelling faradic currents; the same is repeated on the other side; then, one of the electrodes is carried to the lumbar region while the other is applied alternately to either inguinal region with swelling faradic currents producing strong contractions of the abdominal and femoral muscles. Sometimes I use galvanofaradization.

*General Anæmia.*—The faradic current, indicated in cases of general anæmia and malnutrition, especially when complicated with hysteria and neurasthenia, is used by me in the following way: One good-sized electrode is applied to the nape of the neck, the other is held firmly by the patient, first in one, then in the other, hand while a mild current is gently increased and decreased. One of the electrodes is then placed upon the hypogastrium, the other slowly moved up and down the vertebral column, the current being of considerable strength; both electrodes are now placed to the upper crural regions, under Poupart's ligaments, with swelling faradic currents, producing strong muscular contractions, and lastly both electrodes are applied to the popliteal fossæ. In each application the polarity of the current is repeatedly changed.

In cases of anæsthesia and in neuritis the faradic brush is used.

*Galvanofaradization in Atrophic Conditions.*—In cases of paralysis with atrophy both the galvanic and faradic currents often have to be used simultaneously, as the paralyzed and atrophied muscles and nerves yield more readily to their combined action.

Mr. S., lawyer, of this city, aet. 26, while a student in Harvard injured the left knee in athletic games. The sudden pain was intense and became continuous, and notwithstanding a prolonged rational treatment he could not walk without crutches. In February, 1898, two years after the accident, I found on examination a tall, well-built, muscular, and very strong young man, although somewhat anæmic owing to suffering and want of exercise. All his organs and functions were perfectly normal except the left lower extremity, which was very much atrophied, cooler to the touch and more anæmic than the right extremity, the muscles of which were highly developed (hypertrophied) and made the contrast more apparent; the two limbs looked as if belonging to different individuals. The electromuscular contractility, both galvanic and faradic, of the left leg showed degeneration, reaction in various stages, caused by traumatic neuritis. The right leg responded to the currents normally, although in a somewhat exaggerated manner. The treatment consisted in daily galvanofaradization of all the nerve trunks and muscles of the affected extremity with very strong galvanic currents, voltaic alternations and swelling faradic currents with frequent reversions of polarity. The contractions thus called forth were at first very feeble, but after repeated treatments gained in strength. The patient every day felt more life in the left limb, which to the touch appeared warmer, and the muscles gradually increased in volume, their reaction becoming more vigorous and normal. At the end of a month he could walk naturally and without crutches; the treatment being continued, with interruptions, a couple of months longer. I saw the patient a year later, when no difference could be detected in the appearance and functions of the lower extremities.

Mr. W., a prominent business man of this city, in crossing the Atlantic was thrown off his feet during a severe storm and fractured both bones of the right forearm. He was attended in London by one of the leading surgeons and remained under his care until the end of the treatment. Notwithstanding a perfect consolidation of the fracture, a severe pain in the arm and hand remained, and was complicated with a development of atrophy and paralysis of the extremity, especially of the fingers. By the advice of his attending surgeon and consulting physicians he took the baths and electrical treatment at Aix les Bains; the atrophy kept increasing, however, and the pain, still acute, prevented sleep and influenced the health.

Several months later I saw the patient in New York. The muscles of the right arm and hand were very much atrophied, especially those of the thenar, the hypothenar and the interossei; electrical examination with both currents showed a high degree of degeneration-reaction; not the slightest movement could be made by the fingers or wrist, nor could the arm be lifted or bent at the elbow. The pain was intense and continuous. It was evident that at the time of the accident some motor and sensitive nerves were injured—lacerated by the sharp ends of the fractured bones, and produced the severe neuritis with its sequelæ—atrophy and paralysis. The treatment consisted of galvanofaradization of the brachial plexus, brachial nerve and its ramifications, and of all the muscles of the arm and hand. The first treatment gave relief and a night's rest, having subdued the pain. Under daily treatment a very slight mobility became gradually noticeable, which after a while increased more rapidly until the functions of the nerves and muscles were nearly restored; at the end of three months the arm and hand could be used almost normally; the pain left him soon after the beginning of the treatment. Circumstances prevented the patient from completing the treatment.

In these two instances the galvanofaradization was the only means to save the extremity from complete atrophic paralysis, especially in the case of the right arm, the loss of which is always more keenly felt.

In the following case not only the limbs, but the life of the patient was saved by this method. Mr. R., over seventy years old, contracted a cold in March, 1887, which laid him up with high fever pains all over the body, great weakness and impossibility to move either upper or lower extremities; the disease was obviously of an infectious nature. The fever gradually subsided, leaving pain and great weakness in the lower extremities; in the upper extremities besides the pain atrophic paralysis developed. I examined the patient in October of the same year. I found him of a delicate constitution, emaciated, very feeble, the pain preventing sleep; he could not himself change his position in bed, and had to be helped even with the food, of which he could partake but very little. I made the diagnosis of polyneuritis of the motor and sensitive nerves. The prognosis in such cases—at an advanced age in decrepit persons—is generally fatal. I used galvanofaradization of the affected nerves and muscles with strong currents, voltaic alternations and faradic swelling currents with

frequent reversions of polarity. The pain yielded very soon, while the mobility improved slowly and gradually. At the end of several months he could walk and use the arms and hands naturally; the general health was restored; the treatment, however, was continued occasionally for some time until complete recovery.

*Faradic Current in Heart Diseases.*—I found the faradic current of great value not only in functional but in organic diseases of the heart. Chronic myocarditis and the degeneration of the myocardium constitute the principal danger in organic cardiac affections, the treatment is therefore directed toward restoring the nutrition of the heart. I employ the following method: A large negative electrode is applied (stabile) to the nape of the neck, a smaller positive electrode to the jugulum sterni and the current gradually increased and diminished several times; then the small electrode is placed over the vagus and sympathicus and the current again increased and decreased several times, the same being repeated on the other side; finally, the positive electrode of a moderate current is moved along the lateral and anterior surface of the neck, the negative electrode remaining steadily in the same place. This treatment is continued daily for a considerable time. It affects in a direct manner and by reflex the vagus and the sympathetic, strengthens the heart's action, the circulation and nutrition, prevents heart failure and renders the valvular diseases almost harmless by producing hypertrophy of the cardiac muscle.

The secondary effects of organic cardiac diseases, hydropic effusions, engorgements of the viscera and cyanosis, gradually disappear under this treatment.

Mrs. M. of Albany, N. Y., about thirty-six years old and mother of several healthy children, came under my care in 1885 with a diagnosis made by eminent physicians in Albany and New York of an organic heart disease of long standing, aortic stenosis and dilatation of the left ventricle. The patient comes from a healthy family, her father was a well preserved octogenarian and her brothers and sisters were all healthy married people. Although well built she was always the weakest of the family and anæmic since an attack of rheumatism. During a year or more she became subject to fainting, and would suddenly fall even in the street and remain unconscious for some time. All exercise was then forbidden and she was not allowed to walk up the stairs. Her pulse was very weak and easily compressible and the heart's action feeble; she suffered besides from a severe trigeminus neuralgia. I regulated her functions, ordered a methodically increased daily outdoor exercise and began at once the faradization of the neck by the above described method. Besides this, I occasionally used galvanization of the brain with mild currents. The patient's health improved steadily under a continuous treatment of several months, which was repeated at intervals until the disappearance of all morbid symptoms. The patient, after the lapse of so many years, appears in perfect health, the heart's action is regular and strong, the pulse normal, she can walk long distances, climb mountains, play golf—in fact, she has become the strongest of the family. Complete compensation of the valvular affection must have taken place under the combined action of electrical stimulation of the cardiac muscle, exercise and the removing of obstacles to the free circulation of the blood.

In treating organic heart disease special attention must be given to digestion. I observed that the overfilling of the stomach with indigestible food produces irritation of the cardiac vagus by reflex from the gastric branch of the pneumogastric; this arrests the heart's action and is followed by fainting and heart failure. Mild aperient mineral waters remove the obstacles to free circulation. In chronic cardiac diseases, judicious and methodically increased muscular exercise in the open air is of utmost importance.

**The Galvanic Current.**—Rational electrotherapeutics bears the same relation to electrophysiology as rational medicine bears to physiology. Indeed, the whole doctrine of electrodiagnostics and electrotherapeutics becomes intelligible and clear only in the light of experimental electrophysiology. It teaches, for instance, that the brain, the spinal cord, the organs of higher senses possess inherent electrical currents which obey certain laws and undergo changes during their functional activity (negative variation, etc.). Thus, when a galvanic current passes through a motor nerve, this latter responds with a certain visible reaction—a contraction of the corresponding muscles—and at the same time undergoes a certain modification of its excitability. in the sphere of the cathode the excitability may be increased to such an extent that the slightest excitation, mechanical, chemical, or faradic, which would scarcely produce any contraction before the passage of the current, will now call forth strong tetanic contractions. In the sphere of the anode a lowered excitability obtains, and even strong faradic stimulation will produce but a slight contraction or none at all, whereas before the anelectrotonic condition it would have called forth tetanus. The galvanic current acts in the same way upon the sensitive, vasomotor and other nerves and the nerve-centers, producing analogous modification of their excitability; for instance, in the sensitive nerves—hyperæsthesia, anæsthesia, analgesia, etc.

Theoretically it would seem easy to construe electrotherapeutics on the basis of electrophysiological principles, but it is not so in practice. We cannot always determine in the living body the direction in which the current flows, because of the multiplicity of heterogeneous tissues and their different conductibility. Brenner therefore introduced the polar method, where the anode practically represents the ascending current and the cathode corresponds to the descending current. Since the physiological and therapeutic effect of the anode and cathode differ as widely as their electrolytic, chemical effect, the active electrode alone is applied to the affected part while the other, the indifferent electrode, is placed at a considerable distance, in order not to interfere with the action of the former. In morbid conditions the altered structures react differently from the normal, and in the motor nerve, for instance, the anodic reaction often prevails over the cathodic. According to electrophysiologic law, the increased sensitiveness in neuralgia should be subdued by the anode, but sometimes it will on the contrary increase the pain, which, however, will yield to the cathode; in some cases, as in neuritis, only a strong irritation with the faradic brush will bring relief. Again, where the anode subdues the pain, it will sometimes carry it to the corresponding nerve of the opposite side; in such cases, in order to prevent this complication I apply to the symmetrical nerves a bifurcated anode (my polar symmetrical method).

In the normal auditory apparatus the cathode produces a distinct sound, like the ringing of a bell, which instantly ceases under the influence of the anode. Thus the latter can be used to abolish tinnitus aurium. But in pathological conditions

the reaction of the auditory apparatus is often perverted, and the noises can be stopped only by the cathode. When the reaction is paradoxical, *i.e.* when the noises cease in one ear to appear in the other, a bifurcated electrode applied to each ear brings both under the influence of the same active electrode and abolishes the noises.

These examples show that electrophysiology has to guide electrotherapeutics, but the physician must find his own methods based on clinical observation.

The limited space of this article allows to describe but a few electrotherapeutic methods and to briefly allude to the principles on which they are based.

*Galvanisation of the Brain.*—A mild galvanic current applied to the head may call forth cerebral symptoms—flash of light, taste, sound, vertigo, etc., which prove that the current, percutaneously applied, affects the brain directly, and not by reflex, and acts upon the vasomotor nerves and the circulation. The galvanic current, being the normal stimulus for the brain, is indicated in all functional and some organic cerebral affections; in neurasthenia, hysteria, hypochondria, in mental diseases, insomnia, etc. Even organic diseases of the brain, which are generally preceded and accompanied by cerebral congestion, anæmia, and other vasomotor disturbances, are favorably influenced in the first stage. As galvanization of the brain improves the circulation and nutrition of the nerve centers and these latter control all the functions of the body, it is obvious that their improvement affects the whole system. My method is described in the *Archiv für Psychiatrie und Nervenkrankheiten*.

Mrs. L., about forty years old, suffered from deep melancholia without delusions since her husband deserted her six years before. She was very anæmic and emaciated, pulse slow and easily compressible, all the functions retarded. She constantly remained quiet, exceedingly depressed, scarcely uttered a word, ate very little and had only a broken sleep. A friend accompanied her to my office and gave the anamnestic data while the patient sat silent, motionless, even the facial muscles remaining immovable and presenting a masklike appearance. The eyes alone expressed intelligence and showed that she was aware of her surroundings. Soon after I began the galvanization of the brain the face gradually assumed a more natural appearance, she smiled and said she felt better, and at the end of the application she looked differently, gave me some details of her condition and walked cheerfully away. Under the continued treatment she recovered and resumed her former occupation.

Mr. E., about forty-three years old, formerly healthy, very active and one of the best students at college, where his professors and colleagues predicted for him a brilliant literary career. After the death of his young wife, several years ago, he lost his former ambition and energy, became inactive, irritable and capricious, quite in contrast to his former good-natured and amiable disposition. He complained at first of a dull headache, various paræsthesias and other neurasthenic symptoms. Later he suffered from præcordial distress, congestions to the head and different vasomotor disturbances. These latter symptoms would assume at times an acute exacerbation in the form of attacks of insomnia, intense psychical depression, accompanied with dyspnœa, præcordial distress and suicidal tendency which would last for weeks without yielding to any treatment, and would only gradually subside, leaving the patient weak and depressed for many months and sometimes until the appearance of a new attack. The morbid condition presented a strange combination of neurasthenia, hysteria and recurrent melancholia (described by me in the MEDICAL RECORD, 1898, June 11. He had been treated with but little success by a variety of methods; during the acute attack no remedy would alleviate the suffering; no hypnotic would produce sleep if administered in the ordinary doses, and the patient seriously contemplated suicide. Galvanization of the brain, however, gave immediate relief and removed the præcordial distress, the dyspnœa and insomnia. By continuing the treatment for some time supplemented by galvanization of the cervical sympathetic the patient would rapidly recover and would remain comparatively well until, under the influence of some depressing emotion, a new attack would be called forth and would again yield to galvanization of the brain.

Miss G. of this city, aet. twenty-eight, came came under my care twenty years ago, suffering since her fifteenth year from intense headaches, which would not yield, even temporarily, to anything but a complete anæsthesia by ether, which had to be kept up, with interruptions, for twenty-four hours or more, once a week and sometimes oftener. She was otherwise of a good constitution, but with a tendency to congestions to the head. The galvanization of the brain brought a speedy relief, the headaches became milder after each application, less frequent, and could be borne without ether. After a while the headaches left her entirely and have never returned. She still continues in perfect health.

Rev. Mr. A., aged fifty-five years, an eloquent preacher and scholar, of a very nervous temperament, suffered for many years from insomnia, and complained of different neurasthenic symptoms and was very much run down. He went to Europe in search of health, but on reaching Paris began to hallucinate with a complete confusion of ideas. It became necessary to place him in an asylum and Dr. Brown-Sequard telegraphed his family in Boston that he was probably hopelessly insane. When his condition improved somewhat he was brought back to New York and placed under my care in 1877. I found him weak, anæmic, emaciated, suffering from insufficient sleep (for about two to three hours). I treated him daily with galvanization of the brain, which soon brought nights' rest and after a while he could sleep for seven or eight consecutive hours. His general health improved with the regained sleep, and allowed him to resume, with renewed energy, his former work. He published later a new volume and has since continued to be in good health.

Miss I., school teacher in Washington, D. C., referred to me in 1871 by her uncle, an eminent physician. She suffered for years of otorrhœa, noises in the ears and head, with severe headaches and insomnia. She was anæmic, emaciated, of a sallow complexion, and the countenance expressing intense suffering. I commenced the treatment of tinnitus aurium, at the same time using the galvanization of the brain. After the first treatment she slept almost twenty-four hours, awakening only for her meals, and slept well every following night. She left for Washington in a very satisfactory condition and resumed her usual occupation.

Mr. H., lawyer (1887), aet. forty-one, married, suffered for many years from severe nervous dyspepsia, and gastralgia with occasional vomiting and insomnia. He could not take sufficient food, as many nutritious articles invariably produced indigestion. He complained of general

debility, was anæmic, thin, weak, unable to have any outdoor exercise and often had boils and furuncles. A life insurance company had refused to accept him after examination of the urine, which contained a considerable amount of sugar. I found the patient's heart weak, the pulse small and the muscular system undeveloped; the urine contained more than 2 per cent. sugar. Under the galvanization of the brain and general faradization the glycosuria disappeared and his health steadily improved in every respect. He gained flesh and strength, sleeps well and can now take outdoor exercise; his appetite and digestion are good and all other functions normal.

The incurable progressive paralysis of the insane s preceded by cerebral vasomotor disturbances long before the degeneration and destruction of the nervous elements set in. In the first vasomotor stage I consider the disease curable.

Mr. J., a wealthy bachelor over fifty years old, placed himself under my care in 1881. He was a high liver, and had syphilis, from which he was entirely cured many years ago. His friends and relatives had noticed for some time a gradual change in his temper and general appearance; from a quick, rather aggressive man, exceedingly active, and fond of society and of all sorts of pleasures, he became quiet, passive, even submissive, taciturn, and complained of neuralgias and insomnia. The examination showed that he was of a good constitution and the thoracic and abdominal viscera normal. His speech was slow, hesitating, the pupils somewhat unequal. and reacting sluggishly, fibrillary contractions of the tongue and occasional twitchings of the facial muscles. The knee-jerk was diminished, he walked slowly and complained of sciatic pains, sometimes in the right or left limb and sometimes in both. I pronounced the case progressive paralysis of the insane, with an absolutely unfavorable prognosis. However, the galvanization of the brain and of the cervical sympathetic gave beneficial results, and his general health improved progressively and so remained during twelve years. Together with the galvanic treatment I enjoined a healthy mode of living, forbidding all excesses and alcoholic drinks, and advised being under a constant medical observation. His relatives, who lived with him, thought he was entirely restored to health and concluded to spend a couple of years in Europe. Meanwhile he took up his residence in one of the fashionable clubs and resumed the gay life and excesses, of his youth. I did not see him for eighteen months, when he suddenly came to my office, after an apoplectiform attack, in a hopeless condition. His relatives returned and took him to Europe, where the disease progressed to a fatal termination. I believe the patient might have been saved had he remained under medical observation and led a quiet life, as in the following case.

Mr. R., a bachelor, thirty years old, a successful dentist, with a large and lucrative practice came under my care in 1887. He worked hard, but could not take sufficient sleep; he spent the evenings in society, or places of amusement, indulged in all sorts of excesses, and once acquired syphilis, from which, however, he had been cured. He presented premonitory symptoms of general paresis —great excitability, inequality of pupils, congestion to the head and headache, loss of memory, fibrillary contractions of the tongue and of the facial muscles, insomnia, frightful dreams, diminished knee-jerk. I treated him with galvanization of the brain and cervical sympathetic, and in explaining to him his condition, advised a quiet, healthy, regular mode of living, if possible in the country. The patient followed my advice and has entirely recovered.

The effects of galvanization of the brain are soothing and invigorating; any unpleasant or painful sensation diminishes or disappears, impeded movements become easier, choreatic twitchings cease and patients enjoy refreshing sleep.

Miss S., fifteen years old, only child of wealthy parents, was affected with a severe form of chorea, which resisted every treatment, including arsenic and iron, etc. I saw the patient in 1873. She was thin, very pale, chloro-anæmic, and continuously agitated by more or less violent clonic movements of the head and extremities which seriously interfered with every voluntary movement and were often the cause of alarming accidents. Thus, the day before she came to me the end of a parasol she held in the hand was violently thrust into the nostril and caused a profuse hemorrhage, which was arrested with great difficulty. I treated her for a couple of months with daily galvanization of the brain, under the influence of which she gradually recovered, had no relapse and still remains a healthy lady.

Mrs. L., about sixty-five years old, thin and decrepit, of a sallow complexion, with senile tremor of head and hands, resembling the initial stage of paralysis agitans, complained of dyspepsia, insomnia, backache, and general debility. I treated her with galvanization of the brain until the disappearance of all the morbid symptoms, including the tremor She is still in good health, although now an octogenarian; goes out even in winter, and comes occasionally to be treated with galvanization of the brain.

Mr. B., a cultivated gentleman of this city, controlling large business interests and generally respected for his benevolence and philanthropy. When a young married man he used to have hemorrhages from the lungs and other symptoms of pulmonary phthisis, which, however, gradually subsided, although he always remained in delicate health and very thin. Later he became subject to dyspepsia and diarrhœa with occasional attacks of gastralgia. In 1869 I was called to treat him during the most severe attack of gastralgia and vomiting, which, lasting nearly two weeks, deprived him of night's rest and prevented the taking of nourishment. After he had recovered from this protracted illness he came to my office asking advice in order to prevent similar attacks. I employed galvanization of the brain for several months, with occasional interruptions, until the patient's improvement in every respect became steady. He said that his general health had become better than ever before, and, he continued, for about twenty-five years, to come now and then for a short course of treatment, being always active and cheerful, and retaining all his mental powers at his great age. In consequence of exposure he died of pneumonia in his ninety-seventh year.

In elderly persons a methodical galvanization of the brain is marked by a change in their general appearance. It acts as a natural stimulant and tonic, abolishes tremor, and prevents senile decrepitude; it actually prolongs life and preserves the normal functions and the mental faculties.

*The Sympathetic Nervous System.*—The galvanization of the sympathetic is important because of the large number of its vasomotor secretory, accelerating and inhibitory nerves and ganglia, influencing the circulation and nutrition of the viscera and controlling their involuntary and peristaltic movements.

The galvanization of the cervical sympathetic is indicated in different vasomotor neuroses—Basedow's

disease, migraine, epilepsy, etc., and in the incipient stages of some organic cerebral affections (general paresis).

The cervical sympathetic may be galvanized either by applying one electrode to the superior and the other to the inferior cervical ganglion, or by the polar method, when the active button-shaped electrode is applied to the superior cervical ganglion and the indifferent, a large flat electrode, to the nape of the neck with a very mild current of not more than half a minute's duration, avoiding sudden fluctuations in order to prevent cerebral symptoms. This generally accepted rule is often useful, although sometimes its effect is insignificant or fails altogether. In these cases I use the following method, especially in anæmic or decrepit persons; I rapidly increase the current to a considerable strength with sudden fluctuations and occasional voltaic alternations, decrease it in the same way to zero, cautiously watching the effect.

Rev. Mr. C., aet. fifty-eight, emaciated and anæmic, with symptoms of severe neurasthenia, suffered for years from general debility, insomnia, nervous dyspepsia, gastralgia, dull headache, backache, vertigo, and exhaustion after the slightest mental effort. He was constantly under medical treatment. I, too, treated him at different times with various methods, including galvanization of the cervical sympathetic according to the usual method with mild currents, but with little general improvement, except the backache that yielded to strong faradization of the spine. I then concluded to modify the galvanization of the sympathetic and asked the patient to inform me at once of every sensation he experienced during the application of the current. A flat anode was applied to the nape of the neck and a button-shaped cathode to the superior cervical ganglion; the current was rapidly increased, in a few seconds reversed and decreased with considerable fluctuations to zero. The same procedure repeated on the other side. During the application the patient felt flashes of light, taste, sound, disturbed equilibrium with inclination toward the anode, etc. Immediately after the application he felt general relief, and reported the next day that he had slept soundly all night, had no headache or any other morbid symptom, felt entirely well and was free from gastralgia, although he had imprudently eaten with great appetite. I continued for a fortnight the same treatment.

This method from the first application often changes the entire character and course of a chronic disease and makes it more manageable and yielding to a proper treatment.

I galvanize the thoracic and abdominal sympathetic, including the spinal cord, by the polar method—applying the active large electrode to the dorsal and lumbar vertebræ and the indifferent large electrode to the hypogastric region, beginning with a moderate current and increasing it so far as the patient can comfortably bear. Both electrodes are first kept steadily, then the active electrode is moved slowly without breaking the current, along the vertebral column and its sides, while the indifferent electrode is kept at the hypogastrium; from time to time voltaic alternations are made, while both electrodes remain stable.

The principal vasomotor nerves are the splanchnic nerves; their vascular territory could contain almost the whole blood of the body. As they control the circulation, nutrition and other functions of the abdominal and pelvic viscera, I galvanize the splanchnic nerves in all chronic affections of these organs.

Here I will speak only of a special class of very painful and otherwise intractable affections within the sphere of the abdominal sympathetic, which readily yield to my method.*

Under certain morbid conditions of a neurotic character (general or local) the surface of the excretory canals is in a state of hyperæsthesia, and the mere passage of the normal contents, menstrual flow, urine, fæces, produces spasmodic contractions and intense pain in the terminal part of the excretory canals.

Mrs. H. of Richmond, Va., twenty-five years old, suffered from intense dysmenorrhœa with headache, backache, etc., notwithstanding various treatments and two operations performed by Dr. J. Marion Sims, who asked me to try electricity to alleviate the pain. I commenced the treatment immediately after the period, by my method of galvanization of the splanchnic nerves, and continued it daily until the next period, which was painless, as were all the following. Her general health still remains excellent.

Dr. M., a physician of this city, suffered, for many years, from painful defecation, which prostrated him every morning and disabled him for the day. He could not attend to his practice and was obliged to postpone the movement of the bowels until bedtime. All the usual medicinal and surgical methods, severe stretching of the anus under an anæsthetic, etc., failed, but repeated galvanization of the splanchnic nerves brought relief.

Cases of painful micturition in male patients which had not been relieved by incision of the orifice yielded to the same method of galvanization.

*Galvanization of the Pneumogastric Nerves.*—Asthmatic attacks caused by a spasm of the bronchial tubes (reflex neurosis) are relieved by galvanization of the pneumogastric nerve.

W., twelve years old, whose father, a clergyman, died of asthma, suffered from the same disease and was brought to me by his mother in 1882. The first attacks were each caused by a cold in his ninth year and became gradually more frequent and severe; later they followed indigestion, overexertion or a cold, and soon began to appear without any apparent cause and last many days, a new attack coming on before he could recuperate from the preceding one. He was pale and emaciated and weakened by the suffering and sleepless nights, insufficient nourishment, lack of outdoor exercise. Having regulated his diet, corrected the digestion and the action of the bowels, I commenced the galvanization of the vagus. A rod-like anode about two inches long was applied along the nerve on one side of the neck, a large flat cathode to the nape of the neck, both electrodes were kept in their places while the current was gradually increased to a moderate intensity and slowly decreased. The same was repeated at the vagus of the other side. I treated the patient daily for more than a month. Several times an abortive attack or rather a premonition of an attack would appear but would quickly yield to the current. His general health visibly improved, the pallid cyanotic complexion gave way to a natural color, sleep and all other functions became normal, and he returned to Cambridge, resuming the treatment twice annually the following three years with the most satisfactory results. The attacks never returned. He pursued his studies, graduated from college and now occupies a responsible position as engineer. He is exceedingly active and enjoys excellent health.

In treating the pneumogastric nerve a bifurcated

*Neftel: "Beiträge zur Kenntniss und Behandlung der Visceralen Neuralgien," *Archiv für Psychiatrie und Nervenkrankheiten*, Bd. X, Heft 3.

anode can be used on both sides, with the cathode at the nape of the neck. Care must be taken with regard to the intensity and duration of the current, to avoid symptoms of irritation of the vagus, retardation of the pulse, fainting, etc. In the above described case I had to reduce the morbid excitability of the vagus by producing a state of anelectrotonus, which was followed by cessation of the asthmatic attacks. But in other cases the contrary takes place, the cathode relieves the attack, probably owing to the abnormal reaction of the diseased vagus.

In some cases the exciting cause of the asthma is a congestion and swelling of the nasal mucous membrane; faradic current is then indicated—the anode introduced into the nasal cavity and the cathode applied to the nape of the neck, gradually increasing the current so far as the patient can bear and diminishing it to zero, repeating several times this procedure in one nostril and the same in the other. The treatment should be continued daily until the attacks cease to reappear. Sometimes as after-treatment a mild galvanization of the pneumogastric may be necessary.

Galvanization of the spinal cord is indicated in all its chronic affections. I give here as an instance the method I employ in tabes dorsalis. This disease is generally considered a typical primary systematic affection of the spinal cord (gray degeneration of the posterior columns) and a parasyphilitic disease, *i.e.* it is not genuine syphilis nor is it curable by antisyphilitic treatment, and yet it is alleged that no one can have tabes unless previously affected with syphilis. In spite of these theories it has always seemed to me that the spinal affection was a secondary degeneration in consequence of a primary cerebral affection. This is corroborated by the presence in tabes of various cerebral symptoms: optic atrophy and other ocular troubles, loss of the muscular sense and coördination, whose centers are in the brain, and the occasional combination of tabes with general paralysis of the insane. That syphilis is not an essential integral part of tabes, but only a frequent predisposing cause, is proven by authentic cases of tabes without any inherited or acquired syphilis. Again, were syphilis the cause of tabes, the latter would have been more commonly met with, owing to the prevalence of syphilis. During a scientific expedition in Central Asia in 1857 I was struck with an almost general prevalence of syphilis among the nomadic tribes, and although I had the opportunity to observe many thousands of the native population while studying the immunity from tuberculosis and the effects of kumyss,* I never saw a case of tabes in the steppes of Central Asia.

The tabic process may occasionally originate in the peripheric nerves and extend to the spinal cord (pseudotabes).

I combine the galvanization of the spinal cord with the galvanization of the brain and sometimes treat the peripheric nerves with a faradic brush.

Rev. C. G., over fifty years old, was affected with tabes in its advanced stage, which at first was taken for lead poisoning. He suffered from lancinating pains in the lower extremities and had bladder trouble and constipation; could walk with great difficulty (atactic gait), using two canes; had strabismus, diplopia, and presented the phenomena of Romberg, Westphal, Argyll Robertson.

I treated him, placing a large anode to the lower vertebræ and a cathode of the same size to the nape of the neck, which were kept steadily for several minutes, while the mild galvanic current was gradually increased so far as the patient could bear it comfortably. Then the anode was slowly moved with a certain pressure several times up and down the vertebral column and its sides, the cathode remaining in its place. This was followed by the galvanization of the brain and an application of the faradic brush to the painful parts. The treatment was continued daily, or three times a week, during eight months with very beneficial effect; the pains, which formerly gave way only to morphine injections, entirely disappeared, along with the other troubles. He returned home, could walk comfortably for hours with one cane, rode on horseback and for all practical purposes considered himself well.

The prognosis in locomotor ataxia is favorable in the incipient stage. When more advanced, its further development may be arrested by the galvanic treatment and the patient enabled to attend to his ordinary occupations without suffering, but he could not be considered cured.

In treating cases of tabes I observed an abnormal galvanic reaction of the sensitive nerves. In the normal condition under a mild current and the electrodes of equal dimensions, a slight burning sensation is felt at the cathode only, where it increases with the current intensity, whilst at the anode no sensation is felt, unless the current is strong, and even then the irritation is felt more keenly at the cathode than at the anode. In some morbid conditions, as in tabes, the reaction is reversed—the anode produces the painful sensation, while the cathode is less felt (degenerative reaction of sensitive nerves).* With the improvement of the disease the reaction becomes normal.

*Neuralgia.*—Neuralgias are generally treated with the polar method, the anode being applied to the painful spot, the cathode either to the nape of the neck, or the hypogastric region, or some other distant part, the current flowing steadily for several minutes commencing with a very mild current, which is gradually increased to a moderate intensity, avoiding sudden fluctuations and metallic reversions, and as carefully decreased.

This method is modified according to the exigency of the case. I often use my polar symmetrical method, applying the anode to the painful spot and the indifferent electrode to the corresponding part on the other side. I sometimes combine the local treatment with galvanization of the brain.

When neuralgia is complicated with neuritis the faradic brush allays the pain.

Mrs. C., seventy-three years old, with an organic heart disease, suffered for many years from severe neuralgia of the left trigeminus, including all its branches, especially the second. I began treatment by the usual galvanic method, but soon had to change it in the following way. I introduced a cylindrical positive electrode of a faradic current into the left nostril and a flat negative to the nape of the neck or the left cheek alternately; increased the current intensity so far as the patient would stand it and gradually decreased, repeating the procedure several times during one or two minutes. She felt better after each application and in a fortnight the neuralgia disappeared. I continued the galvanic treatment for another fortnight with mild currents, applying a large pliable anode, covering the painful left side and the cathode to the corresponding right side of the face. The patient

*Neftel: "Beobachtungen aus den Kirghizen Steppen," *Verhandlungen der Physikalisch-Medicinischen Gesellschaft zu Würzburg*, 1859.

Transactions of the International Medical Congress, London, 1881.

**Archiv für Psychiatrie und Nervenkrankheiten*. Bd. XVI, Heft 1.

remained absolutely free from all pain during two years, when, at the World's Fair in Chicago owing to the excessive heat and overexertion, she had a relapse, which, however, yielded promptly to the same treatment.

Mrs. L., sixty-five years old suffered intensely from an aggravated form of sciatica on the right side which for four years interfered with night's rest and affected her general health. On account of the pain the leg was bent in the hip and walking without a cane was impossible. A pliable anode was placed upon the affected sciatic nerve, the cathode to the upper lumbar region. Beginning with a mild galvanic current, it was gradually increased until the burning sensation at the cathode became severe, when it was as carefully decreased to zero. On alternate days the cathode was applied to the hypogastric region, and the anode, now a solid electrode, first to the lumbar region, then slowly moved with a certain pressure along the sciatic nerve, terminating the application on the sore spot. Each treatment lessened the pain and improved the mobility of the hip. At the end of two months the patient was free of pain, walked without a cane and her general health was restored.

Mr. H., forty years old, thin, emaciated—a martyr to sciatica. Three years before he came to me he had broken through the ice, and, drenched to the skin, had to walk a long distance to his home. In consequence of this accident severe sciatica developed on the right side, especially in the sphere of the peroneus, and would not yield to any treatment. I used the polar method with the anode on the affected part and the cathode at the hypogastrium; although the pain became less severe, it showed no tendency to yield any further. I then applied the anode to the right peroneus nerve, the cathode to the left peroneus, which relieved the pain more than any former application. The improvement continued steadily, and when to this treatment I added the galvanization of the symmetrical upper parts of the sciatic nerves, the recovery became complete.

The galvanic treatment is beneficial in other forms of neuralgia, which cannot be described here; but these few illustrations suffice to show that the methods have to be modified according to the peculiarities of each case.

In neuritis the faradic current is indicated.

I have endeavored to show, as far as possible in a single paper, the advantages of employing the electric treatment in general practice with the simplest galvanic and faradic apparatus, and without much loss of time to the general practitioner. The costly, complicated apparatus should be left to the specialist, neuropathologist and electrotherapeutist, for therapeutic purposes and scientific researches. I hope to speak of these on a future occasion.

16 East Forty-eighth Street.

## SUPRAPUBIC LITHOTOMY.*

By J. J. BROWNSON, M.D.,
DUBUQUE, IOWA.

It was in Paris in the year 1745 that the first suprapubic operation for stone was performed by Colot. It is not my purpose to trace the many changes of this operation from its inception to the present time, for like nearly all surgical procedures it has had its advocates and opponents without number.

Vesical calculi are found at all ages, and, for anatomical reasons, are more common in the male than in the female.

It is supposed that stone is caused by some peculiarity in the drinking water, or by some defect in the urinary apparatus, causing a slight precipitate which acts as a nucleus upon which deposits of the urinary salts take place, layer upon layer, finally producing a calculus of varying size, or numerous ones formed from fragments of the original. Of the various types of stone, viz., uric acid, oxalate, and phosphate of calcium, there are several kinds and various methods of development. I need not dwell upon them, as they are familiar to all. Stone in the bladder, when discovered, should be promptly removed, thus preventing various changes in the bladder and kidneys and untold suffering and death.

What symptoms will lead us to suspect stone in the bladder? Patients will usually come complaining of constant desire to make water. They find it necessary to get up frequently at night. There is often pain down the thighs and at the end of the penis. In children a long foreskin and a constant irritation of the organ, should cause us to be on the lookout for other signs of stone.

Any of the above symptoms in patients under thirty, should lead us to investigate. One of the most valuable evidences of this affection is the stopping of the stream of water when once started, to pass again when the position of the body is changed. The passage of blood should also cause us to be suspicious. After all, we can be sure that we have a case of urinary calculus only when we can detect it mechanically by means of an instrument introduced into the bladder.

This is called the operation of sounding. I call it an operation because all the precautions should be taken in performing it. The ordinary searcher or steel sound should be used, one of block tin that may be bent is especially useful. The patient should be told to retain his urine, or if the bladder be empty, a warm solution of boracic acid may be introduced. The instrument, after being sterilized, is anointed with a little olive oil, and passed into the bladder, and a thorough examination made. Gentleness must be the rule in all bladder manipulations, and great care must be taken to keep the patient from getting chilled.

If, after an examination, no stone is found, a rectal bag should be introduced and distended with about six ounces of water. This will raise the bladder up, and in this way I was able to detect a calculus in one case in which repeated examinations had failed to find it. As a final resort when no stone is found, it is well to let the fluid drain away slowly, so that the stone will roll up against the searcher as the last few drops of fluid come away.

It is well to remember that the examiner will not always hear the "click" as described, but more often a roughness will be felt, as if the searcher were passing through sand. It is the most trained tactile sense rather than that of hearing which is most to be depended upon. With every precaution it is sometimes only after repeated examinations that a diagnosis can be verified.

The presence of stone having been determined, what means shall be taken to remove it? There are two methods of removing stone from the bladder; that by crushing, and that by cutting. With crushing methods I have had no experience. It may be that in skilled hands this operation is all that is claimed for it, but I think that for the ordinary surgeon, the cutting operation will yield the best results, as what skill is required he is constantly using, while the performance of lithotry or lithola-paxy requires special practice and special instruments, and these are not to be had by the average surgeon.

*Read at the third anniversary meeting of the Jo Daviess County Medical Society, at Warren, Ill.

Of course the foregoing remarks refer to calculus in the male, since this condition in the female is usually dealt with by dilating the urethra and removing the stone.

Of the cutting operations there are two, known as the high or suprapubic, and the low or perineal.

I will refer briefly to a few points in which I think the high operation the superior. You all remember the story of the smith at Amsterdam who removed the stone from himself. It was when I heard this story that I made up my mind that this was the anatomical route. The danger from hemorrhage is not so great, and there is no fear of wounding the rectum. We all understand that the perineum has a delicate and peculiar nerve supply, especially in old persons, when great changes have taken place in the tissues. It is a well-known fact that operations on the perineum require a greater amount of anæsthesia than on any other portion of the body, and also that a majority of the deaths from ether and chloroform during surgical operations are those connected with the perineum. These phenomena all show that there is a special susceptibility in this region. On the other hand, the principal objections to the high operation consist in the danger of urinary infiltration and the wounding of the peritoneum. I have always thought that urinary infiltration was a surgical bugbear. I never knew of a case, nor do I see how it could happen if the operation were properly performed.

As to wounding the peritoneum. Suppose it is

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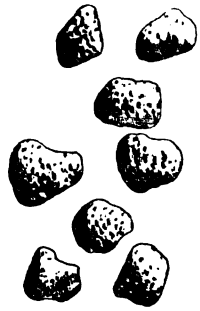


No. 2.

wounded, it could be sewn up again. This accident happened in one of my cases, and it had not the slightest effect on the result.

The greatest advantage in the suprapubic method is the ease and thoroughness with which the operator has control of the bladder. Its surface can be explored for multiple encysted calculi, growths, etc., and, if the stone is very large, there is plenty of room for its removal. If it is thought necessary to drain the bladder, better drainage is secured, although this might seem contrary to the fact. I have siphoned the urine out for weeks, without touching the tubes.

Having determined the presence of a stone, and that we will make the high operation for its removal, the principal point to fix in the mind is the suprapubic interval through which we can enter the bladder where it is not covered by peritoneum. It was in 1880 that Professor Peterson of Kiel introduced the idea of distending the bladder and rectum, so as to increase the space, since the distended bladder ascends into the abdomen and through the interval we can safely enter the bladder for the removal of stone or new growths, or for drainage.

The usual preparations, as for laparotomy, are now made, the anæsthesia is administered; when the patient is unconscious the rectal bag is oiled and introduced into the rectum, and distended with six ounces of water, and the end tied to prevent leakage. The catheter is introduced and eight ounces of Thiersch's solution thrown into the bladder, after which the catheter is removed and a tape is tied around the penis to prevent escape of the fluid. It is best to measure these solutions and use the irrigator, and if this is done there will be little danger of rupturing either rectum or bladder.

Before commencing the operation it is well to determine the outline of the bladder by percussion. When the operator has convinced himself of the dulness, he should make an incision about two and one-half inches long above the pubes, going right down in the linea alba until the fat above the bladder is reached. This is pushed up with the finger nail, or the handle of the knife, and then on retracting the edges of the wound the veins over the bladder may be seen. Now the index-finger of the left hand is passed down and the bladder is palpated. The assistant now hooks up a portion of the bladder wall, and the operator, using the finger as a guide, incises the bladder. As this is done the fluid gushes out. The finger is then passed down to the bottom of the bladder and the stone can readily be felt and removed, either by fingers or forceps. It is best not to remove the finger until the stone can be taken out.

After it is made certain that the bladder is clear, the edges are stitched to the wound and a drainage tube put in. The rectal bag being removed, the bladder is now washed out with Thiersch's solution, a gauze dressing is put on, and the patient is removed to bed.

The drainage tube is made by sewing two No. 10 flexible catheters together through the eye, and when they are in place, two siphon tubes of glass are put in the ends and a receptacle placed alongside the bed to catch the urine. If the patient is young and bladder is healthy, an attempt may be made to close the bladder with gut sutures in the usual way, and in that case a catheter should be fastened in the bladder through the urethra. I think, however, when there has been some cystitis it is better to drain.

If the urine does not come through the tubes, they may be washed out. If the urine becomes loaded or cloudy two grains of boracic acid should be given every two hours until the urine clears up. We can leave the tube or catheter in place several weeks by keeping the urine sterilized with boracic acid.

To further illustrate, I desire to report a few clinical cases and show some specimens of urinary calculi successfully removed:

Case I.—J. C., resident of Delhi, aged sixty-nine years, referred to me by Dr. Flower for operation for stone in the bladder. Examination confirmed the diagnosis and he was sent to the Mercy Hospital for operation. The operation of suprapubic lithotomy was done, and the stone (No. 1) extracted. Drainage tubes were put in and after three weeks removed. Although quite an aged man, the patient made a good recovery.

Case II.—Mr. S., came to me suffering for the past two years with urinary trouble. He had been sounded by several physicians, who declared he had no stone. I had him removed to the Finley Hospital, where Dr. Hamilton gave him ether. On introducing the searcher it passed over a roughened surface like a bed of sand. Diagnosis of probable stone, and operation advised. Several days afterward operation suprapubic was made. There were found eight encysted stones (No. 2). The bladder was drained, and, with the exception of considerable difficulty with gas in the bowels, he made a good recovery. The tube was removed on the fourth week.

Case III.—P. G., aged sixty years, resident of Farley, Ia., referred to me by Dr. Lambert for opera

tion for stone in the bladder. Upon examination the characteristic "click" was elicited and the opinion of Dr. L. confirmed. Operation was advised. Accordingly the patient was removed to the Mercy Hospital and suprapubic operation done. On the bladder being opened, the large phosphatic calculus (No. 3) was removed. Owing to the size of the stone the opening in the bladder had to be enlarged. This was easily done and the stone extracted. Drainage was made, and the tube removed in three weeks. Following this the wound closed quickly and the patient was soon well.

## TREATMENT OF CERVICAL ADENITIS DUE TO TONSILLAR INFECTION.

By ALBERT E. ROGERS, M.D.,
BOSTON.

That the tonsils situated as they are between the pillars of the fauces are portals of infection is now a well-established fact. When the gland has been inflamed almost every known pathogenic bacteria have been found in its crypts.

B. Frankel has stated that an infection of the tonsils could take place through inflammatory conditions of the nasal mucous membranes and J. Goodale has demonstrated by a series of experiments that the infection can take place from the fluids of the mouth directly through the mucous membrane of the crypts. According to Ruge, tuberculous infection has taken place, and Jessen reports four cases of pyæmia of varying intensity due to tonsillitis. Mayer is of the opinion that infections take place through the tonsils and are often serious in their sequelæ, and he believes that existing tonsillar disease should be energetically treated and every means should be taken to prevent recurrent attacks.

The cervical glands receive their lymphatics from the tonsils, and these latter being once infected, the extension of the infection to the glands of the neck is an easy step, and it has been a matter of common observation that cervical adenitis in children and young adults is commonly associated with hypertrophy of either the faucial or pharyngeal tonsil. Jessen also emphasizes the fact, and I wish to do the same, that tonsils with a normal appearance may yet contain a hidden focus of infection.

Having an acute tonsillitis to deal with, it is obviously necessary to employ energetic treatment to prevent a cervical adenitis, and I believe that applications of a five-per-cent. aqueous solution of iodine to the crypts is a preferable method to the use of the ordinary antiseptic gargles alone. In acute ulcerative tonsillitis the best treatment is to remove the diseased tonsil tissue by cutting well below the floor of the ulcer and then applying a strong antiseptic to the cut surface.

In the treatment of chronic cervical lymphadenitis Goodale has obtained most excellent results from the injection of a ten-per-cent. aqueous solution of iodine into the tonsillar crypts by means of a hypodermic syringe. He repeated the injection every third or fourth day, and in most of his cases there was a marked reduction in the swelling of the glands.

In my treatment of these cases I have been more radical, and in place of treating the tonsil itself, have resorted to as complete a removal as possible, and I now suggest that in all cases of cervical adenitis, in which the glands have not already broken down, the surgeon should first extirpate the tonsil before resorting to an incision through the skin. Usually an unsightly scar is a result of this latter method of external incision and curetting, and the source of infection remaining in the tonsil, the enlargement of other glands may necessitate still further operation and a more extensive scar.

I append the notes of five cases treated according to my suggestion, and it seems to me they should appeal to those surgeons who are still operating upon cervical adenitis through the skin:

Case I.—A young lady eighteen years of age. Has had the various children's diseases. No tuberculous history. Has had recurrent attacks of tonsillitis. Two months after last attack noticed a swelling at the side of neck. Her physician ordered potassium iodide internally and external applications of iodine vasogen. The swelling gradually grew larger for a period of one year, when operation for removal of the glands was advised. She was referred to me. There was an enlargement of the cervical glands on the left side, causing an unsightly swelling about the size of a hen's egg. The tonsil of the same side was hypertrophied and adherent to the anterior pillar. I advised the extirpation of the tonsil before resorting to the removal of the glands. This was done under ether by means of the tonsillotome and the tonsil punch. Six weeks after the operation the swelling of the glands had disappeared and there has been no recurrence in two years.

Case II.—A girl of six years. Diphtheria when four years of age. An aunt and grandmother with phthisis living in the same house. Cervical glands enlarged on both sides. Tonsils moderately enlarged and a small adenoid present. Removal of the adenoid and tonsils advised and done under ether with the Gottstein curette and tonsil punch. Swelling of glands entirely disappeared six months after operation. No recurrence.

Case III.—A girl ten years of age. Always had been in good health until six years of age when she had an attack of tonsillitis. After the first attack she had many recurrences, and enlargement of the cervical glands appeared at nine years of age. The glands gradually increased in size until, when seen by me, the swelling upon the neck was as large as a goose's egg. There was no tuberculous family history. She had been treated by a number of physicians with iodides, iodine, and other remedies, and was finally referred to a surgeon for removal of the glands.

When I examined her there was no tonsil tissue to be seen on the left side, but there was a marked swelling covered by the united edges of the anterior and posterior faucial pillars (much like a pea in a pod). Under ether the adhesions were separated, and by means of the tonsil punch I removed a large mass of gangrenous tonsil tissue. In two weeks there was a marked diminution in the size of the enlarged cervical glands, but it was nearly six months before they had entirely disappeared. There has been no recurrence one and one-half years after operation.

Case IV.—A girl of twelve years. Poorly nourished. When nine years of age had a "sore throat," which was followed by enlargement of glands on the right side of the neck. About a year later one of the glands broke down and was incised and curetted by her attending physician. It took a very long time to heal. The other glands increased in size until, when I saw her, the general cervical swelling was as large as my clenched hand. The right tonsil was moderately enlarged, very pale and adherent to the anterior pillar. Under ether this tonsil was extirpated with the tonsil punch, and eight months after operation the swelling of the glands had entirely disappeared. This was one year ago and there is no recurrence.

Case V.—Girl, aged eight years. Good family

history. Had always been well. Eight months previous to having been seen by me she had an attack of tonsillitis. This was followed by enlargement of the cervical glands of the right side. She came to the clinic of the Massachussets General Hospital in the service of Dr. J. Payson Clark, to whom I am indebted for the privilege of removing the tonsil before she was referred to the surgeon. The extirpation of the tonsil was done under ether, and the patient reported a week later with only a slight cervical swelling, which at the end of the following week had entirely disappeared.

83 Westland Avenue.

## PERINEAL SECTION FOR STRICTURE, WITH SUGGESTIONS UPON THE USE OF THE CAUTERY, AND POINTS IN THE AFTER-TREATMENT.

By CHARLES C. MILLER, M.D.,
CHICAGO.

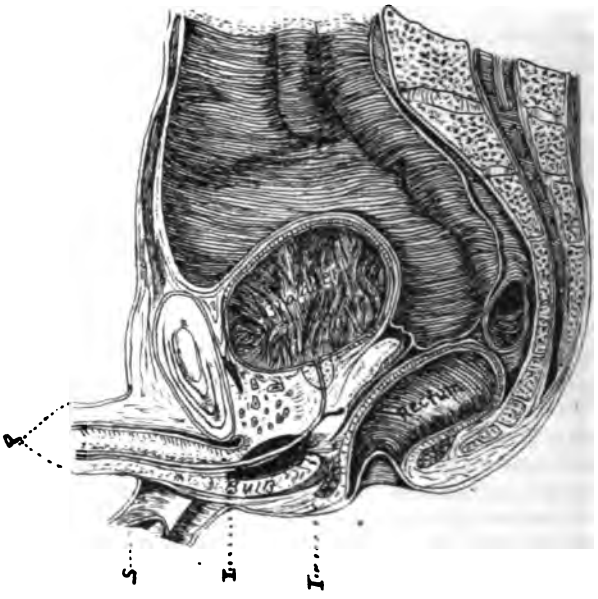
External urethrotomy for the relief of urethral stricture is an operation which causes considerable inconvenience to a patient submitting to it, but as it offers a chance of a permanent cure, many patients are willing to submit to the loss of time which its convalescence entails. Perineal stricture gravely endangers the welfare of its possessor, and operative relief by section of the stricture tissue can be recommended in any case. When the section can be made upon a staff, the operation is an easy one. In order to secure such a condition, as will permit of the passage of a staff prolonged efforts should be made, when necessary, to secure an enlargement of the stricture of small caliber. No better or surer means of doing this can be found, if a filiform can be passed, than by the use of the Maisonneuve urethrotome. Hours may be spent with profit in passing the filiform, which will guide the staff of this instrument. The smallest blade of the Maisonneuve will enlarge the urethra to such a size as to permit of the easy passage of a grooved staff.

With a grooved staff in place, held in a perpendicular position, bulging the perineum in the median line as much as possible, an incision is made from the perineoscrotal juncture to within an inch of the anus. After the incision has been carried down through the tissues, and only the walls of the urethra remain uncut, it is well to palpate if possible the stricture tissue. The urethra is then opened by carrying the knife along the groove in the staff, and the cicatricial tissue in the floor of the urethra completely divided. In some cases, when the finger cannot locate the stricture, we are made conscious of its presence by the increased resistance which it offers to the knife. The staff can now be removed. With the free skin incision it is not necessary to catch the cut edges of the urethra with forceps or take a stitch on each side, as retraction of the superficial parts will give good access to the urethra.

The roof of the urethra is now to be palpated, and if the stricture tissue can be located, it is to be divided by a cut along the roof. If the Maisonneuve instrument has been used in the beginning of the operation, the cut which its blade made along the roof can be found and enlarged until all fibers of the stricture have been divided. The Paquelin cautery is now brought into use. It should be at a dull red heat. It is carried to the bottom of the wound in the roof of the urethra, and one surface of this wound rapidly streaked by the lateral margin of the heated tip. If the wound is bleeding rather freely the opposite surface may also be cauterized for purposes of hæmostasis, but hæmostasis is not the object of our use of the cautery.

The cautery is now carried along the margin of the incision into the floor of the urethra. An area from one-eighth to one-quarter of an inch broad is to be cauterized by a single rapid stroke. This cauterization extends the entire length of the incision into the urethra.

The use of the cautery is to insure the formation of granulations, and thus prevent primary union taking place. One object in dividing a stricture is, if possible, to secure an alteration in the nutrition of the tissue so that absorption may occur, or a metamorphosis take place, and thus further trouble from the condition be prevented. Even if such fail to occur, we hope to establish a condition which will give relief in another way. By our incision we separate the urethral floor and roof, and we hope to leave a surface which will granulate and then be covered by epithelial cells from the margin of the urethra, so as virtually to add to the caliber of the urethra at this point.



The urethra has been opened by an ordinary median incision extending between dotted lines I. I. By this section the stricture has been cut through below along the floor of the urethra. By palpation stricture tissue is carefully felt for along the roof of the urethra, and, if found, it is divided by a cut running parallel to the urethra. When the Maisonneuve urethrotome has been used to pave the way for a staff, the cut which it has made is to be found and deepened if necessary, so that the stricture is completely divided. The cautery is then brought into use, and one lateral surface of the cut in the roof of the urethra is quickly cauterised. Then the same procedure is repeated along one side of the cut in the urethral floor, the width of the strip cauterised along the floor varying from an eighth to a quarter of an inch.

In this way subsequent contraction will not at once diminish the caliber of the urethra below the normal.

In the absence of constant irritation and inflammation cicatricial tissue has a tendency to contract only to a certain extent. In urethral stricture contraction is progressive, because in so many cases there is a constant irritation and inflammation of the mucosa and deeper tissues. In other cases we have this constant urethral and periurethral inflammation coupled with minute capillary urinary extravasations, which help to keep up a continual production of connective tissue. These conditions being overcome by our operation, we shall have a certain amount of contraction of the connective tissue, which necessarily follows our operation, but even after it is completed, the lumen of the urethra will be as great or greater than the normal. In this way there will be no inflammation re-excited by the obstruction to the outflow of urine.

The cautery must not be too hot nor allowed to

rest against the tissues too long, as it may be followed by sloughing of the tissues.

Before the operation is completed we must make sure that the entire urethra is free from any contractions. This can be ascertained by a full-sized sound. The urethra should be distended to its normal limit. More harm will result from failure to use a large enough instrument than from any other one thing. It will be seldom that an instrument as small as No. 30 French will be called for.

A soft rubber catheter of a size not greater than a No. 22 French is now passed into the bladder through the perineal wound. The bladder is then to be filled with fluid by means of an ordinary irrigator, and the fluid allowed to flow out of the catheter. As the solution flows from the catheter it is withdrawn from the bladder until the flow ceases. This will show that it is no longer in the bladder. Now it is again pushed slowly toward the bladder until the flow recommences. This will show that it is just within the bladder. A stitch with silkworm gut is now to be taken through skin and catheter so as to hold the instrument in the lower angle of the wound. As fast as the urine forms, it will flow through the catheter, which is attached to a tubing so as to conduct the solution into a vessel at the side of the bed.

The remainder of the incision is to be closed with silkworm gut. These sutures should not extend deeper than the cauterized area. During the time when the incision was being made into the urethra all bleeding points were caught with hæmostats. These are to be removed at the end of the operation, and if any points bleed they are to be tied with fine catgut.

Constant drainage is used by some for several days after the operation, but I find it much more pleasant to the patient to remove the catheter as soon as he has recovered fully from the anæsthetic. In rare instances only, when there is an indication for complete rest of the bladder, the tube can be left in for some time.

In order that the wound may not be infected or contaminated with the urine, I order the patient to be catheterized through the perineum every six hours in those cases in which the bladder is infected. This is kept up for three days, and is, I believe, a most valuable method of treating these cases. The wound will in this way remain perfectly sweet and clean, and the case will run a non-febrile course. After the third day union of the surfaces which were not cauterized will have commenced, and the contact of the urine will do no harm. The catheter can be used with less pain than the urine would excite, and the patient does not suffer from the pain and inconvenience of a retained catheter.

In conducting an operation upon the perineum, we must keep in mind the fact that we are going to catheterize these patients subsequently, and also that a sound must be passed every few days in the after-treatment. For this reason, particular care must be exercised in the dissection we make posteriorly. In the perineum it is often necessary to get one's bearing. In so doing we must make any dissection that is necessary in the anterior portion of the wound. The posterior portion of the wound must be a clean regular cut. A chopped-up condition of the tissues here will almost invariably complicate the after-treatment. When an attempt is made to sound such a patient, the instrument will spring off into one of the irregular pouches or sulci so formed; this will mean failure to reach the bladder, and much suffering to the patient. I have seen more than one unsuccessful attempt made to pass a sound after an operation by an operator of international reputation.

The selection of the sound will have an important bearing upon the success of the after-treatment. It should be a large one, as it is our object to secure a urethra for the time being larger than normal. The instrument should also be one with a short beak and a slight curve. The Van Buren instrument is an exceedingly poor one. The beak is too long and the curve too great. The natural tendency of this instrument is to spring off to one side in any urethra. This is due to the fact that it follows too closely the roof of the urethra. This principle of following the roof of the urethra is not to be condemned, but the instrument exercises so much pressure along the roof in the deeper portion of the urethra, that its natural tendency is to rotate. This it will do if left to its own inclination. In the urethra after the perineal section this tendency is even more decided. In spite of the effort of the surgeon it will slip off to the side into an interstice, and it will refuse to enter the bladder. Such difficulties will cause very great pain to the patient.

This tendency can be seen when a student with little experience is using a sound. He has been taught to "allow the sound to take its own course," and in following the instructions he invariably allows the instrument to rotate. I have had students in my clinics who would allow the sound to rotate completely merely from following this rule. A majority of students will fail to find the entrance to the membranous urethra, when they make their first effort to pass a Van Buren sound.

Such difficulties will not be met with if a sound is used with a short beak and a much slighter curve than the Van Buren. Such an instrument can be made to follow the roof of the urethra, but of its own accord does not do so to too great an extent.

100 State Street.

## FOREIGN BODIES IN RECTUM, WITH REPORT OF TWO CASES.

By MAURICE ROSENBERG,
NEW YORK.
ATTENDING PHYSICIAN TO BETH ISRAEL HOSPITAL DISPENSARY, CHILDREN'S SERVICE.

In looking over various authorities on rectal ailments, I failed to find the subject of foreign bodies in the rectum treated. The anatomical structure of the rectum is such as easily to allow the retention of a foreign body in the crypts immediately within the external sphincter as well as above the upper border of the sphincter, in the semilunar valves, and in the rectal ampulla. My intention is to show by two cases which came under my care simultaneously the necessity of looking for foreign bodies in the rectum if only for their exclusion in our diagnoses.

Case I.—Mrs. H. O., a woman, aged forty-three years, mother of eight children, menses regular, was in good health until four weeks before she consulted me. She then experienced a sudden sharp pain in the lower sacral region, penetrating to the region of her bladder, together with a desire to defecate. This she attempted to do, but there seemed to have set in a tenesmus of the anus, and she moved the bowel only after the use of an enema; the pain then subsided, and she thought no more of it until the next day when there was a repetition of the attack, of which she relieved herself as before. She then consulted a physician who diagnosed the case as one of anal fissure, and treated the patient

with local applications for a week without relief. He then advised a consultation with a surgeon, who confirmed his diagnosis, and after a thorough rectal and vaginal examination recommended dilatation of the anal sphincter. The patient submitted to this treatment for ten days, during which time she became actually sick, being confined to bed, and the sharp attacks of pain came more often and continued longer. She then went to the outdoor department of a hospital and was told that she was suffering from internal hemorrhoids, and was advised to enter the hospital for radical treatment. She promised to come the next day. I saw her the same night, she having been recommended by a patient whom I had treated for ischiorectal abscess, and who told her that "he had suffered the same way."

When I saw Mrs. O. she was in bed, appeared suffering greatly, continually complaining of pain in her rectum and lower part of the back and abdomen, expressing a continual desire to defecate, even after the bowels had been washed out, which was then being done twice a day. At first sight she looked like a person suffering from a malignant neoplasm of the rectum or generative organs—she was so emaciated. After making a thorough examination of her generative organs with a negative result, I everted the rectum by pressure on the posterior vaginal wall and was surprised to see two fish bones lying lengthwise in the folds of the mucous membrane of the rectal ampulla, and which I had no difficulty in removing. The relief was instantaneous, and after treatment for a few days the normal action of the bowels was restored, and the patient made an uneventful recovery.

About a week after having finished treatment on this case, I was called to see

CASE II.—Benjamin K., aged sixteen months, who had since the day before been crying incessantly, especially when he passed water or the bowels moved. I examined his genitals, which were normal; there were no signs of eczema or local irritation in the region, and no seat worms. On stretching apart the sphincter ani a scale of a fish was exposed, lodged in the crypt of the anal opening, just within the mucocutaneous border, and which the mother removed as I held the parts on the stretch. I had no occasion to see this baby again and suppose this ended the child's sufferings.

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**A Case of Malignant Œdema.**—A. H. Gould describes a case in which diagnosis was verified by bacteriological tests, which, with findings, are described in full. His patient was an Italian adult laborer, who had a lacerated wound of the right heel which was sutured, but in two days it became septic. Swelling gradually crept up the leg, and the glands in Scarpa's triangle became enlarged but not tender. The posterior aspect of the right heel was covered by an irregular black eschar, occupying an area three inches long by two inches wide. In the middle of the diseased area was found a lacerated opening, through which exuded foul-smelling, bloody pus. No redness or œdema were present below the ankle-joint or on the dorsum of the foot. Above the ankle for six to eight inches along the back of the leg, redness, induration, and œdema were noted, while crepitation could be plainly felt about the ankle itself. The man refused operation; the emphysema extended up the leg to within two inches of the tuberosity of the tibia, in front, and to within three inches of the popliteal space, behind. The posterior aspect of the leg was black and mottled, while the anterior aspect was covered with yellow and blue streaks. The œdema extended over the ankle and the dorsum of the foot. Amputation of the limb was performed at the knee-joint, and the patient recovered, though a pneumonia supervened on the twenty-fourth day.—*Annals of Surgery.*

**The Differential Diagnosis of Conjunctivitis and Iritis.**—George J. Lund says that the mistake has been made of diagnosing a case of iritis as conjunctivitis with disastrous results to the patient, the treatment used for conjunctival catarrh being sure to increase the iritis. We should examine carefully for a milk zone of ciliary infection, a discolored iris, a small pupil, and a slightly milky aqueous, with resulting reduction of vision. The pain of iritis is usually of a pronounced neuralgia character, and often worse at night. Photophobia ciliary injection and increased lachrymation accompany the inflammation of the iris. The pupil is contracted and does not react to light or shade. Exudation takes place to some extent in all cases of iritis. The plastic material causes the iris to thicken as well as changes its color and binds its pupillary border down to the lens. The aqueous early becomes turbid through the presence of the exudate, and the vision at once is foggy and reduced. Sometimes dots of exudate appear on the posterior surface of the cornea, or the material may settle to the bottom of the anterior chamber, where it forms a hypopyon.—*Southern California Practitioner.*

**A New Method of Performing Perineal Section without a Guide.**—C. L. Gibson thus describes his method: Lithotomy position. Thorough preliminary irrigation and cleansing of the rectum. A suitable speculum, preferably Kelly's, is introduced, and the prostate is *transfixed* laterally from the rectum, preferably by a large, sharp hook, which is driven firmly through the prostate tissue. The speculum is now withdrawn, leaving the hook *in situ*. Median perineal section is then performed, the incision being extended down to the ordinary depth of the situation of the urethra. The left forefinger is now introduced into the wound. As the assistant executes a series of gentle tugs on the hook, one readily receives the sensation of the intermittent tension of the urethra in response to the traction on the prostate. Keeping the forefinger in place, the surgeon (with the other hand, *not* as erroneously depicted) directs his bistoury into that portion of the deep urethra which is thus rendered prominent; the probe-pointed director readily glides alongside the knife into the lumen of the urethra, and following it the small metal catheter will demonstrate the successful access to the bladder. The performance of these various steps requires only a minute or two.—*Annals of Surgery.*

**Tropical Abscess of the Liver.**—E. F. Robinson refers to fourteen cases seen in the Philippine Army Service, and gives the histories of six in full. He regards dysentery as the cause, but the part played by the amœba coli is undetermined. All but one of his cases were of dysenteric origin. Five were single and nine were multiple abscesses. Concerning symptoms, he notes that pain of a sharp, stabbing character in the right side, radiating upward into the right shoulder and usually localized beneath the scapula, is of common occurrence. Added to this an irregular temperature, which later tends to become hectic, and early a rapid pulse, mark the beginning of septic infection. Persistent pain over the region of the whole liver, with a point of local tenderness just below the margin of the rib in the anterior axillary line, is usually present. Local signs of abscess formation (redness and œdema, with bulging and increase in the width of the interspaces of the right side) do not generally appear until late in the course of the disease, depending upon the distance of the abscess from the surface. Great increase in the area of liver-dulness not only above and below, but partially to the left of the median line, was found in all his cases. The local and general symptoms may develop from a patch of necrosis without pus formation. In discussing treatment, he notes the inefficiency of gauze drainage. Double tubes of non-collapsible rubber should be used with normal salt solution or sterile water for irrigation. Strong antiseptics are dangerous.—*Annals of Surgery.*

MEDICAL RECORD:

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## THE ETIOLOGY AND PATHOLOGY OF VARIOLA.

THE *Journal of Medical Research* for October contains three articles by R. G. Perkins and G. O. Pay on this subject. Previous work seemed to have left little possibility that the cause was any microorganism similar to the usual forms of bacteria, while other observations appeared to indicate that it was not infravisible. The best place to look for it appeared to be in the exudate, especially in the earlier stages, and perhaps also in the circulating blood. Dombrowski, Funck, and Ishigami have described sporozoan organisms, which they refer to the Sporozoa, but the resemblance ends there. The authors found some of the bodies described by each of the observers mentioned, but the most exhaustive study convinced them that they are not organisms but rather various forms of cell degeneration. In particular, with regard to the diplococcoid bodies described by Pfeiffer and emphasized by Dombrowski, all the facts observed tended to point to the so-called sporozoites being fatty degeneration products of the cells. The mononucleosis in the blood, observed by several investigators, was a conspicuous feature. The increase seemed to be principally in the large mononuclears. With the eosin-methylene blue stain, polychromatophilia was a marked feature. In no case, however, were any bodies which suggested amœboid forms, found in the blood. Cultures in collodion sacs incubated in the peritoneal cavity of rabbits were invariably negative. The medium remained unclouded, and exhaustive examination revealed nothing they could claim as parasites. Attempts to obtain cultures in the aqueous of the eye also failed. The authors add that the undoubted fact that the contents of the vesicles and pustules are infectious, and must, therefore, have within them some form of the organism to which the disease is due; the evidence that this organism is of such a size as to be held back by the pores of a filter which does not restrain organisms we are able to see; and the fact that, in spite of protracted endeavors, they have been unable to see anything in this material which they could conscientiously say to be parasitic, leads Perkins and Pay to the conclusion that the organism must be present in some form which, at least by the methods at their disposal, is not to be differentiated from the cellular débris which is so conspicuous in the field. This at once suggests looking farther back, and it seems to them that their work, in so far as it leads to this suggestion, is confirmatory of the recent paper of Councilman, who finds his organisms in recognizable form only in the very early stages of the variolous lesion. According to his ideas, all that there is in the vesicles and pustules, free in the fluid, is the spore stage, and inasmuch as these spores are said to be only one to two microns in size, they would be almost impossible to distinguish from the débris without some special stain.

The lesions found in the forty-five autopsies were simply those occurring in any acute infectious disease. The epithelium of the internal organs, except such epithelium that is a direct continuation of the skin surface, seems not to be selected by the microorganism for its classical manifestations, and, except in the respiratory tract, it was rare to find pocks. The lungs showed congestion and œdema in all cases. In over thirty cases well-marked bronchitis was present. When death occurred comparatively early, the mucous membrane of the bronchi (even of those no larger in diameter than a slate pencil) showed distinct round, or oval areas, more or less sharply defined, with a red areola, and resembling exactly the areas seen in the larynx and trachea, of which they were apparently the continuation, and which they resembled histologically. The involvement of the deep respiratory tract seems to occur very early, for in many cases the skin lesions were far less advanced than those in the trachea. It is partly on this seeming early injury to the bronchi that the authors base their conclusions that the portal of entry for the associated streptococcus infection is probably the lungs. The larynx and trachea were involved in thirty-three cases. Most of the larynges showed distinct ulcerations, which, in the earlier stages, were sharp cut and definite like the pocks on the skin. The trachea, as a rule, was not so extensively involved as the larynx, and the lesions were more often separate and typical.

Regarding the rôle played by the streptococci, the authors conclude that these organisms are present in all or nearly all severe cases which prove fatal, and in many which recover. They may occur in the blood some days, or only a few hours before death, and after death may multiply very rapidly. They bear no relation to the etiology of variola or the pustulation of the skin. Those found in the blood and in the secondary infections vary markedly in constant characteristics. Probably on account of this, antistreptococcic serum prepared from one variety of streptococcus is of no special value against symptoms and sequelæ due to streptococci. The probable portal of entry for the streptococci is the bronchial mucous membrane.

In respect to the changes in the composition of the blood, the authors find that in persons dying from variolous infection, if death occur in the first five or six days the blood shows practically no loss of complement. Later, in the full pustular stage, there is a loss of complement, in general proportional to the extent of skin involved. In those dying after the disappearance of all symptoms directly attributable to variola, death being due to the long-continued suppuration of secondary abscesses, the loss of complement is fairly uniform, and probably of similar origin with that described in wasting diseases. In light cases, taken early or late, there is apparently no loss. Apparently the loss of

complement has very little to do with the secondary streptococcus infections, but that, on the other hand, these infections, if sufficiently long continued, may lead to a very definite loss.

## THE DISPENSARY PROBLEM IN PHILADELPHIA.

THE poor are always with us, and in the large cities of the civilized world so also is the dispensary. Unfortunately, wherever an institution of this kind exists, there appears to be a problem connected with it, and always very difficult to solve. The manner in which dispensaries are conducted and abused is a well-worn subject, but with the lapse of years there is no corresponding cessation of discussion of the matter, and therefore it may be presumed that they are still far from perfect.

Mr. F. B. Kirkbride of Philadelphia has recently published a report made to the Hospital Association of Philadelphia, October 28, 1903, on the dispensary problem in that city. The Hospital Association of Philadelphia appointed a committee—of which Mr. Kirkbride was chairman—on dispensaries and dispensary practice in the spring of the present year, for the purpose of examining into existing conditions in Philadelphia. In order to obtain the necessary data, letters were sent to 481 physicians of the city, requesting that they furnish all the information regarding dispensaries and dispensary practice, within their power. Superintendents were also asked to give particulars as to the scope and work of institutions under their control. The reports of the Board of Public Charities of Philadelphia have also been utilized, so that the information acquired is as full and comprehensive as could be desired.

The report of the committee deals with 61 dispensaries. In 42 of these 61 dispensaries 305,980 patients were treated during 1902, or 238 cases for each 1,000 of the population. In New York 876,070 patients were treated during 1900, or 254 for each 1,000 of the population. Of the Philadelphia dispensaries 39 are connected with hospitals, while 22 treat walking cases only. Of the 61 dispensaries 45 are for the treatment of men, women, and children, while the remainder are special in their character. Forty of the dispensaries are for the treatment of all diseases, while the remainder treat only a special class of diseases.

Of the 61 superintendents of whom information was requested, 39 sent replies. These reports show, in a general way, existing conditions in Philadelphia dispensaries to be as follows: The dispensaries are housed in small quarters, considering the large amount of work which they do. The average number of rooms occupied is 6; the largest number, 17; while the average number of patients treated is 7,285. The average number of physicians connected with each dispensary is 22. These physicians with but one or two exceptions, receive no compensation, except the indirect gain which results from dispensary work.

The answers to the questions concerning dispensary attendance, reveal the fact that the methods now used for recording dispensary attendance, are not only lacking in uniformity, but emphasize the necessity for a more intelligent system. A large proportion of the dispensaries dispense their own medicines, but the charges for the same are not at all uniform. With regard to the cost to the dispensary of each out-patient treated, owing to the want of method in the several institutions, the figures supplied are more or less guesswork; they range from $1.32½ to one-half cent for each patient.

The report rightly dwells upon the question of accounting as a most important one, and states that much could be done to stop waste and secure efficient and economical management were the books of the Philadelphia hospitals so kept that the actual figures for the in- and out-patient departments could be separately determined.

In only eighteen of the dispensaries is any attempt made to prevent imposition by patients able to pay, and of these the larger number try to effect this object by simply questioning the patient.

The report concludes, from a careful study of the superintendents, answers that each dispensary is in a large measure a law to itself, and that there is the greatest diversity not only in the method of handling cases, but in the rules governing the dispensary physicians and in the system of accounting. As might be imagined, the physicians of Philadelphia are to a great extent agreed that the chief abuse of the dispensary is that patients are treated who are able to pay a physician. Some members of the medical profession in Philadelphia declaim loudly against dispensary treatment, mentioning as its obvious abuse that patients are not carefully treated. The report concludes, from a careful scrutiny of the answers received, that while the chief abuse is the application for treatment by those who can afford to pay, the management of these institutions and the physicians connected with them are also open to criticism.

With regard to remedies proposed, physicians show more diversity of opinion than with respect to abuses. The majority think that dispensary cards should only be issued after some form of investigation; that dispensary cases should be used for teaching purposes; and that legal measures should be taken for the regulation of dispensary practice.

The report sums up in part as follows: "A survey of the situation in Philadelphia leads to the conclusion that an unnecessarily large amount of dispensary work is being done in this city. At an average cost of 44 cents per patient, which is probably below rather than above the mark, an annual expenditure of $134,000 is indicated. The unequal distribution of dispensaries. Competition and overlapping of their work all contribute to this result. The desire of the dispensary physician to see his service grow more rapidly than that of his colleagues, either in the same dispensary or elsewhere, is doubtless an important factor." Reference is also made to the fact that dispensary cases are so little used for teaching purposes.

Philadelphia, so far as her dispensary system is concerned, is in a somewhat similar position to that of other large American cities. The dispensary is everywhere abused to a greater or less extent by those able to pay. The physician, too, is doubtless not altogether blameless in the matter, and is perhaps, on occasions, somewhat too keen in making money, notably in referring dispensary cases to his own office.

The committee is of the opinion that direct com-

pensation for services rendered by the dispensary physician would be a long step in the right direction and pave the way for other necessary reforms, and also questions whether it would not be a wise move to adopt legal enactment somewhat in the form of the New York law in the State of Pennsylvania.

## QUARANTINE WORK IN THE PHILIPPINE ISLANDS.

Captain V. G. Heiser, United States Public Health and Marine Hospital Service, chief quarantine officer for the Philippine Islands, has recently published his annual report of the quarantine service in the archipelago, for the year ended July 31, last.

The *Manila Cable News*, September 20, contains a large part of the report—in fact, all its most interesting features.

With regard to cholera, Captain Heiser states that sixty-eight vessels with cholera on board arrived at the port of Manila during the period under review, and cholera occurred on board thirty-seven vessels during the time they were serving their outgoing quarantine. There were thus one hundred and five vessels disinfected for cholera. The report highly praises quarantine system and says, "It is a matter for congratulation that the practice prescribed by the Quarantine Laws and Regulations has been so thoroughly vindicated by practical experience. Of the one hundred and five cholera-infected vessels that were disinfected at the Manila station only one developed the disease after being released from quarantine, and then nine days after disinfection."

Captain Heiser contends that in cholera epidemics quarantine for all vessels is a necessity. He argues that if cholera can spread—as it has spread—on a modern troop ship, where every possible provision is made for stamping out infection, and on which are medical officers who have had special training, then the case in favor of quarantine must be considered proven. Statistics as to cholera in the Philippine Islands are as follows: From the commencement of the epidemic, March 18, 1902, until the ending of the fiscal year, 1903, there have been reported 138,639 cases, with 88,761 deaths, giving a death rate of 63 per cent. The report goes on to say: "A conservative estimate made by medical men of large experience in the islands place the estimate at at least one additional case for every one that was reported, which would make, in round numbers, about 300,000 cases."

Captain Heiser especially emphasizes in his report the great value of quarantining as a means of checking the dissemination of contagious diseases, and points out that with the possible exception of the work done at Tor, Egypt, there is probably more disinfection accomplished at the Mariveles Quarantine Station than at any other plant in the world.

High praise is due to the officers of the United States Public Health and Marine Hospital Service stationed in the Philippines, for the successful manner in which they have performed the arduous duties which have fallen to their lot. In addition to the quarantine work, the service has conducted the physical examinations of masters, pilots, patrons, and engineers; and also of the men who have entered the Coast Guard Service.

Referring to the bubonic plague, the report states that notwithstanding the fact that plague has been epidemic at Hongkong and Amoy, and present at other ports in those countries, not a single case of this disease could be traced to infection from without. This result speaks volumes for the vigilance and energy shown by the officers on duty in China and Japan. The efforts, too, put forth by the Board of Health and by the Public Health and Marine Hospital Service, acting in coöperation, were successful in confining the plague to Manila.

In addition to the vessels disinfected on account of the presence of cholera, two hundred and seven vessels were fumigated with sulphur, seven smallpox and two plague-infected vessels were disinfected, and there were besides one hundred and nineteen vessels disinfected because they came from infected ports. The report of the United States Public Health and Marine Hospital Service, with regard to the work done by its members stationed at Manila, affords striking testimony to the thoroughness with which American officials carry out their duties. There is every reason to predict that the sanitary regeneration of Manila will be as complete as that of Havana and other towns in Cuba.

## The Handkerchief as a Disease Disseminator.

The *New York Times* gives a very graphic account of a meeting of the National Woman's Christian Temperance Union, held last week in Cincinnati, in which the subject of handkerchief-shaking as a method of salute was warmly discussed from its hygienic standpoint.

One of the speakers was welcomed with the customary flutter of handkerchiefs throughout the auditorium, a compliment which she accepted with proper satisfaction, but later in the day an inconveniently practical and learned delegate, Miss Marie Brehm of Illinois, created something of a sensation by declaring that this "handkerchief salute" was a most unhygienic performance, indulgence in which was quite sufficient to account for the wide distribution of colds to be noted among those attending the convention. Miss Brehm therefore moved that the delegates, like sensible people, keep their handkerchiefs in their pockets, where they belonged, except when in necessary use, and that the saluting be done with little silk flags provided for the purpose. This proposition was very ill-received by some of those present, and they argued against it at length and with vivacity, incidentally making a few sharp digs at the composition of the Cincinnati atmosphere, but when the question was finally put common sense and faith in the microbe theory prevailed, and the motion was carried by a vote of 134 to 91. Whether or not it binds all members of the organization everywhere we do not know, but the matter is one of some importance and worthy of general consideration.

It is in fact a grave sanitary question whether the handkerchief does not do more harm than good as it is ordinarily used. When we assume that the healthy nose does not need to be wiped we face a reasonably broad proposition as to the danger of the handkerchief as a disease propagator. Most nasal catarrhs are of an infectious character, notably those of grip origin.

Contrary to a general law of asepsis, the handkerchief saturated with disease germs, instead of being promptly washed, is stowed for hours in the pocket, with a result that can be easily imagined. Is it any wonder then that catarrhs are constantly fostered by a system of autoinfection. Even when the discharges become dried upon this dangerous

article of the toilet, its mere handling or use by others, must necessarily be a means of conveying infection. Worse than the nasal discharges are the expectorations which so often thus find their way into the pocket. The good woman in the convention certainly deserves great credit for drawing attention to the dangers of the handkerchief.

### Views on the Etiology of Tuberculosis.

Professor Hueppe of Prague delivered the Harben lectures in London in October last. The lecturer's reputation for originality and knowledge invest all his remarks with weight. Perhaps the most interesting of the three lectures was that which dealt with tuberculosis, especially as he reviewed and discussed the opinions of Koch with regard to the intercommunicability of human and bovine tuberculosis. Hueppe ranges himself among the opponents of Koch, so far as this matter is concerned, on the grounds that different races of cattle had been found to possess different predispositions to infection, and that numerous investigators had succeeded in infecting cattle with bacilli of human origin. He was, therefore, of the opinion that human and bovine bacilli must be regarded as but varieties of one species of microorganism. These varieties might show morphological differences and necessarily, in consequence of adaptation, they would show differences of virulence when obtained from the bodies of different species of animals. The lecturer pointed out that opinion with regard to the mode of infection had undergone a change since Koch claimed that pulmonary tuberculosis indicated that the port of entry for the bacilli was through the respiratory passages. Professor Hueppe himself, as well as other observers, had shown that pulmonary infection might also follow when the bacilli entered the lungs through the lymphatic and blood circulation, and Grawitz had demonstrated the possibility of infection through the tonsils. Further experiments made in Hueppe's laboratory showed that if rabbits were fed with tuberculous material some developed intestinal and others pulmonary tuberculosis. A special susceptibility of certain organs appeared to determine which organs should be affected. Professor Hueppe held the view that the locus minoris resistentiæ was to be found in the lungs of the adult and in the intestine in childhood.

The lecturer was severe on those bacteriologists who denied the existence of a predisposition to tuberculosis, and said "their views were based on laboratory experiments where large numbers of bacilli were introduced into the body, this in a manner which never took place in natural infection.

"That a specific inherited predisposition existed, was indicated by the fact that in certain families the children became tuberculous in succession on attaining a certain age. In some cases the parts attacked were often the same in the different members of a family."

The pronouncement of Koch's views with regard to human and bovine tuberculosis has at least done good in one respect. Investigators have been incited thereby to redouble their efforts to discover the relation which human tuberculosis bears to bovine tuberculosis. It appears now as if the pendulum were swinging in the direction of the belief that human and bovine tuberculosis are intercommunicable. It would seem that the gastro-intestinal canal of children is more often affected by the disease than has been supposed, undoubtedly owing to the fact that this organ in the young is more permeable than in adult life. It has already been demonstrated in a sufficiently forcible manner that every precaution should be taken to ensure a pure milk supply, for if this be not done there is every probability that intestinal tuberculosis will increase.

### The Menace of the Isthmian Canal.

Now that it is practically decided that a canal, to divide the continents of North and South America, will be built, it may not be out of place to consider the probable effects of this undertaking from a sanitary point of view. In the first instance, it would seem certain that the building of an Isthmian canal will be attended by great loss of life, unless measures are enforced to render the conditions in the regions through which the waterway must pass less inimical to health than is the case at present. The district bordering on the proposed Panama route is, perhaps, one of the most notoriously unhealthy in the world. This fact was conclusively proved by the mortality and sickness among the laborers on the portion of the Panama Canal built by the Lesseps Company. White men were unable to live for any length of time in the locality, and the mortality among the Chinese, and to a lesser extent among the negroes, was frightful.

Sir Patrick Manson, in a paper read before the Epidemiological Society of Great Britain, February 25 of this year, and to which reference has already been made in the Medical Record, foreshadowed the possible danger of invasion by yellow fever of Asia as the consequence of the digging of the Panama Canal. He pointed out that shiploads of laborers would soon be plying between Panama and the seaports of Asia, and that unless extraordinary precautions were taken the inevitable result must be that the malady would be conveyed and spread among the seething multitudes of the Far East. In the *Journal of Tropical Medicine*, August 15, 1903, Dr. St. George Gray, Sierra Leone, returns to this subject, and discusses the sanitary measures necessary to prevent the introduction of yellow fever into Asia from Panama. He is of the opinion that these may be divided into (*a*) measures to be adopted at the point of departure, *i.e.* at the Central American port, and (*b*) measures to be adopted at the port of arrival—the Asiatic port.

The writer takes it as absolutely proven that mosquitos are the sole cause of yellow fever, and suggests that an international sanitary board should be appointed by the governments having interests in the Far East, and that they should be especially qualified for the work. They should have powers to frame such quarantine or other regulations as may be deemed necessary, and to enforce these regulations by means of penalties which should be sufficiently heavy to ensure their being carried out by the most careless and indifferent of captains. The Sanitary Board should make sure that no vessels which have not been thoroughly cleared of mosquitos leaves the isthmus for any Asiatic port. The final clearing of mosquitos should take place at an anchorage to be selected for the purpose at least 300 yards away from the nearest shore, and once the fumigation is completed the vessel should not approach the shore again, but passengers, mails, and cargo from open lighters could be received aboard.

As a further precaution Dr. Gray suggests that any vessel sailing from an infected Central American port other than Panama for an Asiatic port should be obliged to call at the fumigating station at Panama to be cleared of mosquitos ere proceeding on her trans-Pacific voyage. The writer's last

suggestion, however, is most to the point. He says that the most efficient mode of preventing yellow fever from reaching Asia would be to stamp out the disease in Panama as it has been done in Havana. As soon as the decision is made to build the canal, steps might be set afoot to free the selected route from disease as far as it is within the power of man to do so. American sanitarians have already demonstrated their ability in Cuba and in the Philippine Islands, and there is no doubt that if energetic measures be taken that the country through which the great canal will run can be as effectively cleaned as these islands. It is definitely known how yellow fever is spread, consequently its extinction is rendered much less difficult, and the sanitary regeneration of Panama should now be in sight.

### The Cocaine Habit among the Negroes of the South.

Reference has been made frequently of late to the increase of the drug habit in the United States and in the civilized world generally. Cocaine is consumed throughout America much more largely than ever before, and the statement has been recently made on good authority that the cocaine habit has gained a strong hold on the young negroes of the South. The manner in which these people have acquired the pernicious habit, is said to have been when working in industrial establishments in Pittsburg, where nearly all the negroes of both sexes take the drug, and those who return to the South teach those who have remained there to use it. The evil effects following this practice among negroes in certain parts of Virginia have become so notorious, that in the city of Staunton the judge of the Corporation Court, a short time ago, gave the matter in a charge to the grand jury for investigation.

The result of the investigation has clearly shown that the gravity of the situation as regards the cocaine habit among the young negroes had been in nowise exaggerated. It was found that cocaine-taking in the form of a powder used as snuff was extremely prevalent among this class, and that the outcome in many instances had been deplorable. Offences of a criminal nature had largely increased, the majority of the offenders being young negroes addicted to the cocaine habit and known as "coke" fiends.

In Virginia there are no restrictions regulating the sale of cocaine, and in consequence it can be more or less easily procured. A movement is said to be afoot to secure restrictive legislation in Virginia, in order to check the indiscriminate sale and use of this harmful drug.

There certainly should be measures enforced to regulate the sale of narcotics in the South, and negroes especially should be prevented from buying drugs of this kind. Their animal instincts are too strong and their brains too undeveloped to allow them the exercise of their own will in a question which concerns their physical and moral welfare, and to a lesser extent the public weal.

### Dust from the Demolition of Buildings.

This subject has already been discussed in the Medical Record, and the hope has been expressed that steps would be taken to stay what may be rightly termed the plague of dust in New York. The main factor in the creation of the present situation is the tearing down of old and insanitary premises, thereby disseminating dust and disease germs. Dust in itself is inimical to health, and as a conveyer of hurtful germs is a potent cause of disease. As the *Medical Press*, October 14, aptly remarks, "We must all eventually return to dust, but we do not want to do so too soon."

It is somewhat remarkable that legislation has not been evoked both in this country and in Great Britain, to mitigate a state of affairs which might, if not controlled, become almost unbearable. The London County Council has awakened to a sense of its duty to the public in this respect, and has set an example which other large American and British cities—especially New York—would do well to take to heart. The Council has decreed that the time for such work in London shall be restricted to the hours between six o'clock in the evening and ten o'clock in the morning. Further, it is made incumbent on those responsible for the work of demolition, to order that the walls be thoroughly watered during the process. It is said that Paris and some other continental towns have put into practice this simple method for some time past, and that the results have been eminently satisfactory, viewed from the standpoint of health and cleanliness.

### Requirements of Medical Practice in New Jersey.

The standard of medical education in New Jersey is high, and the value of a degree in medicine gained in that State is fully appreciated by its holders. This is as it should be, and it also appears just and right that the New Jersey State Board of Medical Examiners should refuse permission to physicians who have taken their degrees in other States, in which the standard is not so high, to practice in New Jersey until they have taken the State examination for medical license, and otherwise met the requirements of the State.

Dr. E. L. B. Godfrey, Secretary of the State Board of Medical Examiners of New Jersey, replying to a sharp criticism of the Board's methods which appeared in an editorial in the *Medical Bulletin* in November, denies that any objection can be taken to the policy pursued. The editorial in question declares the Board to have erected a Chinese wall of exclusiveness designed to shut out practitioners from other States from practising in New Jersey. Dr. Godfrey states that "no physician is debarred by the State of New Jersey from obtaining an indorsement of a certificate of license issued to him, after examination by another State, provided the standard of academic, medical and examining requirements of that State is substantially the same as that of New Jersey; and provided further that the candidate for license complies with the same conditions as are required from candidates examined by the State of New Jersey.

The academic requirements for a New Jersey State medical license are somewhat severe, but after all, when fulfilled, they merely testify that a man has received a liberal education, a more or less necessary adjunct to a physician's professional make up.

The medical requirements are four courses of lectures of at least seven months each, in four different calendar years, prior to graduation from a legally incorporated college.

There is but little doubt that the State Board of Medical Examiners of New Jersey is entirely within its rights when it refuses to recognize the principle of interstate medical reciprocity on unequal terms. To do so would furthermore be manifestly unjust to those physicians who have passed through the course laid down by the ruling powers in medicine of New Jersey. The only basis upon which a fair system of medical reciprocity between the different States can be established, is

by enforcing a uniform high standard of medical education throughout the country. The time is not yet ripe for this departure, and in the meantime, the medical profession in those States in which a high standard of medical education is maintained, must be protected against competition by practitioners from other States where it is less difficult to obtain a medical license.

THE STREET-CAR PROBLEM IN NEW YORK.

The difficulties in the way of successfully solving the problem of transportation in New York are probably greater than in any city of the world. There is no city anywhere in which the population is increasing at so rapid a rate as in New York, and there is also no city which, by its shape and the distribution of its inhabitants offers such obstacles to the evolution of a workable scheme of rapid and satisfactory means of transit. The population of New York in 1900 was 3,437,202 and, according to an article in the New York *Sun*, November 15, at the same rate of growth, in 1915 it will have reached 5,500,000. Official reports state that the number of passengers carried daily by the elevated roads during the year 1902 averaged 600,000, and the number carried by all the surface lines of the greater city averaged about two millions daily.

The present conditions of street transportation in New York are so bad that the only matter considered is how to improve the existing state of affairs, and no thought is given to the future.

The article in the *Sun* regards the question from the last named point of view, and discusses the predicament in which those who wish to travel in New York in 1915 may find themselves. The following table of the probable capacity of all the street transportation agencies that are at all likely to exist in 1915 is given.

Present carrying capacity of all local transportation lines in Greater New York, 1,167,124,000. Allow that the capacity of these lines may be increased one-third, equal to 389,040,000. Estimated capacity of subway system now under construction, 125,000,000. Proposed subway No. 2, 65,000,000. New surface, elevated, and subway lines in Brooklyn and Queens, 143,000,000. New surface and elevated lines in Manhattan, 50,000,000. New lines and extensions in the Bronx, 20,000,000. Total, 1,959,164,000.

It is estimated that the number of passengers to be provided for per annum in 1915 will reach the figures of 2,200,000,000, so that there will be more than 200,000,000 persons in New York who will be unable to ride, and to all intents and purposes the congestion will be proportionately as great in 1915 as it is to-day.

The *Sun* proposes that if the powers of the Board of Rapid Transit Commissioners are found to be inadequate to cope with the situation, a special commission should be created to take up the whole question of local transportation in New York, and to report such a project as will, in its opinion, meet the exigencies of a comparatively near future.

The conditions in New York at the present time, as regards street transportation, are serious to a degree. The facilities provided for carrying local passengers are ludicrously inadequate, giving rise to a state of affairs prejudicial to health and ofttimes to decency.

**Ovarian Tumors.**—The presence of a solid tumor floating in a considerable amount of ascitic fluid in a woman's abdomen is very suggestive of malignant or fibroid degeneration of an ovary. Ovarian fibroids are exceedingly scarce, and still more rarely is the disease bilateral.—*Washington Medical Annals.*

## News of the Week.

**Methodist Hospital, Philadelphia.**—It has been decided to erect a new dispensary building on the grounds of the Methodist Hospital. The structure will be 40 by 80 feet in size, of Pompeian brick, and it will cost $15,000.

**Contagious Diseases in Philadelphia.**—A total of 373 cases of disease classified as contagious—namely, notifiable diseases—was reported to the Philadelphia Bureau of Health for the week ended November 21. There were 118 cases of typhoid fever, with 11 deaths; 103 cases of diphtheria, with 13 deaths; 84 cases of scarlet fever, with 4 deaths; and 68 cases of smallpox, with 7 deaths. There were 407 deaths due to all causes, as compared with 374 for the preceding week, and with 448 for the corresponding week of the year before.

**Forcible Vaccination.**—Under the auspices of the Philadelphia Bureau of Health more than 400 negroes, members of the Church of God and Saints of Christ, assembled at prayer-meeting, were recently vaccinated by a corps of physicians, with the aid of a score of policemen. The members of this sect not alone have declined to be vaccinated, but they have also refused medical aid, and smallpox had spread among them, causing five deaths. A highpriestess of the church attended smallpox patients, treating them by means of prayer and the washing of feet. Two of these patients died and the coroner is to make an investigation.

**The Medical Club of Philadelphia** held a reception on November 20 in honor of Dr. S. Weir Mitchell. The guests included also Rear-Admiral Sigsbee, Surgeon Oliver P. Norton, U. S. N., Surgeon W. C. Kieffer, U. S. A., Dr. McGaney of the British Colonial Consular Service, Dr. Homer M. Thomas of Baltimore, Mayor John Weaver, and Judge Abram M. Beitber.

**Pennsylvania Hospital.**—The managers of the Pennsylvania Hospital have purchased adjacent properties to be converted into an additional annex for nurses and a building for ambulance purposes respectively.

**Smallpox in Philadelphia.**—For the week ending November 21, sixty-eight new cases of smallpox were reported to the Philadelphia Bureau of Health, just double the number of the week before. It has been necessary to close eight public schools for purposes of disinfection on account of the discovery of the disease in pupils or members of their families.

**Typhoid Fever Due to Milk.**—In connection with a small epidemic of typhoid fever in the southern part of the city, officials of the Philadelphia Bureau of Health discovered that a number of the patients had obtained their milk supply from a dealer who had himself suffered from a febrile disorder of obscure character. Examination of the milk disclosed evidences of contamination. Accordingly the supply was confiscated and destroyed, and the premises disinfected.

**The Taxation of Hospital Property.**—The Philadelphia City Solicitor has expressed the opinion that an ordinance exempting from taxation the property of the Garretson Hospital is not valid, because the power of exemption does not reside with councils by which the ordinance was passed. Only the Board of Revision of Taxes, the opinion holds, can decide as to properties that fall under the law of exemption from taxes.

**The Phipps Institute Lectures.**—The second of the course of lectures on the tuberculosis question, under the auspices of the Henry Phipps Institute

of Philadelphia, will be delivered by Dr. William Osler on Thursday evening, December 3, at 8.30 o'clock, in the auditorium of Witherspoon Building. The subject of the address will be "The Home in Relation to the Tuberculosis Problem."

**The D. W. Harrington Lectureship.**—The first course of lectures on this foundation at the University of Buffalo will be delivered by Dr. S. J. Meltzer of this city on November 30 and December 1, 2, and 3. The subject selected for discussion by the lecturer is "Œdema; a Consideration of the Physiological and Pathological Factors Concerned in Its Formation." The lectures will be delivered in the amphitheatre of the Medical College at 5 P.M. on the dates above given.

**Mount Sinai Hospital, Philadelphia.**—Estimates have been invited for the conversion of a former furniture factory into a hospital for the Mount Sinai Hospital Association. The structure is to be four stories high and be 38x75 feet in size.

**Diphtheria in Montclair.**—Dr. R. C. Newton, referring to a statement regarding a conflict between the Health Board and School Board in Montclair, N. J., writes that the friction was very slight and of short duration. The School Board declined at first to close one or two of the schools at the suggestion of the Health Board, but after a conference between the two Boards the schools were closed. There was a delay of only twenty-four hours. Twenty cases of diphtheria were reported during a period of nineteen days instead of ten, and now the outbreak is apparently at an end.

**Typhoid Fever at Williams and Brown.**—Outbreaks of typhoid fever which threaten epidemic proportions are reported from Williams College, Massachusetts, and Brown University at Providence. At Brown no cause for the outbreak is known, but at Williams the milk supply is suspected. All the students who are ill live in two of the fraternity houses. These secure their milk from the same source, and an investigation will be instituted at once.

**The Woman's Medical College of Pennsylvania** has planned the erection of a hospital as an addition to the college. In the past it has availed itself of the facilities of the Woman's Hospital, but objection having been raised by managers of the hospital to bedside instruction, the college finds it necessary to have a hospital of its own. For this purpose $75,000 are needed for a building and $425,000 for endowment.

**Dr. F. M. Oberlaender** of Dresden, in recognition of his labors in the study of genitourinary diseases, has, at the solicitation of his medical colleagues, been appointed professor by royal decree. Professor Oberlaender was the editor of the "Handbuch der Harn- und Sexual-Organe," to which many of the most eminent men in Germany contributed, and for which he wrote several chapters, notably those on chronic urethritis. He is editor of the *Centralblatt für die Krankheiten der Harn-* und *Sexual-Organe*. In this country Professor Oberlaender's reputation is due mainly to his advocacy of the treatment of chronic urethritis by the dilators which he devised; in doing so he gave credit for the fundamental idea thereof to the elder Otis. His large number of American followers will join in extending felicitations to the honor that, long merited, has at last come to him.

**A New Dispensary and Dormitory at Bellevue.**—The old building formerly used as the Bellevue Hospital Medical College has been converted into a dispensary for out-patients. The structure has been renovated and made fire-proof. The first floor will be used for the dispensary proper and the bookkeeping department, while the remaining three floors are to be used as sleeping apartments for the female employees of the hospital, who heretofore have been forced to sleep in the basement of the hospital buildings.

**Glanders at West Point.**—A strong effort has been made to stamp out an epidemic of glanders which has been raging in the artillery stables at West Point. Twenty-four horses afflicted with the disease have been shot and their bodies cremated. As a further measure of precaution the new artillery stable was burned. Several weeks ago ten polo ponies afflicted with the glanders were shot. Everything that has been near the affected horses has been burned and all precautions have been taken to prevent the spread of the disease among the hundreds of horses at the Military Academy. The men who had charge of the horses and who shot them, had to burn all their clothes and remain at the crematory, north of the Academy, until they were thoroughly fumigated.

**Christian Science Folly Sustained.**—The Ohio Supreme Court has placed its approval upon the right of believers in Christian Science to refuse to call a physician to treat a minor child. The decision came in the case of a man and his wife who were indicted in Butler County on a manslaughter charge for refusing to call a physician for their child, which died. They were acquitted, the State filed exceptions and these were overruled.

**An Interpretation of the State Nursing Law.**—In answer to an inquiry regarding the standing of the graduate nurses of the New York State Hospital training schools, Attorney-General Cunneen has given an opinion that the statute does not limit the right to practise nursing to registered nurses only. It does not require a regent's certificate or even a course of study in a training school for nurses as condition precedent to the right to practise nursing. It prescribes the conditions upon which one may obtain the right to the title of "registered nurse," but does not require unregistered nurses to discontinue their occupation. The statute merely prohibits persons who are not registered nurses from assuming the title or using any abbreviation, word, letter, or figure to indicate that they are so registered.

**An Administration Building for Willard Parker Hospital.**—Plans have been filed for a seven-story administration building to be erected at the foot of East Sixteenth street for the new Willard Parker Hospital. It is to have a series of offices on the lower floor and living quarters for the physicians and nurses of the hospital on the upper floors. The edifice will have an ornamental façade of brick with limestone trimmings and triple windows in the center with balconies. It is to be 66½ feet front and 48½ feet deep, with an extension 27 feet deep.

**An Antivivisectionist Brought to Book.**—An action for libel brought by Dr. William Bayliss, assistant professor of physiology in London University College, against Stephen Coleridge, secretary of the Antivivisection Society, resulted, a couple of weeks ago, in a verdict for £2,000 damages. Mr. Coleridge had publicly charged the plaintiff with torturing a dog while carrying out vivisection experiments without proper anæsthetics. Mr. Coleridge's charges rested on the statements of two Swedish women students, who had written a book. It was proved, however, that the animals experimented upon were completely under the influence of an anæsthetic. The gentle ladies, whose prevarications were repeated by Mr. Coleridge at such cost, wrote their book in the usual temperate style of the anti, as the following extract, culled by the *Sun* correspondent witnesses:

"The lecturer, attired in the blood-stained surplice of a priest of vivisection, has tucked up his sleeves and is now comfortably smoking his pipe, while with hands colored crimson," etc.

**More Consumption Cures.**—Dr. Marmorek of the Pasteur Institute of Paris recently presented a communication to the Academy of Science detailing the results of his experiments in the serum treatment of tuberculosis. His serum is prepared by the injection into horses of graduated doses of toxin extracted from cultures of tubercle bacilli, the result being an antitoxin of considerable strength. He stated that his results were most encouraging, though, owing to the insufficient number of experiments, somewhat inconclusive. He claimed to have obtained a positive cure in a number of cases in the early stages, and to have seen marked improvement in several advanced cases. His statements have been received with considerable scepticism in both France and Germany, and the Academy of Science refused to accept his manuscript, although it consented to the reading of the paper. Marmorek said he had resigned from the Pasteur Institute in order to devote himself to further and more extensive trials of the serum, but others say that the director, M. Roux, requested his resignation because he insisted upon the publication of his discovery on what Roux thought insufficient proof of its efficacy. Another and admittedly secret "cure" is announced in a long Associated Press despatch from Moscow. According to this report, remarkable cures of consumption have been effected in Russia by Kisel Zagoranski, formerly a mining engineer and now specially licensed by the Russian Medical Department to practise medicine in cases of tuberculosis. The proprietor of the alleged specific says he obtained the formula from the foreman of a gang of miners in Siberia. Prince Oldenburg of St. Petersburg, who maintains several hospitals in Russia and a big sanatorium in the Caucasus at his own expense, has offered to place at M. Zagoranski's disposal three beds in a St. Petersburg hospital, where he could accurately observe the results of the treatment.

**Gifts to the Richmond, Ind., Hospital.**—William B. Leeds of New York has given $10,000 to be added to the endowment fund of the new public hospital to be established in Richmond, Ind. Daniel G. Reid, also of New York, gave $30,000 several months ago. In addition to this the public subscribed $25,000, and the City Council has voted $10,000.

**A Medical Department for Brown University.**—It is reported in Providence, R. I., that Brown University will soon add the College of Physicians and Surgeons of Boston, Mass., to itself as a medical annex. John D. Rockefeller aided largely in the increase of the university's endowment fund, and it is hoped that he will become financial sponsor for the contemplated medical school, which, in any event, will remain in Boston. It was chartered by the Massachusetts Legislature in 1880.

**The Huntington Fund for Cancer Research** is now established in the Loomis Laboratory, 414 East 26th street, under the direction of Dr. B. H. Buxton and Mr. S. P. Beebe. The main object of the projected work is to approach the subject from the chemical rather than the pathological or bacteriological standpoint, and, generally speaking, to study the cell products of malignant growths in an attempt to determine if they are in any way different from those of normal tissues. For such work it is difficult to obtain sufficiently large amounts of material, and an appeal is made to surgeons and pathologists, whether in New York or elsewhere likely to have such material at their disposal to donate the same for the purpose of investigation. If such will communicate with Mr. S. P. Beebe, he will give instructions as to handling and forwarding.

**New Hospital in Orange, N. J.**—At a meeting of the Italian residents of Orange, held last Sunday afternoon, a movement was set on foot for the establishment of an Italian Hospital for Orange. It will be in charge of a Catholic Sisterhood, but will care for patients of any nationality or creed. The hospital will be established in a building to be rented within a week or two, so that patients may be treated at once. The plan is to erect a stone and brick building next year.

**Yellow Fever** is subsiding in Texas, a drop in the temperature throughout the State having put an end to the activity of the mosquitos. The quarantine against San Antonio was raised by proclamation of the Governor on November 18. Dr. Tabor of the Texas State Board of Health proposes that a delegation of the State Health Officers of Texas, Louisiana, Mississippi, and Alabama with representatives of the Public Health and Marine-Hospital Service, go to Mexico next January for the purpose of holding a conference with the Superior Board of Health of that country to determine upon a concerted plan of action that would prevent another epidemic of yellow fever in Mexico and the spread of the disease to Texas and the South next season.

**Medical Jurisprudence Society of Philadelphia.**—At a meeting, held November 16, Dr. Solomon Solis Cohen read a paper entitled "Judicial Determination of the Cause of Death." He criticised the current system of expert evidence in trials for murder, and suggested the establishment of a new system, the chief feature of which should be a jury of physicians, surgeons, chemists, or bacteriologists to determine the cause of death prior to trial before a petit jury.

**Opposition to the Plan of Organization of the American Medical Association.**—At a meeting of the Dubuque Medical Society, held November 11, 1903, a resolution was unanimously adopted disapproving of the plan of reorganization embodied in the constitution and by-laws adopted at the recent meeting of the State Medical Society, and an appeal to the profession of Iowa to oppose such reorganization has been issued. The chief of the objections offered against the project are the following: "(1) Compulsory membership in the State Society and all its un-American, unrepublican outgrowths; refusing membership in a local society to such as do not wish to be members of the State Society. (2) The whole scheme of organization from above down instead of from below up, which thus reverses the normal law of growth or organized social and political bodies and is particularly obnoxious to an American citizen. (3) The 'censor of his district' with judicial functions, an intolerable and offensive naturalization of the walking delegate in the field of our home societies. (4) Abrogation of home rule, which in part might be conceded for the sake of the advantages of a properly constituted federation, but which advantages are conspicuously absent in the proposed scheme or secured at too great expense. (5) The establishment of the council, a body of ten members with a five years' tenure of office, amenable to no person or body, to whom are delegated extraordinary powers, from whose judicial decisions there is no appeal; who, in addition, are *ex-officio* members of the House of Delegates, of which they will form a large proportion, estimated at from 20 to 30 per cent. Such centralization of power is not wise. (6) The entirely inefficient provision for a referendum, viz., that upon questions pending before the House of

Delegates, the general meeting of the society may order a general referendum which the House of Delegates *may* (or may not at their pleasure) submit to the general membership! A shadow of referendum without its substance." The county societies which have not yet recognized are urged to delay such action until they have carefully and critically examined both the State and the County constitutions and by-laws under which they are asked to organize, and such as have already taken this step are asked to reconsider their action.

**Pathological Society of Philadelphia.**—At a stated meeting, held November 19, Dr. John M. Swan exhibited an aneurysm of the arch of the thoracic aorta. The specimen was obtained from a man, seventy-seven years old, who presented an inguinal hernia and complained only of abdominal pain. Death occurred suddenly, and it was thought from cerebral hemorrhage. On post-mortem examination the several serous cavities were found filled with fluid, and the kidneys were in a state of chronic degenerative inflammation. The heart was greatly enlarged, its cavities dilated, and its walls thickened. The valves were normal. The aorta, however, exhibited a fusiform dilatation of its arch, and the entire artery was uniformly dilated throughout its thoracic and abdominal portions, as well as the seat of most extensive atheroma. The brain was not examined. Drs. Thomas G. Ashton and H. R. M. Landis exhibited an aneurysm of the aorta, associated with gastric ulcer. The patient was a colored man, who exhibited at first signs of pleural adhesion and thickening on the left side, later complicated by bronchial breathing and the development of a bruit and inequality of the pupils. The patient expelled blood from the mouth, but whether from the lungs or the stomach could not be determined. Death resulting, the arch and the thoracic aorta were found the seat of two aneurysmal dilatations, one of which had apparently eroded the œsophagus. Dr. Samuel McC. Hamill presented a specimen of aneurysm of the arch of the aorta, with rupture. The patient had been a woman, fifty-five years old, who had been under observation and had been known to have had her aneurysm for fifteen years. Death resulted from rupture into the pericardium. On post-mortem examination the arch of the aorta was found to be the seat of a fusiform aneurysm of considerable size, partially filled with laminated clot. Dr. George B. Wood presented a communication entitled "Tuberculosis of the Parotid Gland," reporting the case of a man from whom a portion of the enlarged parotid had been removed, together with an adjacent gland, and in both of which the histological alterations of tuberculosis were found, though the presence of tubercle bacilli could not be demonstrated. He pointed out the importance of the tonsils as a portal of entry for infection with tubercle bacilli as well as with other microorganisms, and he cited personal observations and those of others tending to confirm this view. Dr. Robert N. Willson presented microscopic preparations suggestive of the presence of malarial parasites, diplococci and influenza bacilli in the blood. The patient, a woman, presented almost typical appearances of pernicious anæmia, while the hæmoglobin-percentage was about 20 per cent., the number of erythrocytes between one and two millions; the leucocytes were only slightly increased, with a preponderance of mononuclear forms. Apparent malarial plasmodia were found in the stained, but not in the fresh blood, together with diplococci, although on culture only influenza-bacilli were obtained. Drs. Courtland Y. White and Isaac Leopold presented a speciman of aneurysm of the arch of the aorta, from a man about forty-five years old, with a history of syphillis, and who was afforded considerable amelioration by means of subcutaneous injections of gelatin. Hoarseness, with paralysis of one vocal band from involvement of the recurrent laryngeal nerve, was one of the first symptoms, and at a later stage, dysphagia was a source of discomfort. Death resulted from exhaustion, and on post-mortem examination the arch of the aorta was found the seat of a large aneurysm partially filled with laminated clot, and on which was seated a secondary dilatation. Dr. Lambert Ott presented a specimen of a mammary gland removed on account of the presence of a neoplasm. Dr. Robert N. Willson presented a microscopical specimen of diplococci obtained from the urethral discharge from a young man, who, in the sequence of an attack of gonorrhœa, the discharge from which contained typical gonococci, developed tonsillitis, and diplococci being subsequently found in the urethral discharge.

**Obituary Notes.**—Dr. Robert D. Murray, Surgeon of the Public Health and Marine-Hospital Service, regularly stationed at Key West, but recently on yellow fever duty at Laredo, Tex., died November 22 from injuries sustained in a runaway accident one week ago while returning from the bedside of a yellow-fever patient whom he had been treating. When he had been in the hospital several days pneumonia set in, resulting in his death. Dr. G. M. Guitéras, who was with him at the time of the accident, was thrown from the carriage, but suffered only some severe bruises. Dr. Murray was a native of Ohio, sixty-four years old, a Civil War veteran, and a member of the Grand Army of the Republic. He was graduated in 1868 from the Cleveland (Ohio) University of Medicine and Surgery, and for a time held the chair of anatomy there. He then studied at the Jefferson Medical College, taking his degree there in 1871, and the following year he entered the Marine Hospital Service. During his connection with the service he had been in charge at Norfolk, Va.; Mobile, Ala.; Philadelphia, New Orleans, and Key West, Fla.

Dr. Allen Hazen of this city died on November 17, at Jerico Centre, Vt., after an operation for appendicitis. He was graduated from the College of Physicians and Surgeons of this city in 1895, and was a member of the Society of Alumni of the City Hospital, where he served as resident physician for two years. He had been on the Board of Medical Examiners of the Mutual Life Insurance Company of New York for about five years.

Dr. Charles A. H. De Szigethy died on November 17 at his home in Brooklyn, in his sixty-sixth year. He was a Hungarian, born in Transylvania, and in early manhood was prominent among the Hungarian patriots in their fight for freedom. He studied medicine at Giessen, and on coming to America, in 1865, settled in Brooklyn, where he practised medicine till 1883, when ill health compelled him to go to California. Recovering his health, he resumed practice in Los Angeles, which he continued till 1894, when he returned to Brooklyn.

Dr. Samuel Talmadge died at his home in Brooklyn on November 20, at the age of seventy-two years. He was born near Somerville, N. J., and was graduated in medicine from the New York University in 1870.

Dr. Herbert A. Starkey of Rondout, N. Y., formerly surgeon of the Pullman Company at Pullman, Ill., died suddenly on November 21. He was born thirty-five years ago in Philadelphia and was graduated from the Medico-Chirurgical College in that city in 1889.

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

THE KING AND HIS SANATORIUM—NON-HYATID CYSTS OF THE LIVER—HOSPITAL SCHEMES FOR EXTENSION; BART'S, KING'S, ST. THOMAS'S—POLYTECHNICS *vs.* UNIVERSITIES—QUALIFIED NURSES— MISS HICKMAN—HOSPITAL SHOPPING DAY—OBITUARY.

LONDON, November 6. 1903.

TUESDAY was a red letter day in the annals of medical charities. On that day King Edward laid the foundation stone of his sanatorium, for the open-air treatment of consumption. The site selected for this great institution is in one of the most beautiful districts of the country, about three and one-half miles from Midhurst (Sussex), and seven from Haslemere (Surrey). The landscape is of an undulating character and clad with pines, Scotch firs, and oaks. Spanish chestnuts and holly, rich just now with red berries, are scattered among the bracken and heath. One present at the ceremony says the odor of the pines was quite heavy in the air. A large number of distinguished persons had been invited, and were present to receive the King, who arrived with royal punctuality. The company, naturally, included his Majesty's advisory committee, besides a goodly number of other eminent representatives of the profession. Locally, everyone turned out from a considerable distance. The "oldest inhabitant" was there, and all gradations of age down to the school children, who assembled to sing the national anthem.

The sanatorium will stand in a park of one hundred and fifty-one acres, at an altitude of 495 feet, sheltered to the north and east by ground gradually rising to a height of 630 feet, crowned with pine trees, which also give some shelter to the west and southwest. The south is open to the sun. There will be gardens with graded walks and the best forms of shelters. Southward the view embraces the noted South Downs. The climate is equable and mild; annual rainfall, 30 inches; mean temperature, 48° F.; mean maximum, 57.1; mean minimum, 41.4. The primary object of the sanatorium is to provide for sufferers of a class above the very poor, but as it is to provide the very best accommodation, the King did not think those who could afford to pay for it should be entirely excluded, and, therefore, at his Majesty's suggestion, twelve beds will be set apart for them. The administration building will be separate, connected with that for patients by a central corridor on the ground floor only

On the 'King s arrival an address was read on behalf of the advisory committee, which recapitulated their proceedings and described the results. The King replied in a speech referring to the most important points in the address, and thanking those who had enabled him to bring his plans so far toward completion. His Majesty said, "When a generous donor, whom I regret I am not allowed publicly to thank, placed at my disposal a large sum of money for any philanthropic object which I might have in view, I at once decided to devote it to the erection of an open-air sanatorium, having been so greatly impressed with the immense benefit which institutions of this nature conferred on those suffering from pulmonary diseases." His Majesty went on to express his hope that in not a few cases treated in the institution the malady would be arrested, and further his trust that "on their return home, by diffusing among their relatives and friends a knowledge of the infinite importance of fresh air and sunshine in maintaining health, the conditions under which in so many homes tuberculosis flourishes will be sensibly diminished." Having taken up other points, the King said that while no necessary comforts would be omitted for the welfare of the patients, "there will be a total absence of all luxury and of expenditure of money on superfluous appointments." He then expressed regret that the Queen was unable to be present, as she was deeply interested, like himself, and in conclusion added, "We both of us pray that the institution of which I am about to lay the foundation stone may receive the blessing of God, and that those who come to reside here may find renewed health and strength to enable them to carry on their duties in the world."

A short religious service was then conducted by the bishop of the diocese, the King in its course laying the stone with the usual ceremony, after which a hymn was sung and the bishop pronounced the benediction. The King lingered some time on the platform, admiring the lovely landscape on which the sun shone with a radiance so rare in this rainy year, that it seemed to many an augury of good. He expressed to his committee satisfaction and delight with the natural charms of the site selected, and as he returned to his carriage the assembled multitude sang the national anthem.

The Royal Medico-Chirurgical Society has commenced to work. On the 27th ult. the new regulations as to the admission of officers of the public services having come into operation, several of these gentlemen were elected service fellows.

Mr. Clement Lucas showed a case of primary chancre beneath the tongue in a man of thirty-five years, who said he could not account for the sore, except that in his shop the men smoked any pipe lying about.

Mr. Alban Doran contributed a paper on simple non-hydated cysts of the liver, founded on a case in a woman of forty-two years who fell against a washing tub in the second month of gestation, about three years previously. The accident produced abortion, but she became pregnant again and went to full term. Jaundice appeared four months before admission, when the liver was greatly enlarged by, as was thought, a cyst. This was found to be so on operation. The cyst was opened and three pints of green bile drawn off. No calculi or hydatids present. The gall-bladder and ducts were found to be quite unconnected with the cyst, empty and not obstructed. A ½-inch drainage tube was placed in the cavity, and for three weeks bile flowed freely and the jaundice decreased. In the fifth week the motions began to be colored. The patient left the hospital on the thirty-eighth day. The drainage tube had been removed on the seventeenth day, and the discharge through the fistulous tract gradually diminished. The cyst was occasionally washed out with chinosol, and Condy's fluid was used at home when last seen, October 19. She seemed in good health, but a little pus was still discharged from the fistula. In commenting on the case, the operator remarked on the complete absence of shock, which he attributed to the fact that the free incision enabling him to see all the parts involved rendered it unnecessary to handle them much. When the incisions were accustomed to be made short and the fingers had, so to say, to work in the dark, the operator must have bruised important structures, more or less, and in those days alarming shock was frequently met with.

Mr. Bruce Clarke thought the cyst was probably due to the injury, though it might have depended on a retention cyst or have been congenital. He mentioned a case of an epileptic who fell on some hard substance in one of the fits, had great collapse, and six weeks later, operated on for hydronephrosis, a renal vein was found to have been ruptured into the cyst. The jaundice, he thought, was produced by pressure. The diagnosis from malignant disease rested on the duration of the case.

Mr. Willett, president, suggested, as an explanation of the delay in the bile passing into the bowels after the operation, that probably there was an opening of the duct into the cyst which offered a freer passage until the contraction of the cyst forced it into the natural channel.

The St. Bartholomew's Hospital extension scheme, as recommended by the Mansion House Committee, has now received the decided sanction of the governors. Yesterday a "General Court of Governors" was held, at which about seventy were present, and a series of resolutions (proposed by Mr. C. A. Cripps, K.C., and seconded by Sir Wm. S. Church, Pr. R.C.P.) were carried with only one dissentient. These resolutions recorded unqualified satisfaction that after impartial exhaustive inquiry the Mansion House Committee had arrived at its conclusions, and thanking them for the large amount of time and attention bestowed on all matters connected with the inquiry.

I informed you at the time of the nature and extent of the committee's scheme, but now that it is completely endorsed by the governors I may repeat that provision is to be made for (*a*) additional operating theaters; (*b*) new casualty and out-patient departments; (*c*) new nurses' home; (*d*) new quarters for resident medical and surgical staff; (*e*) isolation block and other new ward blocks to replace those to be demolished; (*f*) new mortuary, post-mortem rooms, and pathological department; (*g*) internal structural rearrangement of the east, west, and south wings. You will see that the alterations will be very extensive, and will not be surprised if some old students are saying to each other "why, we shall hardly know old Bart's when it is finished." But the change will be gradual. The first block to be built is to be the new casualty and out-patient departments with dispensary, etc. The operating theaters will proceed simultaneously. Then the nurses' home. The other blocks will be undertaken in such order as their relative urgency may make expedient, having regard to the general work of the hospital.

One of the most important resolutions directs that the medical staff be consulted from time to time on all details that affect the sanitary arrangements, the care of the patients, or the interests of the medical school. The staff is also to be consulted as to the plans submitted by the architects for carrying out the resolutions, and as to any modifications that may from time to time seem desirable. Application will be made to Parliament in the ensuing

session for such powers as may be necessary to complete the improvements, including the utilization of the church within the hospital precincts and the union of the parish of St. Bartholomew's the less with the adjacent St. Bartholomew's the greater.

The Treasurer and Almoners will shortly wait on the new Lord Mayor to ask him on behalf of the Court of Governors to convene a meeting of the citizens for the purpose of raising the necessary funds.

A suitable site of twelve acres in South London has been presented by a single donor to which to remove King's College Hospital. An appeal for funds to build and equip the new hospital is being made. Not less than £300,000 is required. The transfer of the charity from a district which has been considerably denuded of its poorer inhabitants to one in which there is a dense population inadequately supplied with hospital accommodation will probably so far commend itself to the public as to render the appeal successful.

It is proposed to increase the accommodation at St. Thomas's hospital for paying patients, and application has been made to the Charity Commissioners to sanction such an extension. Two floors in a building, to be erected in the hospital precincts, are to be devoted to this purpose, the remainder being used for a nurses' home. The scheme includes a provision that the governors may let portions of their land in allotments, subject to the provisions of the Allotment Acts.

The Marquis of Londonderry, speaking at the Northern Polytechnic last week, said he should never regret the two years he spent as chairman of the London School Board, which gave him an insight into the management of education. The present polytechnics and universities were doing excellent work, and with prudence, economy, and energy their full usefulness could be attained. Before investing money in any scheme we should be assured of a good return. Sir N. Lockyer had asked for twenty-four millions for university schemes, but what would be the return for such vast expenditure. It was not true that large numbers of well-prepared students could not enter the existing universities.

Mr. Bryant, late P.R.C.S., presided at a meeting of the Hospitals' Association at St. Thomas's Hospital for discussing the proposal to form a new grade of nurse for poor-law service to be called a "qualified nurse." Dr. T. D. Savill, formerly superintendent of the Paddington Infirmary, and Miss Gibson of the Birmingham Infirmary, spoke against this proposal and showed the many objections to it. A resolution in opposition to the scheme was carried, and it was determined to ask the President of the Local Government Board to receive a deputation on the subject.

The inquest on Miss Hickman has been again adjourned, but it seems clear that the case is one of suicide, as Dr. Stevenson has detected morphine in the organs and in the hypodermic syringe found near the body.

Hospital shopping day was duly carried out on Tuesday, and some checks as the result have already reached the King's Fund; so notwithstanding the objections which have, naturally, been offered in some quarters the day may become a recognized institution.

The deaths are announced of Dr. Fray Ormrod, senior surgeon of the Workington Infirmary and one of its founders, on the 1st inst., aged sixty-five. Dr. R. F. B. Halpin, Physician to the Arklow Fever Hospital, etc., on the 19th ult., from pneumonia in consequence of getting wet on a night visit. He was only forty-five years old. Dr. Thornburn of Cockermouth, aged sixty-four years, on the 30th ult. Dr. H. A. Lawton of Poole, on the 31st ult., aged fifty-two years.

## OUR PARIS LETTER.

(From Our Special Correspondent.)

PRIMARY DIPTHERITIC TRACHEOBRONCHITIS—THREE CASES OF SLEEPING SICKNESS PRESENTED TO THE ACADEMY OF MEDICINE—TWO NEW CASES OF DERCUM'S DISEASE—STUDENTS' ANTI-ALCOHOLIC LEAGUE—CRUSADE AGAINST DICHOTOMY.

PARIS, November 6, 1903.

PRIMARY diphtheritic tracheobronchitis is a disease which has been rarely seen, and is not admitted without reserve by classical authors. Drs. Sergent and Lemaire have recently reported a case to the Hospitals Medical Society. The patient was a young woman twenty-one years old, who, on entering the hospital, was found to be suffering from intense dyspnœa. There was no angina, no coryza, no adenopathy. On laryngoscopic examination being performed, no croup was found, but the signs of a double recurrential paralysis. Tracheotomy was performed and false membranes were thrown out. After this, there was some relief. A bacteriological examination showed the diphtheritic nature of the membranes, and 70 cubic centimeters of serum were injected in four days.. The third day she threw up a bronchial cast 15 centimeters long. Death took place, however, on the sixth day from uræmia. The autopsy showed two peritracheal bronchi, and it was found that even the alveoli were infected by the Loeffler bacillus. The disease had begun eight days before the patient came to the hospital, and there had been no angina, and only symptoms of bronchitis. Dr. Legendre reported a similar case.

At a recent meeting of the Academy of Medicine, Dr. Blanchard presented three negroes suffering from sleeping sickness, who had been brought back from Africa by Dr. Brumpt, his assistant. In two of these cases there is swelling of the glands of the neck. Brumpt has tried to inoculate the disease to rats, mice, guinea-pigs, but without result. A monkey, however, was infected, but no histological examination was made. Dr. Chantemesse remarked that Castellani and Bruce had been able to inoculate the disease to rats and dogs. It is possible, according to Brumpt, that a species of fly, called glossina palpanis, is the means of contagion. The latter is found in the regions affected by this disease.

Drs. Sicard and Roussy have recently reported two cases of Dercum's disease in women who had been subjected to ovariotomy. The four cardinal symptoms were seen in these two cases: localized adiposio, asthenia, motor troubles, and pain.

The students of the Latin quarter, or at least, a certain number of them, are getting up an anti-alcoholic league, which will form part of the French league of temperance. The members only abstain from distilled liquors, but drink all fermented beverages, such as wine, beer, or cider. The fees for admission and membership are one franc for each member, and the league intends to use every possible means of impressing on the public the importance of temperance, such as post-cards, advertisements, tracts, hospital propaganda, temperance restaurants, and later, the establishment of a journal.

The question of what physicians should be paid, when one of their patients is operated, and that of what is called "dichotomy" in France, a percentage which the physician receives from the surgeon whom he calls in, has been discussed in France quite extensively during the last few months. To give an example of what would take place. A physician would decide that a patient needed to have an operation, such as curettage performed. A surgeon would be called in and would charge 5,000 francs and give his confrère 1,000 francs. Such proceedings could not be tolerated, and various scientific bodies have sought to regulate and define what should be done in such cases.

The Medical Syndicate of Versailles, which enjoys a very high reputation, unanimously adopted, at a meeting held last October, the following resolutions: (1) A surgeon or specialist, who has decided to perform an operation, should notify the patient's physician and ask him to assist. (2) It concerns the physician to determine as well as his own fee, those of the physician and of his aids, and to indicate this to the family. These fees include the operation itself, and the physician should present his bill for the other services rendered. (3) When the surgeon lives in another city, he is not required to notify his confrère, but it is more courteous to do so, and ask him, either as a friend or as an aid, to assist at the operation. The family may also ask this. In the first case the surgeon should pay the fee of the physician, in the second, the family is called upon to do so. These regulations are designed to put a stop to the system of commission which is getting to be known by the general public, and is a disgrace to the medical profession.

## IS HEART DISEASE THE CAUSE, OR THE EFFECT OF THE ATHLETIC HABIT?

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: The item on page 702, MEDICAL RECORD, "He (Lewin) was seized with an attack of cardiac syncope just before the close of the first half (foot-ball contest), and died shortly after being carried from the field," reminds me again of the commonly recognized fact among physicians that the abuse of athletics is liable to lead to heart disease. For some time, however, there has been a query in my mind whether exaggerated heart action is not a chief cause of the love of athletics, the latter becoming indirectly the cause of hypertrophy and dilatation as a result of said *penchant*. Children and young people who are addicted to great physical activity usually show signs of strong heart action, and when, on examining applicants for insurance, I have found that kind of cardiac innervation which enables persons consciously or unconsciously to induce the heart to beat strongly and rapidly they have admitted a disposition to overdo and put forth such effort as successful competition in athletics or labor calls for.

On the other hand, I do not recall an instance of de-

pressed cardiac innervation which seems normal to some people, to have been accompanied by love for athletic sports. Such persons may work more or less hard for gain, but not for sport.

It has seemed to me that the positive condition is often one of exalted innervation, but after this has led for years to over-exertion there may be added hypertrophy, dilatation, and murmurs.

The practical lessons are: (1) The family physician should examine the well, and not alone the sick, of families under his care, that he may caution those who have nervous heart to steady the organ as they can learn to do with experience, and be as much on guard against over-taxing it when they feel in best condition as when "under the weather."

(2) Finding an abnormal heart with no history of rheumatism, etc., to account for it, one should remember a possible cause in exalted heart action from youth up, with resulting physical strain.

(3) The bearing which such a heart has on the probabilities of life, on insurance. In young people we might expect the heart with exaggerated innervation or activity to withstand acute disease better than one with depressed innervation, but it would be more likely to tempt disease. Long life, however, seems to favor the harmonious man, who by nature is moderate in all things."

R. C. SHULTZ, M.D.

LOS ANGELES, CAL.

# Progress of Medical Science.

*The Boston Medical and Surgical Journal, Nov. 19, 1903.*

**Observations on the Effect of Catheter Drainage on the Function of the Kidneys in Interstitial Nephritis and Pyelonephritis.**—Arthur Tracy Cabot presents the following conclusions: (1) The relief of tension in kidneys that, owing to long obstruction, are exhibiting the clinical phenomena of interstitial nephritis usually brings about a return of normal function. From this, it would appear that the renal condition is directly due to the obstruction and increased tension. (2) It seems probable that in cases of dilated ureters, permitting regurgitation of urine from the bladder back into the pelvis of the kidneys, a long drainage of the bladder will permit such a shrinkage of the ureters and ureteral orifices as to restore the normal vulvular action of the ureters and the retroflow of the urine will thus be stopped.

**A Case of Epilepsy and Nephritis Simulating Puerperal Eclampsia.**—Philip H. Cook makes this report. The patient was a woman aged thirty-four years; she was about nine months pregnant. Her friends stated that she was of a nervous disposition and subject to epileptic seizures, the last of which had occurred about one month before. She had felt well throughout pregnancy, aside from the one convulsion. Her eyes had not troubled her. Three preceding labors were normal. Examination showed marked œdema of the legs and feet. The nitric acid test showed that the catheterized specimen was laden with albumin. Labor progressed normally, and the child was born at 12.43 A.M. At 9.50 A.M. the patient complained that the light hurt her eyes. Twenty minutes later a convulsion occurred, and lasted about two minutes. Milk diet and diuresis were ordered as well as a hot pack. Examination revealed many casts in the urine, besides squamous and large round epithelial cells. There was a rare normal corpuscle, leucocyte, and small round cell. Her husband stated that she had been subject to attacks for fifteen years. In ten days after the convulsion there was only a slight trace of albumin in the urine. No casts were seen. There was some pus and blood. The œdema had nearly disappeared. An increase in diet was followed by another convulsion. Full consciousness returned in about twenty minutes. From this time on convalescence was uneventful, and three days later the patient was discharged well.

*Journal of the American Medical Association, Nov. 21, 1903.*

**The Cultivation of Trypanosoma Brucei.**—This is the cause of nagana or the tsetse fly disease of South Africa. The organism seemed at first to be a parasite, and as such incapable of existing outside the living body, but the authors, F. G. Novy and W. J. McNeal, have successfully cultivated it and followed out the usual inoculation experiments, white mice, rats, and guinea pigs being the animals employed. The culture medium employed was the ordinary nutrient agar containing variable amounts of defibrinated rabbit blood. A first series of twenty-five experiments failed. In a second series of the same number, four positive cultures were obtained from as many animals. One culture has been carried to the seventh generation. No definite statement can yet be made as to the possibility of immunizing animals. The greater portion of the paper is occupied with experimental details and differential data as to the various species of the trypanosoma.

**The Protoplasmic Activity of the Renal Epithelium.**—This subject has been studied by W. S. Carter, who has noted the elimination of pigments injected into the circulation. He alludes to the filtration-absorption and excretory theories as to the mode of secretion of the urine and then describes his own experiments. These lead him to believe that the excretion or the Bowman-Heidenhain theory is the correct one. He claims for his experiments, however, merely that the pigments are excreted by a protoplasmic activity of the renal epithelium. It may well be that some of the pigment is filtered through the glomeruli. This latter seems to more definitely result from the use of certain pigments than from others. Finally the author notes that the elimination of pigments by the kidney does not afford a method of determining positively and finally whether the rodded epithelium of the organ is excretive or absorptive in function, though as above indicated he inclines to the former view. Of course, urea and the metabolites of the urine may be handled in a different way from foreign substances injected into the circulation. However, it seems improbable that the cells lining the uriniferous tubules are concerned exclusively in absorption.

**The Surgical Treatment of Traumatic Hemorrhage of the Spleen.**—N. Senn reviews the history of splenic injuries and of the various methods employed for the relief of hemorrhage from this organ. He then relates the series of experiments performed by himself on dogs to ascertain the effects of forcipressure of the wound margins. In this method, under slow broad pressure with forcipressure forceps, the pulp of the spleen is displaced from the meshwork of loose connective tissue which, in turn, is condensed into a broad firm band in which the larger blood vessels become entangled, their cut ends contused, and hemorrhage even of branches of the splenic artery of considerable size and large veins is arrested. Senn found that this method was of great value. All of the wounds experimentally made in the dogs were clean cut incised wounds, calculated to bleed profusely, and in all the bleeding was arrested by the crushing and suturing of the crushed margins. Secondary hemorrhage never occurred. The post-mortem specimens invariably showed adhesions between the omentum and the wound surfaces. In two instances small localized abscesses developed, probably from infected ligatures. Other methods of treatment alluded to are splenectomy, partial or complete, splenorrhaphy, aseptic tamponade, and cauterization. He believes the forcipressure and suture method the best of all. Catgut is the suture material advocated.

**Destructive Sterilization by Cataphoresis of Cancer of the Uterine Cervix.**—G. Belton Massey regards cauterization by the galvanocaustic knife as lessening the chances of reimplantation of the growth in the cut edges incident to operation by the knife. The author describes in full detail the electro-chemical method employed by him for some years. By this method no preliminary opening of the lymph and blood channels, with possible instantaneous admission of cancer cells, is required, the growth being destroyed and sterilized *in situ*, and the sterilization then carried to any desired depth and in any desired direction by small, easily handled instruments, with complete protection of the external parts from accidentally straying force, and without appreciable heat production. A powerful electric current is employed in this method for the development, within the substance of the growth, of nascent oxychlorids of mercury and zinc, from a union of electrolytically freed oxygen and chlorin with the mercury and zinc of an amalgamated electrode. These nascent salts thus produced during application are radiated in all directions by the continued flow of the current, devitalizing the protoplasm of the neighboring cells, particularly the better conducting lowly vitalized malignant cells, and the outflow may be governed and directed by the operator until both the center and the periphery of the growth are devitalized and sterilized, the destroyed tissues assuming a whitish-gray aspect. The time required for the total destruction of an average cancer of the cervix varies from a half hour to two hours, with a current of 500 to 600 milliamperes, the patient being under a general anæsthetic, as for a major operation. The slough produced comes away in from ten to twenty-one days. The author has to report only four cases, however, treated exactly in the way he describes, and in only one has there been an absolute success, the patient being alive and well six years after operation. All the rest were recurrences after knife operations, and, with the exception of one case that proved fatal from peritonitis within six days, they were all greatly benefited for a time, usually dying ultimately from a metastasis

that, according to the author, must have been implanted before the application.

*Medical News, November* 21, 1903.

**The Relation of Mild Types of Diphtheria to the Public Health.**—Thomas W. Salmon quotes from Parsons of Roche, England, that outbreaks of diphtheria are often accompanied by a similar prevalence of sore throats not distinctly diphtheritic in character. It is probable that though such cases may not, from a clinical point of view, come within the definition of diphtheria they are essentially of the same nature, and a susceptible person coming in contact with one of them may contract the disease from it in a severe form. The existence of these cases should receive official recognition, and they should be assigned a definite place among the varieties of diphtheria. The same sanitary regulations should be used in these mild types of the disease.

**"The Heart Cure," Its Terminology, Purposes, and Achievements, Including the Etiology of Fatty Degeneration.**—Homer Wakefield says that by the aid of temporary prolongation of the heart's stimulation, he endeavors to restore the systemic oxidation, to lighten the load as much as possible of the heart's hard task and to rid the system of the autointoxication which incidental putrefactions have caused. The former part of the treatment is accomplished by the free inhalation of an abundance of nascent and purified oxygen gas, made fresh several times daily. The second factor consists in the clearing of the vascular system. The portal system is cleared by oft-repeated, very small doses of calomel and a saline cathartic. Warmth is applied to the extremities, while cold water is taken internally. The two principal degenerations of heart disease, gelatiniform and fatty metamorphosis, are wholly due to and dependent upon the suboxidation which results from cardiac and blood deficiencies and their vicious cycle., and are preventable, arrestable, and restorable in the great majority of cases. Many persons live years after being treated by the heart cure.

*New York Medical Journal, November* 21, 1903.

**Clinical Study of the Use of Antitoxin in Hay-fever During the Season of 1903.**—The antitoxin referred to is the one devised by Dunbar and exploited by the latter, Semon, McBride, Mayer, and others. A. W. MacCoy has employed the remedy in fifteen cases, six of which are reported in detail. His cases were typical ones, presenting the classical picture of the disease. The serum was applied to the conjunctival and nasal mucosa by means of a pipette, one or two drops from two to four times daily for the eyes and double the quantity from two to six times daily for the nose. Results in all the fifteen cases were most satisfactory, the attacks being generally promptly aborted. MacCoy believes that it remains to be determined whether there are in America some cases of hay-fever not amenable to cure by the use of the antitoxin serum of Dunbar. So far as my fifteen cases can illustrate, they appear to confirm the contention of Dunbar, that cases of hay-fever are dependent upon the toxin resident in the various pollens of *grasses*.

**Brain-fag and Its Effects on Health.**—J. Knott describes the general arrangement of those portions of the brain presiding over the mental faculties, and notes the tremendous strain placed on them in modern civilization. He notes that the brain, like all other organs of the body, receives during health a supply of blood fairly proportional to its activity at a given moment. The blood vessels here, as elsewhere, are provided with muscular and elastic coats, and their caliber is accordingly under the control of the nervous system. When the nerve centers are exhausted this vasomotor control is lost to a certain extent. Moreover the cerebral vessels are thin-walled and yielding beyond those of other organs. When this process of overstrain has been too prolonged, the coats of the blood vessels of the part partially lose their elasticity and are slow to recover their ordinary healthy contractility. When the stage of exertion has been too much or too often repeated, the walls of the vessels tend to lose their contractility and remain constantly dilated, thus giving rise to chronic congestion. Then follow changes in the mental faculties. The individual loses his decisive resource, resolve, and capability of continuous action. Furthermore, the well-known physiological fact that mental work tends to check the secretion of the gastric juice, tells rapidly on the digestive functions of those anxious and worried individuals who cannot, or will not, allow themselves a fair amount of rest after meals. This habit, when continued, tends, with the restlessness and sleeplessness which torture the unhappy owner of an overworked brain, to reduce him to the state of a morose dyspeptic, whose life is a burden to himself, and whose presence is unpleasant to others; and who has little to look forward to in life but the dreary accompaniments of a premature old age. Such are the evils which, with the innumerable smaller collateral ones, are brought on by the refusal to the organ of thought of its due share of rest.

*American Medicine, November* 21, 1903.

**Prevention of Tuberculosis.**—J. W. Wherry cites two cases in which the patients developed tuberculosis. They had both attended the same telephone in an institution for tuberculosis. The officers and clerks used the same instrument often. Whether the infection was carried by means of the telephone cannot be absolutely known, but the writer states that it is very probable.

**The Treatment of Surgical Shock by Adrenalin.**—Edward Martin and M. E. Pennington report cases in which the effect of adrenalin seemed to be life saving. Laboratory experiments apparently show that adrenalin by intravenous injection is the most powerful, practicable cardiac and vasomotor stimulant yet presented to the profession. It also stimulates the respiratory center and increases general metabolism and body temperature. The toxic dose for man is not known. The dilution should be at least 1-10,000 when the drug is given hypodermically. It seems safe to give an initial dose of 10 c.c. of the strong solution in 90 c.c. of normal salt. The injection should be slow, thus prolonging the effect of the drug.

**Molluscum Fibrosum of the Rectum in a Patient with the Typical Skin Lesion.**—A. B. Cooke declares that molluscum fibrosum is itself extremely rare. He reports a case in which the lower bowel was almost completely filled with polypoid tumors. Some sixty of the growths were removed. Examination of one of the specimens removed showed it to be identical in structure with the specimens of fibroma molluscum, which were examined from the great number upon the surface of the body. There was no evidence of adenoma or malignant epithelial growth.

*The Lancet, November* 14, 1903.

**Acute Fulminating Glaucoma.**—A. T. White reports a case of acute fulminating glaucoma ending in total blindness in eighteen hours after onset, and occurring during the course of severe syphilis, in an Italian laborer aged thirty-six years. This form of glaucoma is rare. No other cause in this individual case could be assigned.

**The Successful Treatment of a Few Cases of Lupus.**—C. R. Bowker reports seven cases. The main feature of his treatment consists in the injection of Koch's lymph and arsenic, combined with the thorough extirpation of the diseased tissue, and the local treatment must be adapted and varied to suit individual cases. If the wound left after incision be extensive small skin grafts will be found of great service in hastening the healing process; and he has had occasion in several cases to do plastic operations in order to restore the nose to something like its original shape, and in the cases in which this has been necessary the result has been fairly successful and with every satisfaction to the patient. The cases above quoted had all been treated previously by the method of scraping or burning, and there was no doubt as to the diagnosis

**A Group of Cancer Cases.**—W. G. Nash reports a series of cases as follows: Case A, male, rectal cancer, died in sixty-seventh year; case B, male, aged seventy-nine years, cancer of the tongue; case C, male, aged sixty-nine years, cancer of tongue; case D, male, aged sixty-seven years, cancer of the tongue; case E, male, aged forty-three years. The possible relation of these cases one to another was traced and the following facts were found: The widow of C, who was an innkeeper, stated that D and her husband were great friends, and that they frequently drank together out of a large tankard—in fact, before their illness they used to meet two or three times a week. D seems to have contracted the disease first, and on more than one occasion when drinking he complained of soreness under the tongue. The widow of C says that she always believed her husband caught it from D. B was no friend of the men previously mentioned, but occasionally as he passed through the village, he stopped at the inn kept by C to have a drink, and C's widow is certain that her husband and D never drank with B, but it is possible that the last mentioned drank out of a vessel which C and D had previously used. E lived in the same hamlet as B and came little in contact with C and D. He, however, frequented the same inn as B, but did not drink out of the same vessel. Soon after his illness started he used to take his own glass to the tavern. Finally it was discovered that A was a very intimate friend of both C

and D. They both often drank out of the same vessel, both at C's inn and at each other's houses.

**The Operative Treatment of Tuberculous Glands of the Neck.**—W. G. Sutcliffe notes the great practical advantage of making the lines of incision coincide with the natural creases of the neck. He believes that if an operation is decided on, the glands should in all cases be removed with their surrounding cellular tissue, and that the internal jugular vein so far from being divided and tied, as a routine measure, can almost always be avoided. The drooping of the shoulder caused by the division of the spinal accessory nerve is a very real deformity, causes considerable loss of power, and if the patient is a child is a source of almost certain lateral curvature. The author states that he has seen many old cases in which both the sternomastoid and the trapezius have atrophied and their appearance, with the longitudinal scars extending from the mastoid to the clavicle, has been a sufficient object-lesson, not only to try to treat the nerve with the greatest respect, but to put the incisions in the least visible region.

*British Medical Journal, November* 14, 1903.

**The Duration of Malta Fever**—William Hartigan believes that from three to six months may be expected as the duration of this fever. The writer has found salol very beneficial in the so-called typhoid stage. He gives the history of a patient who was suffering with this disease.

**Filariasis in Man Cured by Removal of the Adult Worms in an Operation for Lymph Scrotum.**—A. Primrose reports the case of a man aged forty-seven years. He had lived in Barbadoes all his life with the exception of a few short trips. Examination of the blood of the patient showed the embyro filariæ in large numbers. The whole scrotum was greatly thickened. At operation the greater part of the indurated scrotum was removed by an elliptical incision. An adult filaria was found in the scrotum. The operation resulted in freeing the patient of the filariæ as well as of the lymph scrotum. The interference with the lymph circulation is often very great in these cases.

**Case of Intestinal Infarction.**—H. Rothery Nutt describes this case. The patient was suddenly seized with intense abdominal pain. He became faint and fell to the floor, vomited and passed a motion. The abdomen was very slightly distended. Opium was given, and turpentine stupes applied to the abdomen. And all food was prohibited. Later in the day the abdomen became distended and tympanitic, and there was marked collapse. The temperature was subnormal. There was great pain and restlessness. At first the case was thought to be one of acute intestinal strangulation. Collapse was gradually increasing. The patient became steadily worse and expired. Necropsy was performed about ten hours after death. No obstruction could be made out. But the superior mesenteric artery was firm and round and the mesentery felt thickened. The writer concludes that it was remarkable that there was no diarrhœa or profuse hemorrhage from the bowels, and that the case terminated so rapidly.

**The Conditions that Simulate Pernicious Anæmia.**—Thomas Houston has examined a number of cases of profound anæmia, evidently the result of severe and prolonged hemorrhage, which, as far as their clinical symptoms were concerned, presented the features of pernicious anæmia with the exception that they were the result of hemorrhage, generally repeated small hemorrhages, as, for example, bleeding pies. It would appear that the characteristic blood features of pernicious anæmia, if they ever occur as the result of ankylostomiasis, must be an extreme rarity. The eosinophilia which constantly occurs in ankylostomiasis is not a feature of the blood of pernicious anæmia. As to bothriocephalus anæmia, Ehrlich admits that in some cases the blood presents the typical megaloblastic features of pernicious anæmia, but he regards this as due to the direct stimulation of the marrow by a specific toxin produced by the parasite. Pregnancy is occasionally accompanied by a severe or even fatal anæmia, which, from its symptoms, closely simulates progressive pernicious anæmia. In cases of malignant disease it appears that the blood changes are, as a rule, totally different from those of true pernicious anæmia.

*Deutsche medicinische Wochenschrift, November* 5, 1903.

**Ophthalmia Neonatorum and the Gonococcus.**—Schanz says that the observations on the ophthalmias of infants made soon after Neisser's publication on the gonococcus and which have been accepted without a cavil ever since were made upon insufficient statistics. Several recent investigators have found that inflammations may occur in the eyes of infants which clinically are not to be distinguished from the true blennorrhœa and yet in which the gonococcus can never be found. On the other hand, there is a whole series of other microorganisms capable of producing the typical picture of the gonococcus inflammation. This state of affairs is exactly opposed to that in the urethra, in which gonorrhœa is produced solely through the one specific organism, and the explanation offered is that the urethral mucous membrane and the conjunctiva are differently susceptible to microbic infection. This explanation is not wholly satisfactory, however, and it is evident that the question is not as simple as it at first seemed and will require much further study. Probably the class of pseudo-gonococci which has lately been erected will have to be demolished and these more resistant organisms considered simply as variants of the true species.

**One Hundred Cases of Diabetes in Their Relation to Tuberculosis and Arteriosclerosis.**—Croner finds that the records of the Berlin University Polyclinic corroborate the observations of most authors that these three diseases have more than a casual interrelationship. Forty-seven out of his hundred cases were either themselves tubercular or had tubercular relatives. Diabetes mellitus seems to be increasing in frequency and the belief that a hereditary predisposition underlies most cases is gaining credence. Clinical and experimental evidence shows that the two diseases, when existing concurrently, do not necessarily influence each other for the worse, but it is not unlikely that similar factors form the predisposing moment for each. The facts that the increase in diabetes is being attended by a decrease of tuberculosis and that the former is commoner in the upper classes, who are better protected against tuberculosis, and the latter is more frequently seen among the proletariat, are of interest in this connection. That the etiology of arteriosclerosis is also involved in the question is shown by the frequency with which the vascular lesion is found associated with diabetes. In many cases the glycosuria is the least important feature of the case and diminishes or disappears when the cardiac asthma, angina pectoris, etc., yield to treatment. Whether the sclerotic state of the pancreatic vessels or the disturbed nutrition or irritation of the glycogenic regions of the cerebellum is most concerned is still undetermined.

**Syphilis and Renal Surgery.**—Margulies points out the necessity for considering this condition in diagnosticating renal tumors and describes a case of his own. The patient was a woman of twenty-six who complained of pain and burning in the left renal region. She was much emaciated, cachectic, and had a constant slight elevation of temperature. In the position of the left kidney was a large, nodular, painful mass. Segregation of the urines by ureteral catheterization showed that the functional efficiency of both kidneys was practically normal, that of the left being somewhat inferior to that of the right. There was also evidence of a moderate degree of nephritis of the left organ. The most obvious assumption was new growth, probably sarcoma, though the physical signs and urinalysis were somewhat at variance with each other. The chief point against the diagnosis of new growth was the absence of blood in the urine. Other factors in the past history (miscarriages, pustular eruption, etc.) led to a diagnosis of renal syphilis, and a vigorous course of mixed treatment was begun. The patient's condition became steadily worse, however, and the temperature began to rise higher, so that an exploratory incision was made. The perinephritic tissues were found infiltrated with gelatinous material and the entire mass densely adherent to its capsule. A piece of tissue was removed for microscopical examination and its appearance pointed strongly toward syphilis, so that the mixed treatment was persisted in. Improvement soon began and in two months the tumor had entirely disappeared, only the faintest traces of albumen were present in the urine and the patient's general condition returned to normal.

*Berliner klinische Wochenschrift, October* 26, 1903.

**Vocal Fremitus in the Abdomen.**—Alexander has endeavored to confirm the reports of de Brun and Webber, who independently described vocal fremitus of the abdominal walls as a sign of certain conditions. De Brun observed it in cases of beginning ascites in which the fluid was just commencing to appear, and Webber in a perforated gastric ulcer with air in the peritoneal cavity. The author tested many similar cases of both sorts with negative results, and made experiments on animals also without once eliciting the phenomenon. He calls attention to the fact that the conditions which the above-mentioned writers say favor the transmission of vocal vibrations in the abdomen, *i. e.* the presence of fluid and of air respectively, are precisely those which in the chest cut them off completely, and neither observer has offered any explanation of this discrepancy with physical laws.

**A Contribution to the Study of Splenic Anæmia.**—Zypkin describes a case of splenic anæmia which presented a complex of appearances, putting it in the middle ground between pernicious anæmia and pseudoleukæmia. The red cells were 2,900,000 and the hæmoglobin 23 per cent. There was marked poikilocytosis, microcytes, megalocytes, and nucleated red cells were present. The leucocytes were normal in number, but their differential count showed polynuclear neutrophiles 54 per cent., eosinophiles 2½ per cent., large lymphocytes 27 per cent., small lymphocytes 12 per cent., mononuclear cells with non-granular protoplasm 6½ per cent. There was no lymphatic enlargement, but the characteristic splenic tumor was present. At the autopsy a high grade of fatty degeneration and infiltration of the liver cells was found, together with atrophy of the gastric and colonic mucosa. From this case, which stands somewhat closer to pernicious anæmia than to pseudoleukæmia, the author concludes that the sharp cut lines drawn between the severer blood diseases do not exist in fact, and that pernicious anæmia, splenic anæmia, and pseudoleukæmia form a chain leading up to either lymphatic or myelogenous leukæmia, according as lymphocytes or myelocytes predominate in the stage of pseudoleukæmia.

*Münchener medicinische Wochenschrift, Nov.* 3, 1903.

**A Contribution to Immunization with Ovary.**—Skrobansky has endeavored to arrive at the physiological significance of the ovary and corpus luteum by immunizing animals with these tissues. The reagent used was was the spermatic fluid of the same race as the ovary. Rabbits and guinea-pigs were immunized with the ovaries of white mice and of rabbits, and with ovarian tissue of the cows triturated in the liquor folliculi of the graafian follicles and with corpus luteum in physiological salt solution. It was found that the sera obtained in this way all stimulated the activity of the spermatozoa of the kindred animals to a marked degree. Rabbit serum immunized with beef ovary contained agglutinins for beef spermatozoa, but after the introduction of corpus luteum these did not appear.

**A Contribution to the Etiology of Pancreas and Fat Necrosis.**—Hess says that in many cases of fat necrosis of the pancreas, the course of events is as follows: Some, frequently unrecognizable, primary lesion of the pancreas causes pancreatic secretion to leave the cells and enter the intra and parapancreatic fatty tissue. The neutral fat is decomposed by the steatolytic ferment if the juice and soluble soda soaps are formed. By combination with calcium salts from the blood insoluble lime soaps are produced and may be recognized in the dead cells. The necrotic process now attacks also the neighboring pancreatic tissue. Any injury of the organ causing diffusion of pancreatic juice may result in more or less serious fatty and pancreatic necrosis. Extensive necroses are fatal; if less severe, a chronic indurative pancreatitis follows. In order to arrive at the nature of the primary lesion in such cases as the rapidly fatal so-called "pancreatic apoplexy," the author experimented on dogs with a view to finding what bodies entering the ducts from the stomach could produce such a condition. By injecting sterile olive oil into the pancreatic ducts he was able in every instance to produce results comparable to those observed in man. Large doses were followed in a short time by the picture of pancreatic apoplexy, smaller amounts caused an interstitial sclerosis of the gland. Oleic acid and soda soap gave fatal results, while glycerin and starch paste appeared to be harmless and paraffin produced only a mechanical lesion.

**The Treatment of Fresh Perineal Tears.**—Hegar believes that the customary view that all postpartum tears should be repaired immediately is open to considerable argument. The conditions for healing *per primam* are rarely good, the tissues are contused and their power of resistance to infection invalidated by the prolonged pressure, the patient is exhausted and anæmic, a state unfavorable to wound repair; in private practice, owing to the surroundings, lack of assistance, light, etc., aseptic operating is next to impossible, and the after-treatment is usually inadequate. A large proportion of puerperal infections immediately subside as soon as the perineal wound is opened up and allowed to drain, while statistics of even well-known clinics show a large percentage of failures to secure primary healing. In addition a goodly share of perineal tears do not damage the pelvic floor sufficiently to threaten its future integrity, and the author has collected a series of cases in which primary union and good functional result followed unsutured lacerations. Tears into the sphincter almost never turn out well after primary suture in private practice, and the scar tissue formed renders the secondary operation much more difficult. Episiotomy is to be condemned as useless and apt to produce serious subsequent deformity, but in delivering cases after a previous perineorrhaphy a section through the midline produces a wound in which the conditions for primary union are the most favorable. All cases must therefore be carefully studied before deciding in favor of primary suture.

*French and Italian Journals.*

**Goiter, Partial Thyroidectomy.**—Th. Jonnesco reports the case of a woman who for thirty-two years had suffered from a slowly developing goiter, which had recently been causing respiratory troubles, a sense of oppression, nervous tremors, palpitation, and cutaneous hyperæsthesia. A slight degree of exophthalmos was found, and the diagnosis was made of simple goiter with secondary symptoms of Basedow's disease. The goiter was voluminous and bilobed. Thyroidectomy was performed, a small portion of each lobe being left in place. The first effects were serious—intense cyanosis, frequent feeble pulse, asphyxia, temperature 100.4° F.; but these ceased on about the third day after operation. The Basedow symptoms disappeared more slowly, but completely, so that a year and a half after intervention there is no exophthalmos, no palpitation, no tremors, and the pulse is normal. There are some vague symptoms, especially muscular weakness, due probably to absence of the thyroid gland, and to be treated by the administration of thyroidine.—*Bulletin et Mémoires de la Société de Chirurgie de Bucarest*, May-June, 1903.

**Cardiorenal Cachexia.**—Louis Renon describes the symptoms of this condition which is the natural termination of interstitial nephritis, and of cardiosclerosis. It may be distinguished from cardiac cachexia by the fact that there is no œdematous infiltration of the limbs, no anasarca or ascites, no puffy and cyanosed face. The pallor may cause it to be mistaken for the cachexia of anæmia, but the cardiac and renal symptoms, the high arteral tension, and uræmic sweatings will determine the diagnosis. This once established, we should ascertain whether there is retention of chlorides, and if so, place the patient on the saltless treatment of Widal. Should this prove useless, the prognosis will be grave. Yet the author has obtained a delay of fatal symptoms for several weeks, by suppressing the milk treatment, and substituting water, for two or three days, gradually replacing it by rice water, barley water, vegetable bouillons without meat, and returning to a scanty milk diet. Powdered renal extract may be administered and small doses of trinitrin. Should severe symptoms set in again, the water diet may again be tried. These measures, however, are merely palliative, as a fatal result is sure to follow.—*Archives Générales de Médicine*, November 3, 1903.

**Lecithin.**—Henri Labbé writes of the therapeutic uses of lecithin extracted from the brain, or from eggs. He gives the physiological properties of the substance, its action on growth or metabolism, weight, appetite, urinary chemism, osteogenesis and hæmotapoietic processes, nerve elements and blood. In rachitis it has given excellent results, when taken in the place of phosphates. It can also be substituted for phosphates in phosphaturia. In neurasthenia and anæmia it is of great value, increasing the appetite, restoring physical strength, and causing an improvement of the general condition. Lancereaux and Paulesco have found it beneficial in diabetes, although it has no specific action on the production of sugar. In cachexias and in convalescence it has a field in restoring strength. In children it does not seem to produce especially good effects, except in lymphatism, while in the aged it is very useful in overcoming adynamia, improving the general condition, and strengthening the intellectual powers. In some cases it acts on the heart when digitalis produces no effect, and it increases the flow of urine. It should be tried in tuberculosis, for Claude and A. Zaky report that it causes marked general improvement.—*Revue de Thérapeutique*, November 1, 1903.

**Gastrotomy for the Extraction of Twenty-five Foreign Bodies.**—L. Monnier reports the case of a young man of twenty-two years, who seemed about fifteen, and who after being maltreated by an unnatural mother, in an epileptiform attack, attempted to commit suicide by swallowing a spoon, and then a number of other objects. Each ingestion was accompanied by sharp pain, the vomiting of bile and sometimes of blood. Nervous crises occurred finally, and after examination, an operation was decided on. Gastrotomy was performed, and there were removed from the stomach eight teaspoons, the end of a fork with three prongs, the handle of the fork, another fork handle, the fourth prong of the fork, nails, a needle, knife-handle, knife-blades, fork handle, shell hairpin, some small pieces of iron—in all twenty-five separate objects. The results of the operation were excellent. About three weeks later, the patient was able to take a sitting posture without pain, a thing which had for months been impossible. The author describes in full the operation and the after-treatment.—*Gazette des Hôpitaux*, November 3, 1903

# Book Reviews.

CHEMISTRY, INORGANIC AND ORGANIC, WITH EXPERIMENTS. By CHARLES LOUDON BLOXAM. Ninth edition rewritten and revised by JOHN MILLAR THOMSON, LL.D., F.R.S., Professor of Chemistry, King's College, London, and ARTHUR G. BLOXAM, F.I.C., Consulting Chemist and Chartered Patent Agent. Philadelphia: P. Blakiston's Son & Co., 1903.

THE progress of chemistry is so rapid that it is constantly more and more difficult to compress even the more important facts into one volume. Bloxam's Chemistry is, however, one of those which has successfully managed to do so. Many of the illustrations in former editions which have become obsolete have been weeded out of this one, and some new ones have been introduced. The position of carbon has been changed to follow immediately upon the elements hydrogen, nitrogen, and oxygen. On the whole, the standard of this edition seems to come fully up to that of its predecessors, as regards progress in both fact and theory. If one were inclined to criticise, it might be said that radium has allotted to it hardly its rightful amount of space, and from the editorial standpoint one or two minor points might be made. At any rate it is certainly an anomaly that the reference numbers in the table of contents should refer to paragraphs; while those in the index refer to pages But altogether the work is so well done that criticism touches only the smaller points.

TEXTBOOK OF DISEASES OF THE EYE. For Students and Practitioners of Medicine. By HOWARD F. HANSELL, A.M., M.D., Clinical Professor of Ophthalmology, Jefferson Medical College; Professor of Diseases of the Eye, Philadelphia Polyclinic; Ophthalmologist, Philadelphia Hospital; Consulting Ophthalmologist, Chester County Hospital, etc., and WILLIAM M. SWEET, M.D., Demonstrator of Ophthalmology, Jefferson Medical College Hospital; Assistant Ophthalmologist, Philadelphia Hospital; Associate in Ophthalmology, Philadelphia Polyclinic; Consulting Ophthalmologist, Phœnixville Hospital, etc. With chapters by CHRISTIAN R HOLMES, M.D., CASEY A. WOOD, M.D., D.C.L., and WENDELL REBER, M.D. With 256 Illustrations, including Colored Plates. Philadelphia: P. Blakiston's Son & Co., 1903.

THE volume is one of 532 pages. It is well printed on heavy paper, and is beautifully illustrated. Many of the illustrations are original. Almost all appear in the text, but there are a few colored plates representing the principal microorganisms found in diseased conditions of the eye. The illustrations of the fundus of the eye are few in number and are in black and white.

A chapter of forty-five pages is devoted to a description of the examination of the eye. It is followed by chapters on general optical principles and on the refraction of the eye. Separate chapters in logical order are devoted to the consideration of diseases of the various parts of the eye. Separate chapters in logical order are devoted to the consideration of diseases of the various parts of the eye, one to ocular symptoms in general diseases, and an appendix of twenty pages to a discussion of the color sense, methods of locating foreign bodies in the orbit and eyeball by the Röntgen rays, the economic value of vision, and a discussion of the instruments used in testing the muscles of the eyes. But little space is given to the discussion of theories, or to topics or measures the value of which is at all doubtful. There is no bibliography.

Some faulty statements are found, as, for instance, the one on page 27, in which it is said: "Should the candle-flame, upon which the eye is fixed, appear less brilliant, or be seen with greater difficulty than the second light, disease limited to the macular region or to the papillomacular bundle of fibers of the optic nerve may be presumed." While true in some respects, it does not cover the whole case, as diminution in the ability to perceive light in the line of fixation may be occasioned by an opacity of the nucleus of the lens from whatever cause, without in any way indicating disease at the posterior pole of the eye.

Another statement that should not be allowed to pass unchallenged is that on page 30: "Were the nasal field not restricted by the nose and the upper and lower fields by the roof and floor of the orbit, the entire circumference of the field would be equal to a hemisphere or even greater than a hemisphere" It is well known that the function of the temporal half of the retina is limited, and that the corresponding nasal half of the field does not in any case equal that of the temporal half of the field. The inaccuracies are not numerous and do not greatly detract from the value of the work.

Much space is given to the consideration of operative procedure, carrying the work into the domain of the experienced ophthalmologist—adding subject-matter for which the student has but little use.

The work will be valuable to all medical men who desire a brief statement of our present knowledge of ophthalmological subjects.

HYPNOTISM: ITS HISTORY, PRACTICE, AND THEORY. By J. MILNE BRAMWELL, M.B. Philadelphia: Lippincott & Company, 1903.

THE author of this volume on hypnotism is favorably known to the medical profession as a temperate but withal consistent advocate of hypnotism as a therapeutic measure. His contributions to the literature which have appeared heretofore chiefly in *Brain*, have been characterized by qualities that commend them to the careful consideration of neurologists and general practitioners.

Mr. Bramwell devotes the first two chapters to the history of hypnotism, giving the credit for its introduction and establishment of respectability to Elliotson and Esdaile, Braid and Liébault, all of whom were, he maintains, more or less martyrs to what they believed to be truth. The author's method of inducing hypnotism is practically that of the Nancy school. His experience has led him to the same conclusions as those of most writers on the subject of the susceptibility to hypnosis. The nervous, ill-balanced, and hysterical are the most difficult to influence, while healthy people who possess the power of concentrating their attention, he finds to be the easiest to hypnotize.

The author's conclusions regarding the value of hypnotism in comparison with other forms of treatment are temperate and sound. He maintains that hypnotism is not a universal remedy It is a branch of medicine, and those who practice it use it in conjunction with other forms of treatment. The author very properly points out that the diseases which frequently respond to hypnotic treatment are often those in which drugs are of little or no avail, and, as a matter of fact, it is in cases of this sort, in patients with obsessions, or fixed ideas, for instance, and in the functional nervous disorders associated with states of mental depression that hypnotism has its largest field as a therapeutic agent. One-third of the book is devoted to the theories of hypnotism, and here there is nothing new, merely recapitulation of the views of others, some of whom are not entitled to speak much less to be heard upon the subject. Mr. Bramwell thinks that although this subliminal consciousness theory does not satisfactorily explain all the problems of hypnosis, we are at all events indebted to it for a clearer conception, not only of the condition as a whole but also of many of its component parts. Taken altogether, the book is not an important contribution to the subject of hypnotism, save that it sets forth dispassionately some of the results obtained by the author in the treatment of disease by hypnotism. It lacks in criticalness, it lacks in true perception of pathological problems, and it lacks in conciseness. Nevertheless, it is a safe book to recommend to those who are desirous of obtaining a knowledge of the applicability of hypnotism from the point of view of a physician who believes in it and who still does not believe that it is the whole thing therapeutically.

THE NATURE OF MAN. Studies in Optimistic Philosophy. By ELIE METCHNIKOFF, Professor at the Pasteur Institute. Edited by P. CHALMERS MITCHELL, M.A., D. Sc. Oxon. New York and London: G. P. Putnam's Sons, 1903.

THE author takes the view that the nature of man is in itself the chief obstacle to his happiness, and that by virtue of his construction and social instincts he is at variance with his environment. He designates these qualities as "disharmonies," and attempts to prove from numerous scientific facts how they influence his physical comfort and ultimate welfare.

Starting with the bold assumption that man is a miscarriage from the anthropoid ape and is endowed with a superabundant amount of intelligence, he proceeds to prove that it will be necessary for him to go through many more evolutionary changes in anatomical structure before the proper goal of his existence can be reached. For instance, the "disharmonies" of the digestive apparatus, the uselessness and dangers of the appendix, the curbed functions of the reproductive organs, the perversion of the menstruation, the "disharmony" between the age of puberty and the age of nubility, and the decline of the family instinct, are quite exhaustively discussed. Science has done much to mitigate the misfits of conditions with the exactions of advancing civilization, but much more remains to be accomplished along similar lines.

In the contemplation of old age and death much is said of the philosophy of meeting it with becoming resignation as the final relief of all human suffering and the end of all trouble. The inability to reconcile advancing decrepitude with the natural ending of life and to view dissolution with becoming submission to the inevitable is one of the many problems this author attempts to solve.

The ideal conception is the abandonment of all fear, re-

sembling the state of mind of one who goes quietly to sleep after the work of the day. Such a condition would imply "the cultivation of the instinct of death" as a counterbalance to the "instinct of life." This condition of mind and body would obtain, according to the author, when the aged can secure a perfectly "natural death" by gradual and painless dissolution. There is much learning and argument expended in support of the theories of the distinguished professor, and to the student, lay or medical, who is given to philosophical reasoning, there is much food for thought in the ingenious and scholarly manner in which the general subject is discussed. An earnest follower of the doctrines of Darwin, Huxley, and Spencer, he makes the most of their teachings in the elucidation of his views.

A Textbook of Obstetrics. By Barton [Cooke Hirst, M.D., Professor of Obstetrics in the University of Pennsylvania; Gynecologist to the Howard, the Orthopedic, and the Philadelphia Hospital, etc. Fourth Edition. Revised and Enlarged. Philadelphia, New York, London: W. B. Saunders & Company, 1903.

The profession is already so familiar with the well-known work that the announcement that it has reached a fourth edition so soon will hardly occasion surprise, except at the capacity for work of the author. He emphasizes in the preface his views that "the physician in general practice must be equally well informed in both branches of Gynecology." Hence he gives more attention than ever to the diseases of the pelvic organs following childbirth. Much new material has been introduced and many new illustrations. The criticism might be offered that this part of the book is practically a repetition (or rather anticipation) of the companion work on diseases of women, notably the sections on extrauterine pregnancy and injuries to the perineum and pelvic floor.

Part III, on normal labor, is full of valuable suggestions. The keynote is contained in the sentence: "The invalidism of women following childbirth could be enormously reduced, a reproach to medicine could be removed, if this plan (of thoroughly examining women after convalescence) were uniformly adopted."

That the revision is really a rewriting of the volume is evident from the foot-notes, which show that no important contribution to the literature of obstetrics has been overlooked, while the prominence given to surgery is in itself a proof of the enormous advance in this department during the past few years.

Introduction to the Study of Malarial Diseases. By Dr. Reinhold Ruge of the Imperial German Navy. Translated by P. Edgar, M.B., C.M. Edin., District Surgeon, Teluk Anson, F. M. S., and M. Eden Paul, M.D. Brux., M.R.C.S., L.R.C.S. London: Rebman, limited, 1903.

In this monograph all that is necessary for any but a specialist to know of the various forms of malaria, their complications and sequelæ, is accurately and carefully described. The book was intended, the author explains, for the use of the ship's surgeon and the colonial surgeon who might need advice but who did not want a tome of undue size. Dr Ruge has met this requirement well, and has covered the entire subject, including a full account of the parasites and of the malarial mosquito with a description of the methods of study of the same, within less than 140 pages. In controversial matters the author naturally takes the German side, and at times is not fair toward Marchiafava and other of the Italian observers, and in his therapeutic recommendation also he merely echoes Koch's suggestions. The illustrations, including plates of photographs of the malarial parasites and mosquitos, are good.

A Textbook of Diseases of Women. By Barton Cooke Hirst, M.D., Professor of Obstetrics in the University of Pennsylvania; Gynecologist to the Howard, Orthopedic, and the Philadelphia Hospitals. Philadelphia, New York, London: W. B. Saunders & Company, 1903.

As stated in the preface, this book is a companion volume to the author's textbook on obstetrics. We can only indicate the salient points in this latest addition to the literature of gynecology, since its merits can be appreciated only by a careful perusal. The arrangement of the subject matter is the usual one. The book is divided into twelve parts, an introductory chapter on examination being followed by sections on anomalies, diseases of the external genitals and vagina, the uterus, tubes, and ovaries, the pelvic connective tissue and peritoneum, and the urinary tract, concluding with a description of the technique of gynecic surgery. The chapter on examinations is clear and practical, the illustrations being original and beautifully executed.

Diseases and injuries of the external genitals and vagina are well handled in Parts III and IV, the descriptions and illustrations of operations on the perineum and pelvic floor being especially good.

Under diseases of the urinary tract considerable attention is paid to the ureters and also to nephropexy. With the author's conservative views on floating kidney, we are entirely in accord.

Nearly one hundred pages are devoted to technique, this chapter being in some respects superior to the descriptions in many textbooks. The unusually large number of illustrations renders the book most helpful to the student.

A Textbook of Obstetrics. By J. Clarence Webster, M.D. (Edin.), F.R.C.P.E., F.R.S.E. Professor of Obstetrics and Gynecology in Rush Medical College, in Affiliation with the University of Chicago; Obstetrician and Gynecologist to the Presbyterian Hospital; Obstetrician to the Chicago Lying-in Hospital and Dispensary; Consulting Obstetrician, Chicago Maternity. Philadelphia, New York, London: W. B. Saunders & Company, 1903.

In this work the anatomy and physiology of pregnancy have been brought thoroughly up to date, and the plates in the chapter referring to them are especially good. In speaking of the obstetric examination, the author lays special stress on the importance of obtaining information as far as possible by the external examination. In our opinion, this point cannot be too strongly emphasized, for the time has come when internal examination in labor is necessary only in comparatively few instances. The author is to be commended for the chapter on the conduct and management of labor. We cordially endorse his views, with reference especially to the duties of the obstetrician in the management of the first stage of labor. The author maintains correctly that "in the great majority of cases the only examination necessary is the abdominal," and that "nothing is more to be deprecated than the routine vaginal examination of parturient women," for "it is a frequent cause of infection." We do not agree with the author, however, when he recommends that the finger be introduced into the rectum to facilitate the birth of the head. The author's remarks on asepsis and antisepsis are admirable, the chapter on eclampsia is full of good material, and, taken as a whole, the book can be cordially recommended as a safe guide to the general practitioner.

Functional Diagnosis of Kidney Diseases; with Especial Reference to Kidney Surgery. By Dr. Leopold Casper, and Dr. Paul F. Richter. Translated by Dr. Robert C. Bryan and Dr. Henry L. Sanford. P. Blakiston's Son & Co., Philadelphia, 1903.

The title given to the English translation is without meaning. The German authors have styled their work "Functionellen Nieren-Diagnostik," which rendered into English would be, diagnosis of kidney function. Casper and Richter are pioneers in this line of research, and their book is devoted to a full discussion of the importance of determining the kidney function in diseased states of these organs, and to the method by which such knowledge is ascertained. The authors lay much stress upon the value of cryoscopic examinations of the separated urine, drawn at the same time by the ureteral catheters.

The work of Casper and Richter is excellent as far as it goes. But when nephrectomy is contemplated we desire to know of the opposite kidney, not only its health or disease, or its functional capacity while the diseased organ is still in place, but especially its capacity for functional compensation after the removal of the one organ. For a supposedly well-functionating kidney may lack the power of compensation; while a diseased organ may be fully able to compensate for its fellow after the latter's removal. This estimation of the functional *compensating* power of the one organ we have no means of obtaining.

The publishers and translators are to be congratulated for rendering into English the excellent work. The translators have done their work well, and the book should be read by all who enter the field of kidney surgery.

Lessons on the Eye. By Frank L. Henderson, M.D., Ophthalmic Surgeon to St. Mary's Infirmary and to the Christian Orphans' Home; Consulting Oculist to the St. Louis City Hospital. Philadelphia: P. Blakiston's Son & Co., 1903.

In this, the third edition of the author's manual for the express use of undergraduate students, the same general plan as heretofore has been adhered to. Each chapter is arranged as a lesson to be studied and memorized by the student.

There have been added new cuts and quite a little supplementary matter to bringing the book up to the present state of knowledge of the subject. The chapter on general therapeutics is especially thorough and all the latest remedies are fully referred to. As now presented to the profession, this attractive and comprehensive little book is of value not to the undergraduate alone, but also to the general practitioner for quick reference.

# Society Reports.

## NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

*Stated Meeting, Held November 4, 1903.*

ROBERT T. MORRIS, M.D., CHAIRMAN.

**A Hand Grapple for Use with Bed-ridden Patients.**—Dr. FREDERIC GRIFFITH gave a blackboard demonstration of this piece of mechanism. He said that it was employed in the hospitals throughout Europe for the comfort of patients. It consisted of what might be called a hand-grapple suspended above each bed. It had excited his wonderment that such an appliance had not been introduced before into this country, because this contrivance added so greatly to the patient's comfort. The invention consisted of a wooden handle, from ten to twelve inches long, and one and one-eighth, or one and one-quarter inches, in diameter. It might be turned from an oak stick or improvised from a broom-handle. Spliced in the middle of the handle was a six-foot manila rope. Support from above was by means of a strong wrought hook-bracket set in the wall behind the bed. A piece of welded iron made up an arm which swung at a radius of at least three feet; or when the bed was at a proper distance from the wall the handle swung above and between the patient's elbows when he was in the natural supine position. By means of a shackle and block the handle would be placed within easy reach, about one foot above the reclining body. When to use only temporary a screw-hook might be driven into a joist in the ceiling above the patient instead of swinging a bracket, although this would necessitate a longer rope. He said it was wonderful the increase of comfort that was given these patients during the hours of night especially.

**Specimen of Stump Neuromata.**—Dr. MOSES KAKELS presented this specimen, which was pathological because it interfered with repair. One of the most important external factors in their causation he thought to be bacterial influences and inflammation. Stump neuromata he believed to be rare when aseptic principles of surgery were carried out successfully. The specimen was removed from a patient who had been injured by a circular saw and who had entered the City Hospital. The wound suppurated and would not heal primarily, and the patient left the hospital after several weeks' treatment. The painful stump made him resort to morphine for its relief. The stump was later incised and about two inches of the nerve removed. A sinus was left. The patient went to the country. Within two weeks a cellulitis developed. When last heard of he complained of pain and had again resorted to the use of morphine for its control.

Dr. H. D. COLLINS had never seen any statement that stump neuromata could result from traumatism as well as from bacterial infection. He believed that where an amputation had been deliberately performed and in selected cases, with primary union resulting, such a condition rarely followed. If the amputation was traumatic and healing occurred by primary union or without any extensive infection, then be believed that one might find stump neuromata.

**Fracture of the Neck of the Femur.**—Dr. SAMUEL LLOYD presented a man who had come under his observation last December. Seven months previous he had fallen from a car, striking on his hip. He could not get up. He was taken into the hospital and a diagnosis made of fracture of the neck of the femur. A plaster-of-Paris splint was at once applied, and in four days it had to be removed on account of the pain. The injured limb was then placed in a wooden splint and the patient was kept in the hospital for two months, when he was discharged. When Dr. Lloyd saw him in December he found there was a lack of union in the hip; he also found some telescoping showing that there was no impaction. The *x*-ray showed a fracture of the neck of the femur. As seven months had elapsed since the accident, the patient was given the choice of wearing an orthopedic apparatus or else submitting to operation. Nailing the fragments was decided upon, and the operation was performed on the 20th of December. An incision was made below the anterior superior spine of the ilium and the capsule exposed and the periosteum raised. A fracture of the femur was found at the junction of the neck and shaft and a second fracture through the neck was noted, making a triangular piece of bone. The neck was completely separated from the shaft. The fracture was both intracapsular and extracapsular. The triangular piece of bone was removed. The diaphysis and the head of the bone were properly chiseled and the two surfaces adjusted. A second incision was made over the trochanter and, the two fragments being held in proper position by an assistant, an old-fashioned wire nail, previously prepared, was driven through the fragments, so approximating them. Both fragments were proven to move well together. The dressings were applied and a spica bandage used from the head to the axilla. Dr. Lloyd said this case was particularly interesting because of the double fracture of the neck of the femur, one piece of the neck being loose. A second point of interest was to be found in the condition that supervened after the nailing of the fragments. Dr. Lloyd had operated upon seven cases of old fracture of the neck by this method of nailing and had succeeded in all but one, this patient dying of sepsis. He said that he had found great difficulty in all his cases in keeping the wound aseptic, because of the manipulation of the splint as the swelling went down. Soiling sometimes occurred from the urine and even the fæces. It was interesting to note the amount of motion in the hip and the amount of limitation. The nail had been left *in situ* six weeks. In three of his cases the fracture was well up toward the head of the bone, and only a small piece left of the head, and the capsule had fallen over the upper fragment that, to get to the acetabulum, he had to cut the capsule away.

Dr. H. M. SILVER asked if Dr. Lloyd would use this method in the aged who were not in good condition.

Dr. Lloyd answered that it is was doubtful if he should on account of the traumatism.

Dr. ROBERT T. MORRIS had two good results in old people. It seemed to him that there was one factor in particular that was not discussed in textbooks, the influence of the synovia upon the formation of callus. He believed one reason for failures in obtaining union of the neck of the femur was because the synovia was not drained; by so doing one gave the callus an opportunity to become organized.

Dr. ELSBERG asked why Dr. Lloyd found difficulty in keeping the parts aseptic. He had done a great many bone operations and had not experienced any such difficulty. He left on the dressings fully two weeks; if the wound was then aseptic it would remain aseptic, granulation tissue would form and prevent absorption, etc.

Dr. Lloyd said he desired to get primary union and not touch the dressings for a long time, but the class of patients found in hospitals could not have impressed upon them the importance of cleanliness and, therefore, it seemed almost impossible to keep the wounds aseptic in this class of patients.

**Iliac Adenitis.**—Dr. RAMÓN GUITÉRAS read this paper reporting four such cases as follows:

CASE I.—The patient was an Italian, twenty-six years old, who, five years ago, had malaria, the spleen becoming enlarged. Since then he had never been ill. Three months ago he had a swelling in the right iliac region and right groin, which was quite painful. An examination in the hospital showed a mass, two and a half by one and a half inches exactly under the inguinal canal. The external genitals were normal. The urine was normal. The epitrochlear and cervical glands were normal. The temperature ranged from 99° to 102°, the pulse from 76 to 98. The patient was admitted to the hospital with a diagnosis of appendicitis, but no tumor was found. An incision re-

vealed a mass of enlarged glands in the inguinal region and these were excised. The inguinal canal was opened, but no tumor or any lesion found. Below the canal was found an indurated mass. The pathologist reported the specimen as being one of simple adenitis.

Case 2.—The patient was a laborer, forty-two years old, who entered the hospital with a dull pain in the left iliac region. The tumor became more painful and larger. The physician made a diagnosis of fecal impaction. His previous history was negative. He had no wounds or ulcerations of the lower extremities. A tumor was found, three inches by three, in the left iliac region over Poupart's ligament. The glands in the inguinal region were slightly enlarged. His temperature was 99.4°, and his pulse 90. The pain subsided when poultices were applied. The inguinal glands were removed and there was no indication of suppuration. Syrup of the iodide of iron was administered and counter-irritants applied externally and the mass subsided.

Case 3.—The patient was a man, twenty-seven years old, who had a mass in the right iliac region, which had grown steadily during the past three weeks. Examination revealed a hard mass parallel to Poupart's ligament; it was flat on percussion. It grew inward toward the median line and extended to the internal inguinal ring. His temperature was 102° and pulse 100. Poultices were applied for one week and the temperature then was from 99° to 101° and pulse from 72 to 100. The leucocyte count ran from 72,000 to 94,000, and yet the patient did not complain of feeling sick. An incision was made over the mass on the inner side of Poupart's ligament, the inguinal canal was opened and the cord drawn to one side. Pus escaped from the wound and the fingers passed into a large abscess cavity well outlined. After the operation the leucocyte count fell, and two weeks later the temperature and pulse became normal.

Case 4.—This patient was a man, forty years old, who had a swelling in the lower half of the left side of the abdomen which had been growing for three weeks. History was negative. Examination revealed a tumor situated above Poupart's ligament in the left iliac fossa, resembling a variety of inflamed appendices. There was no fluctuation. The temperature ranged from 99° to 100° and the pulse from 88 to 94. An incison was made over the tumor and an abscess cavity found. This was drained and treated in the usual way and healed within two or three weeks. Then there was a recurrence of the pain and temperature. A fragment of gland supposed to be tubercular was dissected away. The patient left the hospital with a sinus remaining.

Dr. Guitéras said that iliac adenitis was a rare condition, and that there was some relation between it and bubo. Two of the cases had buboes and at the same time there was no history to which buboes and the swollen inguinal glands could be attributed. In a large experience with such cases of bubo associated with venereal disease he said he had never seen cases in which iliac adenitis followed the bubo which was associated with venereal trouble. There seemed to be some relation between iliac adenitis and the pelvic organs through the internal group of iliac lymphatics. In one case of sarcoma he had discovered a direct extension from a sarcomatous prostate along the entire iliac glands to the external iliac glands, which resulted in œdema of the lower extremity. In many cases he believed the iliac glands broke down and discharged below Poupart's ligament, the condition being diagnosed as psoas abscess. In many cases there were no signs discovered in the spinal column to indicate disease there. Where these abscesses heal fairly rapidly he thought that, in all probability, there were instances of iliac adenitis. In two cases the enlargement of the iliac glands disappeared after the inguinal glands were removed. In the other two cases the iliac glands broke down and suppurated, while there was no involvement of the inguinal glands. With regard to the question of treatment, he believed that the results in the four cases reported showed that the treatment by poultices and excision of the inguinal glands were to be preferred and had been proven to be of value. One might think that, as the glands were situated extraperitoneally one might do an extraperitoneal operation and remove the glands; this he said would necessitate a much more extensive operation and, if the glands were found to be suppurating, a long time might be required to heal by drainage and packing; it would also be found a difficult space to pack.

Dr. John Rogers, Jr., thought that iliac adenitis was a comparatively rare affair and rarely diagnosed in the hospitals. He took exception to what Dr. Guitéras stated that he seldom saw a bubo follow iliac adenitis. A study of the anatomy of this region showed there were a number of glands here that was not iliac. The bubo glands drained the lumbar region, and infection of the iliac region may come from the inguinal or sacral region.

Dr. Torek said that when suppuration occurred, and the pus raised the peritoneum, an incision close to Poupart's ligament would carry one easily behind the peritoneum. But where there were no suppurating glands by a large incision, one could dissect the peritoneum off and follow the glands to a considerable height. In one instance he had to make a secondary incision in the lumbar region to obtain more perfect drainage.

Dr. H. D. Collins said that opening the lumbar region for the purpose of draining the iliac glands was a difficult procedure, because they lay below the level of the sacroiliac synchondrosis, making lumbar drainage almost as difficult, from a physical standpoint, as through an opening over Poupart's ligament. No difficulty would be encountered if one made an incision high up on the surface of the abdomen, one and a half inches above the level of Poupart's ligament; then go in and do an intermuscular separation as in appendicitis. By so doing one could get a generous incision.

Dr. Torek said that he spoke of a posterior lumbar incision *not* for purposes of extirpating the inguinal glands, but for purposes of drainage.

Dr. Guitéras closed the discussion and said that the inguinal glands consisted of two groups, superficial and deep, and they were quite freely connected. If one operated upon a case of bubo due to venereal trouble, the deep group may frequently be involved. The deep group extended along Poupart's ligament, and continuous with these glands were the iliac glands. The iliac group emptied into the lumbar glands and, for that reason, he spoke of the rarity of the complication of iliac adenitis with inguinal adenitis. In his paper he said he intended to state that if he went through the abdominal wall and then found the anterior and posterior parietal layers of the peritoneum were adherent, he would, of course, go into the abscess cavity; but, if the peritoneum was not adherent, he would not try to empty the cavity by that route, but he would close the incision and then dissect around the peritoneum, making an incision opposite Poupart's ligament.

**The Treatment and Management of Postoperative Tuberculous Cases.**—Dr. S. A. Knopf read this paper. It seemed to him that any patient who was operated upon for tuberculous disease would require the individual after-treatment in the same sense that it was necessary to individualize in the treatment of diseased lung or larynx in different persons. He then considered what could be done in a general way for the patient, operated upon for some tuberculous lesion, from the moment of leaving the table. Placing the patient in a well-equipped tent was most commendable. He advocated a change of bed morning and night. So soon as the condition of the wound permitted an afebrile patient should be allowed to leave the bed and rest in a reclining chair; as convalescence progressed the patient should be placed in a half-tent for the rest cure in the open air.

He advocated respiratory exercises if they could be performed without causing local pain, or general discomfort, or disturbing the wound or dressings. They should never be taken if the patient was tired and never to the extent of tiring the patient. They should never be taken after a hearty meal, nor in any overheated room, nor dusty or vitiated atmosphere. Deep breathing after capital operations lessened the dangers of hypostatic pneumonia. The speaker then demonstrated on himself the four or six breathing exercises which he taught as a means of prevention and cure for tuberculosis. Solar therapy could best be carried out by exposing the patient's body to the direct rays of the sun, keeping the head in the shade. Headache, or feelings of discomfort, were signals to stop the sun baths. If elevation of temperature followed, then the sun baths should be stopped. He said the hydrotherapy should be individualized to every tuberculous patient. In the majority of cases sponging the body with tepid or cold water may be permissible To get the skin and nervous system accustomed to the use of cold water for continued use, he begun with a friction of pure alcohol for a few days, then took half alcohol, and half water for the same number of days, and finally resorted to the use of cold water. Absolute bodily and mental rest in pure fresh air was an important part in the treatment of feverish tuberculous patients. A temperature of 100° or more was an indication for rest in bed; from a fraction above normal to a littleless than 100° rest in the reclining chair. Except in cases of intestinal tuberculosis, he did not advocate any ironclad dietary list for any tuberculous patient with a good digestion. Zomotherapy, or the administration of raw beef or its juices, was of great value in all types of tuberculosis. The occasional appearance of a tapeworm should not prohibit its use. Cod-liver oil he considered to be indispensible, especially among the poor where good cream and butter were not plentiful. Massage he recommended in all cases of malnutrition, poor circulation, and if thoracic muscles are atrophied. Cough should be controlled as far as possible by discipline, urging the patient always to suppress the dry cough; sips of cold water or milk were often helpful in this endeavor. Patients should be enjoined to hold their handkerchiefs before the mouth during the so-called dry cough, sneezing, etc., and he considered this precaution particularly important while the wound was exposed for re-dressing. A very essential factor in the psychical treatment was to keep the patient occupied and with something which had his cure for its ultimate purpose. Do not allow him to become despondent or to brood over his disease. He advocated very strongly seaside sanatoria. Germany, France, Italy, Holland, and the Scandinavian countries have a large number, with schools attached, for tuberculous and scrofulous children, and they reported from 50 to 75 per cent. cures. For patients recovering from operation for tuberculous arthritis, osteitis, and even peritonitis, a prolonged sojourn at the seacoast, with the judicious use of cold and warm salt-water applications, seemed to act marvelously. He believed there was a large field for practical philanthropy, and he asked that their influence be felt to induce statesmen and philanthropists to create a number of permanent sanatoria for the treatment of this class of patients.

Dr. TOREK emphasized the fact that we should not consider these tuberculous patients ready to leave our care after the operation; the after-treatment was sometimes far more important than the operation. In surgical work we remove only a certain focus of the disease, and, in fact, the operation was really only the beginning in the cure.

Prof. T. STORIE DIXON, Sidney University, Australia, said that originally there were no cases of tuberculosis in Australia. Sir Arthur Renwick told him that thirty years ago there was not a case of tuberculosis in Australia. To-day one death out of every fifteen occurred from tuberculosis. This showed the extreme infectious nature of the disease. He believed that much could be done to help these patients if the respiratory exercises and proper massage were more often employed.

Dr. Knopf made the announcement that Mr. John Seeley Ward, Jr., member of the Board of Managers of the New York Association for Improving the Condition of the Poor, had just returned from Europe, where he had visited several sanatoria for the treatment of tuberculous and scrofulous children. This association contemplated estabishing seaside sanatoria, in all probability near the coast of Long Island.

## NEW YORK NEUROLOGICAL SOCIETY.

*Stated Meeting, Held October 6, 1903.*

PEARCE BAILEY, M.D., PRESIDENT.

**Partial Paralysis of the Platysma Myoides Following Typhoid Fever.**—Dr. EDWIN G. ZABRISKIE presented a girl of seventeen, a cigarette-maker. Following an attack of typhoid fever five years ago a sinus formed in connection with the lower jaw on the left side. On coming under observation recently it was found that there was paralysis of the left platysma myoides, and that this muscle failed to respond to electrical stimulation.

**Extirpation of Gasserian Ganglion for Neuralgia.**—Dr. WILLIAM HIRSCH presented a woman who had been operated upon one year ago for the relief of trigeminal neuralgia by the removal of the Gasserian ganglion. Microscopical examination showed that the ganglion had been completely extirpated. The neuralgia had been completely relieved. There was no analgesia anywhere. Remak claimed that one result of paralysis of the trigeminal nerve was a pushing of the lower jaw over toward the affected side, associated with partial subluxation. This patient showed only a slight deviation. In this woman the perception of a sweet taste was somewhat uncertain, that for sour was lost, and the taste for bitter was perverted. The electrical reaction of the muscles on the affected side was perfectly normal, but the effect of the current as regards taste had not been noted.

**Congenital Multiple Angiomata.**—Dr. M. ABRAHAMSON presented a boy of fifteen years, born in Russia, after a very prolonged labor. He was cyanotic at birth, and was resuscitated with difficulty. When two months old the mother first noticed a small mass behind the left ear; another appeared on the left side of the neck when two years old after a fall. Since then new ones had appeared. Epistaxis had been frequent, but there had been no hemorrhages from the other mucous membranes. There were a number of these swellings, or angiomata, notably in the tongue and lip. There was an angioma in the retina of the right eye. There were apparently no angiomata in the liver and spleen. This boy showed both of Virchow's types—cavernous and fissural. The course of the disease in this case was not in accordance with any of the theories that had been advanced to explain such cases.

Dr. WILLIAM M. LESZYNSKY presented a boy of eleven years who had been born at full term by forceps without suspended animation. He had never had convulsions. He seemed perfectly well up to nine months ago, when he began to bend forward when walking. When first seen, on March 9, 1903, his general health was found to be good. The knee-jerks were unobtainable, and the limbs became rigid in various positions. No evidence of organic nervous disease was discovered, and a few days later the knee-jerks were elicited. He was discharged after sixteen days, walking perfectly well, but he was readmitted to hospital in July in a condition similar to the original one. The speaker believed at first that the attitude was imitated, and that subsequently it became a habit. Although the boy walked in a doubled-

up position with the head almost touching the floor, he could hang upon a horizontal bar without special difficulty. When in bed he lay like other children. There were no objective sensory disturbances of hysteria. For want of a better name he would call it a case of hysteria. This habit had persisted, and remained even when he was not observed. There was, of course, exaggeration and a certain element of simulation.

**The Movements of Superior Intercostal Muscles in Hemiplegia, and the New Hemiplegic Symptom.**—Dr. L. PIERCE CLARK presented this paper. He said that Gowers expressed the generally accepted opinion regarding the respiratory movements in hemiplegics when he said that in ordinary respiration the two sides of the thorax moved equally, but that in extraordinary respiration there was often less expansion on the paralyzed side. In 1895 Hughlings Jackson stated that in hemiplegics the superior intercostal movements were greater on the paralyzed side during ordinary or automatic respiration, whereas in forced respiration the movement was greater on the sound side. The speaker said that he had examined 161 cases of hemiplegia with regard to this point, with the result that this sign was found to be uniformly present. In destructive lesions of the internal capsule causing hemiplegia, the cortical inhibitory control over the medullary respiratory center of the paralyzed side was largely destroyed, and, accordingly, the inhibited medullary center acts excessively in automatic respiration. The experiments of W. G. Spencer demonstrated the presence of an inhibitory center situated just outside of the olfactory tract, anterior to its junction with the temperosphenoidal lobe, and of an acceleration center apparently located in the posterior portion of the sensory motor area of the cortex. The location of the inhibitory center would lead one to expect it to be damaged in vascular lesions, especially of the middle cerebral, affecting the integrity of the capsular fibers. The fact that the superior intercostals of the paralyzed side were innervated through cerebral fibers ending on spinal centers in the anterior horns of the cord, and the more or less marked damage of the same would account for the general motor loss of volitional acts on the hemiplegic side. The respiratory center could be demonstrated in all muscles bilaterally susceptible of both automatic and volitional movements.

**The Advisability of Supplementing the Words Degeneration and Degenerate by Deviation and Deviate.**—Dr. G. L. WALTON of Boston presented a paper with this title. The definitions given by a number of well-known writers were cited to show that a degenerate was one exhibiting certain deviations from the normal type. The words "deviation" and "deviate," therefore, seemed to him to be more accurate, and less objectionable, because independent of all theories. Referring to the hereditary aspects of the question, attention was called to the tendency of similar parents to produce inferior degenerates and of dissimilar parents to produce beings superior to their immediate ancestors. The term "degenerate" he would limit, so far as possible, to the lowest grades of constitutional defect, and avoid altogether the anomalous term "superior degenerate."

Dr. HIRSCH said that about ten years ago he had himself pointed out the apparent misuse of the term degenerate. The definition which he had given at the time of degeneration was, "a mild development of the psychical organ." The term, superior degenerate, was not originally applied in the way in which it was referred to in the paper, *i.e.* a degeneration of a lesser degree, but rather that the higher faculties of certain individuals were degenerated. The word "deviation," unfortunately, was not one which could be used internationally, and this, in itself, constituted a serious objection to its adoption, although there could be no doubt about the term being superior to degeneration.

Dr. C. L. DANA said that he was very much in sympathy with the purpose of this paper, and that his own views regarding degeneration did not differ very much from those of the author. He understood that Dr. Walton wished to continue the use of the term degeneration in connection with somatic changes. About eight years ago, in an address before the Academy of Medicine, the speaker said he had defined a degenerate as "one who differed from the average standard of the family from which he sprung," and suggested that there were two classes of degenerates to whom the term could be applied without any implied opprobrium. One of these was the class spoken of in the paper as the "superior degenerate." He thought the term "variation" could be very properly applied. He was of the opinion that in superior degenerates and inferior degenerates, in imbeciles, and even in the higher types there was a degenerative tendency in the germoplasm, and that the family was very apt to die out.

Dr. B. SACHS thought that if degeneration was too severe a term, deviation was too mild a term, for it could not be looked upon as representing anything morbid. After all, the only objection to the term, degeneration, was in its application to the so-called superior degenerate, and the vast majority of the persons to whom the term degenerate had been applied showed a distinctly downward tendency.

Dr. JOSEPH COLLINS said that the substitution of terms suggested by the author of the paper did not seem to him a wise move, but an effort to incorporate those terms into medical literature to express certain conditions often included under the terms degeneration and degenerate should be encouraged. Because some of the indecent newspapers saw fit to use the term, degeneracy, merely as a synonym for moral profligacy, and particularly sexual perversion, was no reason for the scientific world to feel called upon to change this term. Even in scientific circles it seemed to him that the term, degenerate, was used altogether too frequently. He believed that the usual tendency in both superior and inferior degenerates was downward from the normal moral standard, and that this notion was rightly reflected in the definitions quoted.

Dr. EDWARD D. FISHER said that his understanding of the term, degenerate, carried with it the idea of a departure from the moral standard, although there were possibly other forms of degeneracy in which the moral aspect did not enter. The term deviation seemed to him entirely inadequate.

Dr. Walton, in closing, emphasized the fact that it was intended, not to displace degeneration, but to furnish a synonym which might prove useful He saw no harm in the milder word sometimes being used to include the more severe, just as delinquent was meant to include criminal. He agreed with Dr. Sachs that deviate was too mild a word to supplant degenerate, and this was not his intention. If no objection were made to substituting deviate for superior degenerate, the ground would be practically covered. He agreed with Dr. Collins in deploring the elaboration in literature of the individual moral deviations, but this tendency could not be prevented. If we could limit our use of these terms to scientific circles, the word, degenerate, as understood in those circles, would satisfy all requirements, but the subject had now become a matter of general interest.

**A Case of Cerebral Diplegia or So-called Muscular Pseudohypertrophy.**—Dr. NATHAN reported this case. The patient was a large, well-developed boy of ten years. On standing, there was decided lordosis. When lying down, he was apparently unable to raise himself. There was good power in the hands, and the thighs could be flexed without difficulty. He walked with the typical spastic gait. The knee reflexes and the electrical reactions to both currents were exaggerated. The mental development was nil, largely owing to neglect. The case differed from those of pseudohypertrophy in infantile paralysis previously reported in several respects. This

was the only case on record, so far as known, in which pseudohypertrophy occurred in a case of so-called spastic spinal paralysis, all previously reported cases were hemiplegic. There were no athetoid movements in this case. The measurements showed that besides the pseudohypertrophy there was enlargement of the left thigh and arm.

Dr. L. P. CLARK said that the condition had not been first described by him, as stated in the paper, but by Bernhard about twenty years ago. Gowers had reported a number of cases about one year later. The case reported here was evidently quite rare. Athetoid movements were noted in only about one-half of the cases, and neither this nor spasticity was sufficient to account for the cases, because this was also frequently absent.

Dr. C. L. DANA said that he did not think the diagnosis could be made solely upon the large calves, because this was frequently present in diplegics.

Dr. B. SACHS said that he quite agreed with the last speaker regarding the enlargement of the calves, and suggested that the only positive way of making the diagnosis would be by excising a piece of muscle and demonstrating the characteristic changes.

Dr. J. COLLINS said that if the contention were that pseudohypertrophic paralysis with spasticity had not been recognized, he would say that during the summer there had been in his clinic a case of typical pseudohypertrophic paralysis in which the spasticity was apparently as great as in the case just reported. Although there was profound spasticity, particularly of the adductors, there was no exaggeration of the knee-jerk, and no Babinsky—in other words, there were no indications of disease of the pyramidal tracts. The case had been looked upon as a peculiar form of obesity before coming to the clinic.

Dr. NATHAN said that it had not occurred to him that there was any doubt about the diagnosis. The history was typical of cerebral paralysis. The child was born asphyxiated, and had convulsions repeatedly up to the seventh year. It began to walk when three years old, and had always walked with difficulty. The only symptom of pseudohypertrophic paralysis was the enlargement of the calves. It was interesting to note that the left side was larger than the right.

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*Stated Meeting, Held November 3, 1903.*

PEARCE BAILEY, M.D., PRESIDENT.

**A Case of Muscular Dystrophy.**—Dr. J. RAMSAY HUNT presented a woman, forty-one years of age, suffering from muscular dystrophy. The first symptoms began about six months ago with a certain heaviness in the legs, and at the end of a year she experienced difficulty in going up and down stairs. She came under observation about two years and a half ago, at which time there was paralysis of the adductor groups of muscles on both sides, and also of the iliopsoas groups. The arm muscles were normal, except that the elevators were slightly weak. The family history was negative. She had borne four healthy children. There were no evidences of involvement of the pyramidal tract. The electrical reactions were normal. The special interest of the case centered in the localization of the affection in the adductor and iliopsoas groups of muscles.

Dr. JOSEPH FRAENKEL referred to a case that he had seen, in which the condition had apparently developed rather suddenly following a pregnancy. This peculiar localization in the adductor and iliopsoas muscles made the diagnosis at first rather difficult. He had found, in the literature, mention of a case which was looked upon as a progressive muscular atrophy, and not a dystrophy, but the other features did not support that view.

**Studies on the Periosteal Perception of Vibrations.**—Dr. EDWIN G. ZABRISKIE read a paper with this title. He said that the best method of testing this sense was by means of a tuning fork set in vibration, and then placed firmly over the bony prominences where there was the least amount of tissue between the bone and the skin. The fork selected for this purpose was that devised by Dr. Dench, giving sixty-four vibrations per second, because of the power of such a fork to send the vibrations through a considerable layer of tissue. The results were controlled by means of a fork having 512 vibrations. In making the observations the intelligence of the patient must be well considered; even intelligent people were apt to confuse the pressure of the fork with the vibrations. It was well to first place the fork where the vibrations would be plainly felt, as over the cranium, thus impressing upon the patient the kind of sensation to be noted. The lesions studied were divided into three groups, viz.: (1) Those of central origin, (2) those of the nerves themselves, and (3) those of the bones and joints. The first group contained by far the greatest number of cases studied, and the most interesting ones were tabes dorsalis, cerebrospinal syphilis, the lesions producing Brown Sequard's symptoms, and hemiplegia. When there were profound disturbances of the integument there might be slight or no change in the periosteal perception. Most commonly there was a wider distribution, or a more profound disturbance of the periosteal perception, than that of the integument. Sometimes there were only certain areas of one bone over which the periosteal perception was lost. There were only three cases with the Brown Sequard symptoms that were studied, and, hence, no definite conclusions could be drawn. As yet he had been unable to establish a definite relation between the periosteal perception of vibrations and the position sense. Some cases of sciatica presented an interesting condition. In several of these there was no loss of periosteal perception of vibrations or of the position sense, although there were definite disturbances of cutaneous sensation. In about one-half of the cases there was a diminution of the periosteal perception on the affected side. In the cases of alcoholic neuritis, with slight involvement of the cutaneous sensibility, none showed any change in the periosteal perception. In the case of beginning acromegaly there was no disturbance of the position sense. In the joint cases when there was evidence of definite absorption of the bone, there was loss of vibration confined to the affected bone area. In a case of chronic arthritis of the hip joint the perception of periosteal vibrations on the affected side of the pelvis were decidedly diminished. In the cases of arthritis deformans only one showed any disturbance of the position sense, and that case also exhibited marked cutaneous disturbances over the left arm and right leg, and over these areas the vibrations were less plainly perceived. In a case of cerebellar tumor the position sense was profoundly disturbed. There were no cutaneous disturbances or changes in the periosteal perception of vibrations. The speaker said that he had examined seven or eight well-defined tubercular joint lesions, yet none of these showed any change in the periosteal perception of vibrations. He had himself been unable as yet to come to any conclusions.

**Mental Defect and Shock.**—Dr. PEARCE BAILEY reported the following case: The patient was a victim of the tunnel disaster in New York city on January 8, 1902. Prior to the accident he had been an active man without hereditary taint, and with no history of syphillis or alcoholism. He was fifty-eight years of age, and had built up a large and lucrative business. The lower part of both his legs were crushed, and after about one hour he was taken away in an ambulance. At this time he lost consciousness, and did not regain it until after he had reached the hospital. The patient gave an accurate and vivid account of the accident, which showed very well the terrible mental strain he had undergone. At the hospital it was found that the only injuries he had received were compound fractures of both bones of both legs. The next afternoon he became stuporous. He had been first seen by the speaker on January 15 while in a private hospital. There was no paralysis of any cranial nerves, or of the hands. Sometimes he would make inarticulate answers to questions; sometimes he would not answer at

ill. A few days later he appreciated the fact that his mind was cloudy. He improved slowly. On February 8, however, he became delirious from the onset of erysipelas. When seen again, on June 13, he had left the hospital. He was still sleeping but little; his appetite was good, but he was entirely unable to endure physical or mental effort. Many simple words he did not understand, and many others he could not read correctly. His writing was very tremulous and imperfect. He made mistakes in counting and in simple arithmetical problems. His memory of the time preceding the accident was perfect, and also that immediately after the event, but from shortly after his admission to the hospital memory was very defective. When seen again on February 11, 1903, his condition was much the same. His speech was somewhat thick, and there was distinct interference with the intellectual mechanism of speech. Much that he read he did not understand. The last examination was made on October 15, 1903, and it showed improvement in many ways, but no material change in the fundamental condition. He had returned to business, but was unable to take any active part in it. There had been no fixed delusions. Exaggeration, the speaker said, he was sure played no part in the case, and he had taken but little interest in his suit for damages, which had been settled without coming to trial. His mental state was entirely distinct from the delusional one of hysteria; the condition resembled neurasthenia somewhat, but was distinct therefrom. His condition resembled more the pathological mental states occurring directly as a sequence of infectious diseases, surgical operations, and exhaustion generally.

Dr. JOSEPH COLLINS congratulated the author on his brilliant presentation of this topic, but he did not quite understand Dr. Bailey's reason for speaking of the case as one of mental shock. If there ever was a case of profound physical shock, this case seemed to him to be an example of it. The occurrence of compound fracture of both legs, associated with so much agony, would seem to bear out this view. That mental shock was an accompaniment went without saying. This patient had gone into a collapse delirium for a few days, and had then reëntered that state after his removal to another hospital. It was safe to assume that his physical system experienced disturbances of metabolism; in other words, that an autointoxication had been engendered which, acting upon his deplorably weakened mental condition, had resulted in a state which, as the author had well said, was observed after surgical operations. The mental disorganization was manifest more especially in the higher intellectual spheres, such as was commonly seen after collapse delirium. He would be interested to know what prognosis had been given in this case; also whether any examination had been made to determine whether his associative faculties had been equally disturbed.

Dr. HENRY RAPEL asked what was the patient's physical condition at the present time.

Dr. ADOLPH MYER said that this report reminded him of a patient whose history he had already reported in a paper, in which were reported thirty-one cases of traumatic insanity. His patient had been greatly shocked as a witness of the subway explosion in Boston. He had not been physically injured by the explosion. The patient had been under observation in hospital for about one year after the accident, and had been discharged practically well. The symptoms presented were those of neurasthenic incapacity. He was a roofer by occupation, but after the accident could not continue this work for fear of falling. One day, subsequently, a fire in the neighborhood put his mental equilibrium to a test, and after this he drifted into a sort of hysterical state, in which memory became very imperfect. Despite this, he enlisted in the army, and was only released from active duty on the request of the physicians. On first coming under the speaker's observation, it was thought that he had general paralysis, but, on further examination, it was evident that he was neurasthenic. He gradually recovered his mental and physical health. In the thirty-one cases referred to, the question of mental shock or fright had been frequently met with. These cases were most apt to be associated with hysteroid phases, and were found not infrequently with a history of dementia præcox. Since fright was a condition which could not be easily produced experimentally, one was forced to depend altogether upon casuistic reports, and for this reason the report under discussion was especially valuable.

Dr. EDWARD D. FISHER said that the extent of the injury was not by any means an indication of the resulting mental symptoms. There was something more than the pain which was the active cause of the resulting neurasthenia or dementia. It was a daily experience that persons suffered severe injuries without any resulting abnormal mental state. A case was mentioned in which a man of about sixty had been caught in a railroad accident, and although many had been injured he had entirely escaped. He had been in good health, and had not had nephritis or diabetes. About six months or more after the accident he passed into a state of neurasthenia, and the accident became a constant topic of conversation. His mental and physical power slowly decreased, and within a year he died. This case could only be explained, to Dr. Fisher's satisfaction, by the shock: he would not be satisfied to explain it by any theory of autointoxication. He understood from Dr. Myer that autopsies on such cases yielded very meagre results.

Dr. J. FRAENKEL said that it was a well-known clinical fact that epileptics, in spite of the injuries they frequently received, practically never developed traumatic psychoses. He recalled a case, seen a few years ago, with Dr. Collins. When first seen by the speaker, the man was in an acute mumbling delirium, in which he was talking about falling from a scaffold. The question at once arose as to whether the patient was in full possession of his senses before the accident. Further inquiry showed that the patient lost consciousness at the moment that he was on the scaffold. The case was finally proved to be one of postepileptic delirium. His personal belief was that physical shock alone was not sufficient to produce psychoses of the functional variety, and that it was necessary for the production of a post-traumatic psychosis to have the patient in the full possession of his faculties at the time of the accident. This was a particularly important point in connection with medicolegal inquiries. In the foregoing statement he included all purely physical injuries, even injuries to the head.

Dr. J. ARTHUR BOOTH said that the case reported by Dr. Bailey was especially interesting because he understood that the effect of litigation could be eliminated. The fact that the condition had persisted for two years pointed to organic changes. He would like to know whether there had been vomiting shortly after the accident.

Dr. COLLINS said that he had had several cases bearing very closely upon the statement made with regard to the patient's mental condition at the time of the injury. He did not wish to be understood as saying that in Dr. Bailey's case the mental symptoms were the result of metabolism of any sort. He would like to know what were the physical signs at the present time.

Dr. Bailey closed the discussion. He said he could not agree with Dr. Fraenkel fully with regard to fright being an essential element of traumatic hysteria. He recalled very distinctly a case in which it was stated that the hysteria did not occur before the accident, and that the patient was asleep at the time of the accident, and, hence, consciousness was in abeyance. It was, of course, very difficult to separate physical and mental shock. In the State of New York the Court of Appeals had decided that for a claim for damages there must be shown to be physical injury as well as mental shock. It was his opinion that his patient suffered chiefly from the mental anguish, the physical suffering being insignificant in comparison with

the mental shock. The man's appearance was that of one suffering more from mental shock. Dr. Bailey thought the prognosis at the present time was bad. The man was distinctly neurasthenic, and although he could for a time associate and recognize, he very quickly became fatigued, and certainly presented absolute loss of mental faculties. His physical condition was, on the whole, good. His face flushed and paled as was common in neuræsthenics. There had never been any vomiting.

## Books Received.

*While the* MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

GYNECOLOGICAL NURSING. By NETTA STEWART. 12mo 174 pages. Illustrated. Oliver & Boyd. Edinburgh Price, 2s. 6d.

DAS TRACHOM ALS VOLKS- UND HERRESKRANKHEIT. By D. J. BOLDT. 8vo, 240 pages. August Hirschwald, Berlin.

INTRODUCTION OF THE STUDY OF MALARIAL DISEASES. By DR. REINHOLD RUGE, P. EDGAR, M.B., and M. EDEN PAUL, M.D. 8vo, 138 pages. Illustrated. Rebman, Ltd., London, England.

MODERN METHODS IN THE SURGERY OF PARALYSES. By A. H. TUBBY, M.S., and ROBERT JONES, F.R.C.S.E. 8vo, 311 pages. Illustrated. Macmillan & Co., London.

MANUAL OF PRACTICAL ANATOMY. By D. J. CUNNINGHAM. 8vo. Third edition in two volumes. J. B. Lippincott Co., Philadelphia.

THE MEDICAL DIRECTORY OF NEW YORK, NEW JERSEY, AND CONNECTICUT. Volume V. 12mo, 1850 pages.

TRANSACTIONS OF THE AMERICAN OTOLOGICAL SOCIETY, sixty-sixth annual meeting, Washington, D. C. Volume VIII, Part II. 8vo, 341 pages. Illustrated. Published by the Society, New Bedford, Mass.

TRANSACTIONS OF THE NEW HAMPSHIRE MEDICAL SOCIETY. 8vo, 256 pages. Ira C. Evans Co., Printers, Concord, N. H.

ANNUAL REPORT OF THE SUPERVISING SURGEON-GENERAL OF THE PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE OF THE UNITED STATES FOR 1900 AND 1901. Two Volumes. 8vo, 736 and 652 pages. Illustrated.

THE PRACTICE OF MEDICINE. By JAMES TYSON, M.D. Third edition. Square 8vo, 1242 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia, Pa.

THE MEDICAL ANNALS OF MARYLAND. By E. F. CORDELL, M.D. 8vo, 887 pages. Illustrated. 1799-1899.

STATE OF NEW YORK STATE, COMMISSION IN LUNACY, FOURTEENTH ANNUAL REPORT. 8vo, 1091 pages. The Argus Company, Albany.

A TEXTBOOK OF THE PRACTICE OF MEDICINE. By JAMES M. FRENCH, M.D. 8vo, 780 pages. Illustrated. William Wood & Company, New York. Price, extra muslin, $4.00; leather, $4.75 net.

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TRANSACTIONS OF THE AMERICAN OPHTHALMOLOGICAL SOCIETY, VOL. X. Part I. 8vo, 196 pages. Illustrated. Published by the Society.

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A TREATISE ON ORTHOPEDIC SURGERY. By ROYAL WHITMAN, M.D. Second edition, 8vo, 848 pages. Illustrated. Lea Brothers & Co.

## Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending November 21, 1903.:

| | Cases. | Deaths. |
|---|---|---|
| Measles | 307 | 17 |
| Diphtheria and croup | 284 | 44 |
| Scarlet fever | 171 | 8 |
| Smallpox | 4 | ... |
| Varicella | 82 | ... |
| Tuberculosis | 399 | 134 |
| Typhoid fever | 68 | 13 |
| Cerebrospinal meningitis | ... | 4 |

**Health Report.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended November 21, 1903:

SMALLPOX—UNITED STATES.

| | | | CASES | DEATHS |
|---|---|---|---|---|
| California, Los Angeles | Nov. | 1–7 | 1 | .. |
| Louisiana, Baton Rouge | Oct. | 24–Nov 7 | 2 | .. |
| Massachusetts, Lawrence | Nov. | 8–14 | 1 | .. |
| Mississippi, Natchez | Oct. | 25–Nov. 7 | 3 | .. |
| Nebraska, Omaha | Aug. | 1–31 | 3 | .. |
| New Hampshire, Manchester | Nov. | 8–14 | 2 | .. |
| New Jersey, Camden | Nov. | 8–14 | 1 | .. |
| New York, Buffalo | Nov. | 2–9 | 1 | .. |
| Ohio, Cincinnati | Nov. | 6–13 | 9 | .. |
| Youngstown | Nov. | 8–14 | 12 | .. |
| Pennsylvania, Philadelphia | Nov. | 8–14 | 34 | 1 |
| Pittsburg | Nov. | 8–14 | 49 | 5 |
| South Carolina, Charleston | Nov. | 8–14 | 1 | .. |
| Texas, San Antonio | Oct. | 1–31 | 20 | .. |
| Utah, Salt Lake City | Nov. | 1–7 | 1 | .. |

SMALLPOX—FOREIGN.

| | | | | |
|---|---|---|---|---|
| Austria-Hungary, Prague | Oct. | 25–31 | 11 | .. |
| Brasil, Pernambuco | Sept. | 17–30 | .. | 13 |
| Rio de Janeiro | Oct. | 11–18 | 40 | 38 |
| Chile, Antofogasta | Sept. | 1–30 | .. | 23 |
| China, Hongkong | Sept. | 27–Oct. 3 | 1 | 1 |
| Ecuador, Guayaquil | Oct. | 11–31 | .. | 2 |
| France, Marseilles | Oct. | 1–31 | .. | 81 |
| Paris | Oct. | 25–31 | 4 | .. |
| Great Britain, Glasgow | Oct. | 30–Nov. 6 | 4 | .. |
| London | Oct. | 25–Nov. 7 | 17 | .. |
| Manchester | Oct. | 18–24 | 5 | .. |
| Newcastle-on-Tyne | Oct. | 25–31 | 6 | .. |
| Italy, Catania | Oct. | 29–Nov. 5 | .. | 1 |
| Malta | Oct. | 18–31 | 3 | 2 |
| Mexico, Mexico | Oct. | 26–Nov. 1 | 3 | 1 |
| Netherlands, Amsterdam | Nov. | 1–7 | 2 | .. |
| Porto Rico, San Juan | Oct. | 31 | 2 | .. |
| Russia, Moscow | Oct. | 18–24 | .. | 2 |
| Odessa | Oct. | 11–18 | 6 | .. |
| St. Petersburg | Oct. | 18–24 | 27 | 1 |
| Spain, Barcelona | Oct. | 18–31 | .. | 2 |
| Turkey, Constantinople | Oct. | 26–Nov. 1 | .. | 2 |

CHOLERA—FOREIGN

| | | | | |
|---|---|---|---|---|
| India, Calcutta | Oct. | 11–17 | .. | 3 |
| Madras | Oct. | 3–9 | .. | 1 |
| Turkey, Siarbikir | Oct. | 8–15 | 5 deaths daily | |
| Severek | Oct. | 8 | Present. | |

YELLOW FEVER—UNITED STATES.

| | | | | |
|---|---|---|---|---|
| Texas, Cannel | To Nov. | 18 | 19 | .. |
| Laredo | Nov. | 11–19 | 465 | 17 |
| Minera | Nov. | 11–13 | 9 | .. |
| San Antonio | Nov. | 12–14 | 3 | 3 |

YELLOW FEVER—FOREIGN.

| | | | | |
|---|---|---|---|---|
| Brazil, Rio de Janeiro | Oct. | 11–18 | 2 | .. |
| Mexico, Citas | Oct. | 11–24 | .. | 2 |
| Cuidad, Victoria | Oct. | 11–24 | 23 | 18 |
| Linares | Oct. | 11–24 | 412 | 36 |
| Merida | Oct. | 11–24 | 20 | 7 |
| Nuevo Laredo | Oct. | 11–Nov. 14 | 52 | 21 |
| Progreso | Oct. | 11–24 | 1 | 1 |
| Salina Cruz | Oct. | 11–24 | 8 | 2 |
| Tehuantepec | Oct. | 11–24 | .. | 4 |
| Vera Cruz | Oct. | 24–Nov. 7 | 66 | 32 |
| Venezuela, Barquisimeto | Oct. | 12–13 | .. | 2 |
| Cagua | Oct. | 13 | Present. | |
| Maracaibo | Oct. | 18–24 | 1 | 1 |

PLAGUE—UNITED STATES.

| | | | | |
|---|---|---|---|---|
| California, San Francisco | Nov. | 4 | 1 | 1 |
| San Francisco | Nov. | 7 | 1 | 1 |

PLAGUE—FOREIGN.

| | | | | |
|---|---|---|---|---|
| Brasil, Rio de Janeiro | Oct. | 11–18 | 44 | 22 |
| British East Africa, Port Elizabeth | Sept. | 20–Oct. 3 | 3 | 2 |
| China, Hongkong | Sept. | 27–Oct. 3 | 2 | 2 |
| Egypt, Alexandria | Oct. | 11–23 | 16 | 11 |
| India, Bombay | Oct. | 14–20 | .. | 60 |
| Calcutta | Oct. | 11–17 | 71 | 17 |
| Karachi | Oct. | 4–18 | 12 | 10 |
| Madras | Oct. | 10–16 | .. | 1 |
| Mauritius | Oct. | 16–28 | 100 | 66 |

# Medical Record

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## Original Articles.

### LESIONS OF THE EYE WHICH OCCUR IN THE COURSE OF DISEASES OF THE HEART, THE BLOOD-VESSELS AND THE KIDNEYS.*

BY CHARLES STEDMAN BULL, A.M., M.D.,
NEW YORK.

**Ocular Lesions Occurring in the Course of Diseases of the Heart and Blood-vessels.**—Under this heading we must consider certain abnormalities in the circulation of the blood current, as well as actual lesions of the walls of these vessels.

Under normal conditions, the intraocular pressure is to be regarded as one of the functions of the intravascular blood-pressure. Any abnormality of this blood-pressure may give rise to circulatory phenomena within the eye, which are visible with the ophthalmoscope.

In pronounced general anæmia we often find a very pale, almost white, optic papilla, with very narrow pink vessels. If there be distinct diminution of the intravascular tension, the slightest pressure with the finger on the eyeball will cause pulsation in the retinal arteries, and may cause entire disappearance of the veins. If these conditions last for any length of time, spontaneous retinal hemorrhages may appear, which are very prone to recur. On the other hand, retinal hemorrhages, associated with high arterial tension, are significant of widespread arterial degeneration. These retinal hemorrhages, after absorption, leave white patches behind them, and in such cases actual vascular disease must be assumed.

If the blood-pressure suddenly falls, as after great loss of blood, the intraocular pressure acts as an obstruction to the retinal circulation. The arteries pulsate and become narrower in caliber, the optic disk becomes pale, the field of vision becomes concentrically narrowed, everything grows dark before the patient, and then syncope ensues. The loss of sight is usually bilateral, though it may be confined to one eye, and may amount to complete blindness, which may be permanent, or the vision may improve, but, as a rule, complete restoration of vision does not occur. The ophthalmoscopic signs of this variety of amblyopia are often negative at the outset, though there may be a pale optic disk and very narrow vessels. If the vascular tonus is not restored, more or less extensive atrophy of the optic nerve results, occasionally preceded by neuritis and papillitis, with white patches in the retina and hemorrhages. All these symptoms may be found after profuse hemorrhage from whatever source. Amaurosis after hemorrhage is however rare, and is not apt to occur except in persons who are not otherwise healthy. The symptoms usually occur several days after the hemorrhage, and the resulting amaurosis is often due to a hemorrhage within the optic nerve. Under certain predisposing conditions a process of necrobiosis develops in the walls of the vessels during this defective circulation, which gives rise to the subsequent hemorrhages. If the hemorrhage is far back in the optic nerve, the ophthalmoscopic symptoms may be for some time negative and in these cases a central scotoma in the field is sometimes found. In actual organic disease of the heart and blood vessels the ocular symptoms are more constant and well-marked.

Venous hyperæmia of the retina accompanies cardiac affections in which the return of the blood toward the heart is obstructed, as in valvular lesions and in fatty heart.

In *aortic insufficiency* one of the very constant symptoms is an alternate reddening and pallor of the optic disk. There is almost invariably a pulsation of the retinal arteries synchronous with the radial pulse. As a result of the compensatory hypertrophy of the left ventricle, the blood-pressure is greatly increased during systole and diminished during diastole, on account of the reflux of blood through the insufficient valves. If, however, the aortic insufficiency is accompanied by a stenosis of the aorta, the retinal arterial pulse may be absent. In other words, in aortic regurgitation there is a sudden visible increase in the pulse wave in the retinal arteries, and spontaneous arterial pulsation is especially frequent, and is absent only when aortic constriction exists, or when the regurgitation is small. General venous congestion as the result of cardiac disease will be seen in the eye, usually in the retina, but sometimes also in the conjunctiva. In the last stages of *mitral disease* retinal pulsation is an almost constant phenomenon.

In *dilatation* of the *heart without valvular disease* marked hyperæmia of the retina and greatly enlarged and tortuous retinal veins have often been observed. In *fatty heart* we meet almost always with extensive disease of the retinal vessels and numerous hemorrhages in the retina.

As a general rule it may be stated that retinal hemorrhages, without signs of inflammation, are a sign either of increased blood-pressure, such as occurs in cardiac hypertrophy and in valvular lesions, or of disease of the retinal vessels, or of morbid conditions of the blood. They are very common in cases of insufficiency of the mitral and tricuspid valves. It is well known that disease of the heart or of the blood vessels may give rise to *thrombosis* and *embolism* in the eye. *Rheumatic endocarditis* is one of the most frequent causes of embolic processes in the eye, the emboli being generally benign, acting mechanically and exciting no inflammation. But in *ulcerative endocarditis* we have a variety of pyæmia, and the septic cocci may lead to hemorrhages or thromboses and abscess in various parts of the eye, especially the retina, chorioid and conjunctiva. Numerous capillary emboli and miliary abscesses have been found in the retina and optic nerve, and these are prone to recur.

*Emboli* of the *choroid* do not give rise to any marked symptoms, because of the comparatively large size of the chorioidal vessels, and the numerous anastomoses which prevent any great disturb-

*Read by invitation before the New York Academy of Medicine under the auspices of the Ophthalmological Section, November 5, 1903.

ance of the circulation. An embolus of a chorioidal vessel looks like a patch of chorioretinitis, forming a whitish prominent spot, over which the retinal vessels may pass. The field of vision shows a scotoma corresponding to the situation of the embolus. When the resulting retinal opacity has disappeared, a patch of atrophy is seen surrounded by irregular pigmentation. The ultimate vision is but little impaired, and may be entirely restored. Several of these embolic foci may be formed in the same eye.

*Embolism* of the *central retinal artery* or its branches runs a much more severe course, because the retinal artery is a terminal artery and has but few capillary anastomoses. An embolism of the main trunk of the central retinal artery may be the first indication of an insidious endocarditis, and thus the ophthalmoscope may afford the first evidence of cardiac disease. If the embolus lodges in the trunk of the central artery, sudden blindness will occur. The arteries appear empty, the veins narrow, with occasional interruption of the column of blood, and the optic disk is pale. Diffuse opacity of the retina soon comes on, most dense around the papilla, and allowing the region of the fovea to shine through as a cherry-red spot. Generally the blindness is permanent, though occasionally the retinal circulation is partially restored through anastomoses at the entrance of the optic nerve, and this may be assisted by gentle systematic massage of the eyeball. The optic disk becomes atrophic, and the retinal arteries are sometimes converted into connective tissue cords. In embolism of a branch of the central artery, the opacity of the retina is confined to a limited area, and the blindness is limited to a corresponding portion of the field. Numerous hemorrhages may appear in the retina, to be absorbed at a later date. The embolus itself may be visible with the ophthalmoscope. Patches of fatty degeneration in the retina are not infrequently met with later, as well as partial atrophy of the optic nerve.

It has been for years a well-recognized fact that ocular symptoms may be produced either directly in the eye, or indirectly from the brain, by extensive disease of the walls of the blood vessels, such as *atheroma*, *arteriosclerosis*, or *fatty degeneration*. These changes in the vessels are very frequently seen in the retina, but occur much more extensively in the chorioid and may be seen in both arteries and veins. The walls appear thickened or surrounded by a white border (periarteritis or periphlebitis). In places the thickening is so marked as to give a spindle shape to the vessel, and the lumen is correspondingly narrowed, sometimes to complete obliteration. As the disease progresses, the vessels become obliterated or changed into white cords, dilatations alternating with constrictions, so that the appearance resembles that of miliary aneurysms. As a result of this degenerative change hemorrhages into the retina are very common, occurring spontaneously or on very slight provocation. They are also met with in the chorioid, and are very common in the ocular conjunctiva, especially in persons beyond middle life. These hemorrhages are usually absorbed, but in the retina an extensive white discoloration is left. They frequently recur, and inasmuch as disease of the vessel-walls in the eye points to a similar condition of the vessels throughout the body, these hemorrhages are of great prognostic importance, and in elderly people at least are a warning signal of impending apoplexy.

*Arteriosclerosis* may be regarded as the cause of that variety of glaucoma called hemorrhagic, or to be more exact, this variety of glaucoma is developed in eyes in which the blood vessels are diseased.

By some authorities endarteritis of the internal carotid artery is regarded as a cause of cataract, and in many of these cases the diseased condition of the common carotid artery may be detected by careful palpation.

It is well known that this vascular degeneration is often caused by syphilis. It is frequently met with in renal disease, and in the absence of positive evidence of cardiac disease, it may excite a suspicion of diabetes, for retinal hemorrhages due to vascular degeneration are not infrequent in this disease. They may be said to be common occurrences in chronic diabetes, and are of unfavorable prognostic significance.

*Atrophy* of the *optic nerve* often results from arteriosclerosis of the internal carotid and ophthalmic arteries.

*Aneurysmal disease* of the *thoracic aorta*, *innominate* and *internal carotid* arteries, due to degeneration of the vascular walls, are sometimes accompanied by ocular symptoms.

In *aneurysm* of the *aorta* or *innominate* artery, vasomotor and oculopupillary symptoms are often found on the corresponding side. Later, these initial irritative symptoms give place to ptosis, myosis, and enophthalmos. Such aneurysms may also give rise to retinal pulsation. If the aneurysm involve the internal carotid artery, it may cause unilateral optic neuritis or papillitis, and if such an aneurysm grows toward the orbit, there may be developed the symptoms of pulsating exophthalmos. Such an aneurysm has also been known to cause total paralysis of all the muscles of one eye, and, also anæsthesia of the lids, eyebrow, and conjunctiva from paralysis by pressure on the ophthalmic division of the fifth nerve.

The retinal arteries are occasionally the seat of aneurysmal dilatation, but these are rare, probably on account of the support afforded to the vessels by the vitreous humor. When they occur they are significant of similiar conditions in the small arteries of other organs. They may involve the primary branches of the central retinal artery, or they may be miliary aneurysms of the small capillaries. It is proper here to consider the eye symptoms in cerebral apoplexy and embolism arising from arteriosclerosis of the cerebral vessels or from endocarditis. In many cases of cerebral apoplexy, conjugate deviation of the eyes occurs as a transient symptom. If the hemorrhage is in one of the cerebral hemispheres, the accompanying paralysis is not alternate because the lesion is above the decussation of the oculomotor nerves, and therefore the eye muscles are paralyzed on the same side as the extremities. The deviation of the eyes is of diagnostic importance in locating the apoplexy. If the eyes turn toward the paralyzed side, the lesion is in the pons on the opposite side. If the deviation is toward the sound side, the lesion is above the pons on the same side as that toward which the eyes turn.

It cannot be positively stated from the presence of paralysis of the ocular muscles *alone* what the nature of the cerebral lesion is. But a sudden lesion, occurring immediately or within a few hours, and causing oculomotor paralysis, is always a vascular one, either a hemorrhage or an embolism. If there are no pupillary symptoms, the lesion is an embolism. If there is spastic myosis followed by mydriasis during a seizure, the lesion is apoplexy.

Reference to lesions of the carotid artery naturally leads to a consideration of the subject of *thrombosis* of the *cavernous sinus*. These throm-

boses are of two kinds: *infectious*, arising from caries of the petrous bone, and *non-infectious*. A consideration of the first variety has no place here. In the non-infectious, marantic thrombus of the cavernous sinus we meet with paralysis of the motor oculi nerves, dilated and immovable pupil, anæsthesia of the parts supplied by the trigeminus, pronounced venous stasis of the retinal veins, with numerous hemorrhages, and impairment of sight from pressure on the optic nerve. If, in addition, there is œdema of the lids and protrusion of the eyeball, the process is in the vicinity of the orbit.

**Ocular Lesions Occurring in the Course of Diseases of the Kidneys.**—All forms of organic disease of the kidneys may give rise to certain lesions of the eye and its adnexa, but they are much more frequent and significant in the general condition known as albuminuria.

*Œdema* of the *eyelids* is met with in acute nephritis and in the late stages of chronic nephritis, and œdema of the lower lids may present itself before the development of any other symptom. The same condition has been observed, though rarely, in the ocular conjunctiva, where it has received the name of chemosis. Hemorrhages into and beneath the conjunctiva have been occasionally observed in the course of a retinitis, and very rarely have been known to precede the deeper lesion.

*Iritis* has been reported as due to nephritis, in the absence of any other cause, and as the vessels of the iris are often extensively diseased in albuminuria, it is evident that a very slight exciting cause would give rise to iritis. Similar changes are known to coexist in the chorioidal vessels, but the lesions in the chorioid, which might be expected to be revealed by the ophthalmoscope, are generally masked by the pigment epithelium of the retina. Arteriosclerosis of the chorioidal vessels is very common in retinitis albuminurica, and occasionally we meet with chorioidal hemorrhages ending in circumscribed atrophy of the chorioid.

Hemorrhage into the vitreous occasionally occurs, always single and coming on without the patient's knowledge.

*Lesions* of the *ocular muscles*, due to disease of the kidneys, have been repeatedly denied by many writers, but they undoubtedly occur, and more frequently than is usually believed. Many years ago I made it a rule in my practice to examine carefully the urine in every case of suddenly occurring paralysis of the ocular muscles. The cause of such a paralysis is probably a hemorrhage in the region of the nerve roots or nuclei. These paralyses usually recover rapidly, but often relapse. They are among the terminal symptoms of the renal disease, and indicate changes in the cerebral vessels similar to those found in the retina.

The most frequent lesions of the eye associated with renal disease are intraocular, and are found in the retina and optic nerve. There may be a simple though well-marked *congestion* of the optic disk, and retina, or a *retinitis* with or without patches of *exudation*, or *optic neuritis* with or without *hemorrhages*, or an actual choked disk or *papillitis*, differing in no respect from papillitis due to other causes. These lesions of the optic nerve or retina often confirm the diagnosis previously made of nephritis in cases in which the other symptoms, such as slight headache, digestive disturbance, etc., have been vague. In many cases, in which the general constitutional symptoms have been so slight as to escape notice, the ophthalmoscopic examination gives the first intimation of the existence of disease of the kidney, which is already far advanced.

There are two forms of *retinitis albuminurica*. (1) Degenerative inflammation of the retina, occurring with contracted kidney and characterized by retinal hemorrhages and whitish patches in the retina. (2) Exudative inflammation in the form of neuroretinitis, occurring with parenchymatous nephritis.

The so-called characteristic retinitis or neuroretinitis albuminurica is distinguished by whitish or yellowish-white patches of exudation, arranged in a more or less stellate manner around the macula lutea, and usually, though not always, accompanied by retinal hemorrhages, and by more or less œdematous swelling of the optic disk. These patches of exudation are mainly in the inner layers of the retina. They appear first in the region of the macula or between it and the optic disk. They tend to increase in number and size, and are apt to coalesce, concealing the retinal vessels in places. The ophthalmoscopic appearance of these patches changes but slowly, and often remains the same for weeks and months at a time, but there is a constant tendency to increase, and complete absorption and disappearance is almost never observed. They are probably due indirectly to the coexisting high arterial tension. The retinal hemorrhages are due to a weakening of the walls of the small vessels and to the increased intravascular tension. In granular degeneration of the kidneys there is a notable diminution in the size of the retinal arteries, and in these cases the pulse usually shows marked incompressibility.

The retinal hemorrhages are not characteristic. They may be few or many, depending upon the extent of the degeneration in the walls of the vessels. They are more apt to be linear than flame-shaped, and toward the periphery of the fundus are more circular or in patches. They may be found all over the fundus and may be entirely absorbed, but are prone to recur.

The vascular walls are thickened and appear as white streaks, which however are often concealed by the patches of exudation and the hemorrhages. These changes are noted especially in the small arteries and capillaries. They are found not only in the retina, but also in the chorioid, iris, and conjunctiva.

There is generally extensive œdema of the retina, which sometimes gives rise to folds, which may end in detachment of the retina, thus complicating the defective vision already existing.

The white patches in the retina consist of more or less extensive fatty degeneration of the retinal elements, accumulations of fatty granular cells, and hemorrhages in process of absorption.

The ophthalmoscopic changes show that the disease in the eye is primarily essentially a disease of the blood vessels. All the other lesions, hemorrhages, œdema, fatty degeneration, folds and detachment of the retina are secondary. These secondary changes are more marked in the retina than in the other ocular structures, because the retinal arteries are terminal arteries, and disturbances in the circulation here are not compensated as readily as in the chorioid or iris.

The disease is almost always bilateral, though it does not always begin simultaneously in the two eyes, nor is it equally developed in the two eyes. Unilateral retinitis albuminurica, though rare, is not extremely so. Cases have been reported by Cheatham, Yvert, Bull, and others. The impairment of vision varies greatly, and is often greatly disproportionate to the ophthalmoscopic picture. It is greater when the optic nerve is involved, and here often ends in atrophy of the optic nerve. Vision will often vary without corresponding ophthal-

moscopic change, but complete blindness is very rare.

*Retinitis albuminurica* occurs in all forms of nephritis, including the acute nephritis of scarlatina. It is met with in waxy kidneys, but only when this form of degeneration occurs in contracted kidneys. It must be regarded as one of the terminal symptoms of nephritis, as life is rarely prolonged more than a year, or at the most two years, after the recognition of the retinal lesion. Of one hundred and three cases occurring in my own practice, 75 per cent. died within the first year, and of these cases 62 per cent. died within six months. The prognosis seems to be more favorable for women than for men. Belt has collected 419 cases of retinitis albuminurica, of whom 65 per cent. died within one year, and 6 per cent. lived longer than two years. The statistics furnished by Hähnle, Rogers, and Trousseau all show practically the same proportion of early deaths.

The proportion of cases of nephritis in which retinitis albuminurica occurs varies, according to different authorities, between seven and thirty-three per cent., the average being about one in three and a half cases. It is most frequent in the granular kidney.

The *prognosis* is therefore unfavorable both as to vision and to life. The vascular changes, which are the root of the trouble, are general throughout the body. Exudative retinitis with hemorrhages must be regarded as more unfavorable than retinitis without hemorrhages. Temporary improvement frequently occurs, but complete recovery is only possible in the acute nephritis of scarlatina and in pregnancy, when premature labor has been induced. The retinal lesion is either the result of extensive disease of the blood-vessels existing in the various organs of the body, or it is the result of long existing renal disease. Hypertrophy of the left ventricle of the heart will of course favor the occurrence of hemorrhages, but it cannot now be regarded as a necessary link between diseases of the kidney and the retina.

The *retinitis albuminurica* of *pregnancy* may exist without any extensive organic disease of the kidneys. It has been observed as early as the third month, but it is more frequent at the seventh or eighth month, and more often in primiparæ.

As impairment of vision does not always occur early in the disease, regular and frequent ophthalmoscopic examinations should be made in patients during pregnancy whenever albuminuria exists. The main question to decide in these cases is as to the advisability or necessity of inducing premature labor. This should always be done when the retinitis occurs in the early stages of pregnancy. but it is not always advisable when it occurs during the last few weeks of pregnancy. In all cases occurring before the sixth month of pregnancy, labor should be induced and the patient delivered of the fœtus. In the later stages, the condition of the retinal vessels should decide the question of interference. If the vessels are approximately normal, retinitis during pregnancy is not a very grave lesion. If the central retinal artery and its major branches present the appearance of white cords, then the capillaries are presumably entirely obstructed, and if the condition is not relieved, the retina and optic nerve will become atrophied.

*Uræmic amblyopia* or *amaurosis* is one of the symptoms of general uræmic poisoning, and is more frequently met with in the nephritis of scarlatina and pregnancy than in the ordinary form of chronic nephritis, in which the proportion is only in about one per cent. of the cases. The disturbance of vision is always bilateral, develops rapidly, and generally passes into total blindness. Usually all ophthalmoscopic signs are negative even in the height of the seizure. The symptoms quickly disappear when the blood state is relieved by purgation or diaphoresis. The amblyopia is usually associated with headache, vomiting, stupor, and convulsions. The pupillary reaction to light is generally preserved, and unless there exists a previous retinitis albuminurica, there are no ophthalmoscopic changes. The coexistence of retinitis albuminurica is comparatively rare, and when present it is of course the prior condition. During the attack, whether convulsions are present or not, the pupils are usually dilated. The uræmic amblyopia is of course the result of acute autointoxication, from defective excretion of the poisonous products of malassimilation. In the uræmic amblyopia of pregnancy the actual retinitis may not be developed until parturition begins.

In the retinitis albuminurica of pregnancy, in some cases the inflammation of the optic nerve predominates over the retinal changes, so that it may appear to be the only ocular lesion. It resembles that form of neuritis met with in connection with intracranial disease, but careful examination will show signs of slight retinal degeneration.

The transient amaurosis sometimes observed in albuminuria is due to the vascular tension common to this disease.

In those cases of so-called physiological or transitory albuminuria occurring in active, healthy young men who are working under forced pressure, ophthalmoscopic examinations for retinal hemorrhages should be made frequently. When retinal hemorrhages occur in young persons without albuminuria, the patients should be kept under observation, the urine should be frequently examined, and the quantity passed noted. When these conditions are found the patients should be warned of their condition, so that they may be able to coöperate intelligently with their physician.

## EYE LESIONS IN HEART AND KIDNEY DISEASE.*

By FRANCIS KINNICUTT, M.D.,
NEW YORK.

It is with much justifiable diffidence that I venture as a general clinician to discuss the paper which has been read, a paper of great interest, both in its technical completeness and in its practical clinical character. I shall limit myself to a reference to that portion of the paper which treats of the symptoms and lesions occurring in the course of diseases of the kidneys.

Inasmuch as certain ocular symptoms occurring in diseases of the kidney are the result of a toxæmia *per se*, it is of interest to recall that opinions differ in regard to the nature of the toxæmia. It is held on the one hand that the toxæmia is due simply to the retention of excrementitious products in the blood, products of a *normal* metabolism, only toxic because they are retained; on the other hand, that the poison or poisons are the result of an *abnormal* metabolism, one of the functions of the kidneys being to control the metabolism of the tissues of the body. Experimental evidence would *seem* to show that when the kidney substance is greatly diminished in amount, the blood not only contains a great excess of urea, but the tissues, and especially the muscles, also contain large amounts of urea and other nitrogenous bodies of the creatin class, an

*In discussion of a paper on "Eye Lesions Occurring in Diseases of the Heart, Blood-Vessels, and Kidneys," read by Dr. C. S. Bull at a meeting of the New York Academy of Medicine, November 5, 1903.

amount which cannot be explained on the hypothesis of simple retention, but which strongly suggests an increased *production* of these products.

*Uræmic Amaurosis.*—The result of a toxæmia *per se*, this symptom is usually associated with characteristic symptoms of the uræmic state—headache, vomiting, stupor, convulsions, in varying arrangement. It is important, however, to bear in mind that an amaurosis may occur in renal disease in the absence of any of these symptoms. I occasionally have seen it develop in the acute nephritis of scarlatina without other evidence of uræmia. In these cases there has been nothing more than a marked but rather rapid diminution in the urinary secretion, which contained albumin, red and white blood cells and casts. The point of selection by the poison was evidently the central or peripheral parts of the visual tract.

The onset of the symptom is sudden. In some cases which have come under my observation the vision failed rapidly, in others a period of several hours elapsed before it was wholly lost. Although rapid recovery of vision with the relief of the uræmic state is the rule in uræmic amaurosis, further information on the after history of these cases as regards vision would be of interest.

*Cyclic or So-called Functional Albuminuria.*—In view of the varied opinions entertained in regard to the true character of this disturbance and of the findings by several ophthalmologists of ocular lesions in cases diagnosticated as functional, I would urge the importance of careful ophthalmoscopic examinations in such instances whenever possible.

The retinal changes which have been reported by trustworthy observers suggest the probability that some of these cases at least are dependent upon structural changes in the kidneys.

*Albuminuric Retinitis and Neuroretinitis.*—Undoubted cases of retinitis and neuroretinitis have been observed in some of the acute forms of nephritis, but it generally will be admitted that it is essentially a lesion of the chronic forms and especially of interstitial nephritis (contracted granular kidney). It equally will be admitted, I believe, that the period of the disease at which retinal changes *develop* is not easily determined. Dr. Bull's statistics indicate that the characteristic lesions are usually associated with advanced structural changes in the kidney.

Dr. Bull strongly insists upon the all-important point that the disease of the ocular tissues in albuminuric retinitis and neuroretinitis is essentially and primarily a disease of the blood vessels, and that the œdema, hemorrhages, exudations, etc., are secondary lesions. It is a well-recognized clinical fact that similar secondary lesions occur in arteriosclerosis without evidence of organic disease of the kidney.

Again, in a certain number of cases diagnosed as albuminuric retinitis, the structural renal changes are relatively slight and probably have little influence in producing the vascular changes and consequent ocular lesions. In other words, the retinal changes in these cases cannot properly be termed albuminuric; they are the expression of a general arterial disease. A recognition of these facts is of importance in prognosis.

General arterial degeneration—arteriosclerosis—even of an advanced grade, although a condition to be deplored, is not inconsistent with prolonged life and even with fair health.

Unfortunately many of the symptoms of chronic nephritis and general arterial degeneration are similar, being produced by the same causes, narrowed vessels and high arterial tension; but careful and continued studies of the urine and vessels often permit of a differential diagnosis.

In well-marked retinitis, associated with a positive clinical history of chronic nephritis and with *general* arterial disease, my experience corresponds with Dr. Bull's. As a rule a fatal issue of the disease may be expected within the limit of two years. It should be borne in mind, however, that the statistics on which such opinions are based are largely drawn from hospitals and dispensary services in patients for whom favoring conditions for combating the disease are lacking. In retinitis, associated with chronic nephritis but with an *absence of signs of general arterial disease*, and also in retinitis, associated with general arterial disease but without a positive clinical history of chronic nephritis, my belief is that a much less unfavorable prognosis as regards duration of life may be given.

From the cases of retinitis, associated with renal disease and arterial degeneration, which have come under my observation in private practice in the past eighteen months, I have selected three as illustrative ones, and I shall beg your indulgence for a brief report of their clinical histories.

Case I.—Mr. A., forty-eight years. Referred by Dr. Clement Cleveland, February, 1902. Excellent family history and exceptional health until 1895, when, to quote the patient's interesting observations on his own case: "While bicycling, suddenly a partial loss of vision. On looking in a mirror with his left eye closed everything was edged with red. The next morning there was a dark spot on the field of vision of his right eye. There was no pain or discomfort and no conjunctival injection. The dark area gradually increased in size till it spread beyond the center."

Uranalysis showed the presence of a small amount of albumin, a few red cells and a few hyaline casts. The specific gravity was below normal. An ophthalmoscopic examination, both by Dr. Knapp and Dr. Weeks of this city, showed a unilateral retinitis—right—with retinal hemorrhage. Again to quote the patient:

"The spot gradually decreased and disappeared except for a small place to the left of the center, which showed itself only by distorting any line seen on that part of the retina."

There were no further symptoms and excellent health was enjoyed until February, 1902, *seven* years later, when suddenly the patient again noticed a dark spot in the right eye, which increased gradually in size. An ophthalmoscopic examination by Dr. Weeks revealed a unilateral retinitis—right—with minute points of exudation and hemorrhage, and thickened vessel walls.

Physical examination showed an absence of cardiac hypertrophy, no appreciable thickening of vessel walls—temporal and radial—and normal blood-pressure. The urine contained a trace of albumin, and a few hyaline and granular casts. Its specific gravity was slightly below normal, and the daily secretion was above normal limits.

There were no other symptoms and the patient's apparent health was excellent.

The case must be regarded as one of probable albuminuric retinitis, occurring in the interstitial form of nephritis, and *disassociated with general arterial degeneration.* Points of much interest in the case are the unilateral character of the retinitis, the absence of signs of *general* arterial degeneration as indicated by the condition of the peripheral arteries and the absence of cardiac hypertrophy, and the excellent health enjoyed during a period of

eight years from the appearance of the first ocular changes.

In striking contrast to this case is

CASE II.—Mr. K., fifty-nine years. Referred by Dr. Thigpen of Montgomery, Ala, April, 1903.

Good health until the autumn of 1902. Then occurrence of digestive disturbances of a persistent character. A little later paroxysmal dyspnœa, gradual loss of weight and strength, and in April, 1903, sudden partial loss of vision. Ophthalmoscopic examination by Dr. Thigpen revealed a bilateral retinitis, and the urine was found to contain albumin. A personal physical examination three weeks later showed marked cardiac hypertrophy without valvular disease, a marked thickening of the peripheral vessels and a pulse of great tension; the sphygmomanometer indicated a blood-pressure of 270 mm. (Hg.). (Normal in adult male, 130-150). The urine was of low specific gravity and contained albumin, 2½ per cent. (Esbach), hyaline and granular casts. Ophthalmoscopic examination by Dr. Stedman Bull showed a bilateral neuroretinitis with exudation and hemorrhage. Death occurred six weeks later from uræmic toxæmia.

The case is an excellent example of albuminuric retinitis—probably the interstitial form of nephritis, with exacerbation—and *general* arterial disease.

CASE III presents the interesting clinical picture of a retinitis associated with chronic diabetes mellitus, chronic nephritis, and general arterial disease.

Mrs. H., sixty-four years. Referred by Dr. Stedman Bull, April, 1903. Mother died of diabetes, Good health until five years ago, when she developed a carbuncle on left leg. Urine had not been examined previously, but glucose was discovered at that time. Exact amount not stated, but patient was told it was considerable; no mention was made of presence of albumin or of kidney disease. Within a few months a rather sudden failure of vision occurred. No ophthalmoscopic examination was made. Sight gradually improved. Consulted Dr. Bull in February, 1903, suffering from another attack of failure of vision, who found a bilateral exudative retinitis with hemorrhage punctate and striated, and general œdema of the retina. The media were clear. Physical examination showed hypertrophy of the left ventricle (apex impulse 3½ inches from midsternal line; normal in adult female of average size, 2¾ to 3 inches), diffused thickening of moderate degree to feel of radials and temporals, marked increase of arterial tension, the sphygmomanometer registering 215 mm. (Hg.), moderate accentuation of aortic second sound, slight secondary anæmia.

*Uranalysis.*—A number of specimens examined, at intervals of a few days, showed an average specific gravity of 1012, a trace of albumin, a varying amount of glucose up to 4 per cent., and hyaline and granular casts.

The patient's health, as regards subjective symptoms, fair, and has continued so to present date, five years from the first noticeable symptom. My impression of the case, from the clinical history, is that the first failure of vision may have been due to arterial degeneration associated with diabetes, that the present retinitis is certainly partially albuminuric in character, that arterial degeneration is advancing rapidly in association with a nephritis of the interstitial form.

The present prognosis, as regards duration of life, in view of the association of chronic nephritis and general arterial degeneration with retinitis, should be regarded as very grave.

In conclusion I would urge the importance of a careful study of all cases of retinitis, belonging to the category referred to, from the point of view both of the ophthalmologist and general clinician, and especially for the determination, in so far as possible, of the presence and degree of general arterial disease. In this way, it seems to me, valuable assistance may be gained in the matter of prognosis.

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## A REPORT OF THREE YEARS OF OPERATIVE WORK PER VAGINAM AT ST. JOSEPH'S HOSPITAL, YONKERS, N. Y.*

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AFTER three years of operative work by the vaginal route it has seemed fitting to present a brief review of our results. This I do in all modesty with the encouragement and assistance of my colleagues at St. Joseph's Hospital, who have kindly put their cases at my disposal. It is my purpose to present a perfectly candid and unadorned statement, recording failures as well as successes. It is not my object to enter into an historical sketch of the growth of this branch of surgical work. The subject has been threshed out in discussions and medical journals for many years. The advocates of both the abdominal and vaginal routes have said about all that could be said about the method of their choice, but when the advocates of one route admit the benefit, in many cases, of the other method of procedure, it would seem the part of a wise surgeon to perfect himself in the technique of both. That the technique of vaginal work is difficult I admit, but that with ordinary care, attention, and perseverance a certain degree of proficiency can be attained, I think the appended summary of cases more than proves. For not one of us at St. Joseph's Hospital claims to be a specialist in this line of surgery. This is distinctly the work of men in general practice and of a more or less limited experience in general surgery. Three years ago, after some disheartening results of abdominal sections for pyosalpinx, it was my pleasure to witness Dr. J. Riddle Goffe do two vaginal operations by his method, *i.e.* through the anterior fornix. My preconceived idea, which I find many still hold, that vaginal work is "work in the dark," was immediately changed. By this method I never had a better or clearer view of the pelvic viscera. Inspired by his enthusiasm and by the results which I saw him attain, with so little disturbance to his patient, I determined to try the same method at my first opportunity. This occurred very soon after, and with Dr. Goffe's kind assistance I performed the first vaginal section by the anterior route at St. Joseph's Hospital on March 31, 1900. I will report this case somewhat in detail, as it is a good example of what can be done by this method:

Mrs. E. H., aged thirty-six years, widow, school teacher, admitted to St. Joseph's Hospital March 31, 1900. She had been suffering from chronic endometritis with profuse leucorrhœa and metrorrhagia for ten or twelve years. When I first saw her she was a confirmed invalid, confined to her bed a great part of the time. Examination showed chronic endometritis with marked retroversion of the uterus, and two small fibroids on the anterior wall near the fundus. The uterus not fixed by adhesion.

Operation, March 31, ether anæsthesia. After careful sterilization of the vagina and a preparatory curettage of the uterus, a slightly curved horizontal incision, two inches in length, was made in front of the cervix at the vaginal fold—with the finger

*Read at a meeting of the Section on Obstetrics and Gynecology of the New York Academy of Medicine, October 22, 1903.

the bladder and cellular tissues were dissected backward and upward, beginning at the sides, the finger being swept gradually toward the median line till finally only the uterovesical ligament remained adherent. This was carefully cut through with a knife with the edge held toward the uterus, the bladder being pushed up and out of the way. The peritoneum was then punctured with the finger and, two fingers being inserted, was torn laterally to the extent of the outer incision. To enlarge this opening a longitudinal incision was made in the median line in the anterior wall of the vagina as far forward as the urethra. The two free ends were grasped by artery clamps and, these being used to steady the flaps, the bladder was dissected away by lateral dissection with the handle of a scalpel. This gave a triangular opening 2x2½x2½ inches, through which the fundus uteri was readily delivered into the vagina by grasping the tube and broad ligament very near the uterus with the thumb and forefinger of the left hand. The two small fibroids were readily excised, and the peritoneal covering was stitched with a continuous catgut suture with little or no hemorrhage. The round ligaments were shortened in the following manner: the ligament was grasped as far from the uterus as possible with a long artery clamp and pulled down till a U-shaped loop was formed. Then a short needle, threaded with twisted silk, was passed through both parts of the ligament at the base of the U and firmly tied. The summit of the loop was then stitched to the fundus of the uterus. This completed, the ligament of the other side was similarly treated, and the uterus was returned to its normal position. The longitudinal incision was closed by a continuous suture of chromicized catgut—a firm vaginal packing of iodoform gauze was placed in position, and the patient was sent to her bed. She made an uneventful recovery and was discharged cured on May 9. A retroversion pessary was inserted to lift the uterus and take the strain off the ligaments. This she was directed to wear for three months. I have reported this case in full, as I said above, to give the technique which my colleagues and I have followed in all of our cases of anterior section. There have been a few slight variations from this as the requirements of the case demanded, but in every essential detail this method has been followed. For instance, in some cases it has not been found necessary to make the longitudinal incision, the fundus uteri being easily delivered through the horizontal incision; but when the uterus is large, or a large and cystic ovary is present, time is saved by the more ready access to the parts permitted by the larger opening. Through this opening the uterus is frequently so completely delivered into the vagina that the fundus presents at the ostium. When it has been found difficult to deliver the uterus with the fingers, I have, at times, used a blunt obstetrical hook with no apparent injury to the tissues. This should be handled with the greatest care and the point of the hook turned toward the median line after it has been passed behind the tube, so that traction is made upon the fundus uteri and not upon the tube, which might readily be broken. When an ovary or tube has been removed, and drainage is deemed necessary, a posterior incision is made through Douglas's pouch and gauze is inserted. The only danger of any moment to be avoided in this operation is that of wounding the bladder. This is not uncommon, and was my lot in my second case, but by dissecting carefully first at the side and then dividing the uterovesical ligament upon the finger, this accident is more readily avoided. It was neglect of this precaution that lead to my mishap. There has not been a death in any of our anterior operations, and in only one a serious infection. In this case, which I saw with Dr. Duffy, a very successful anterior section was done, and the round ligaments were shortened in the manner described. On the evening of the third day Dr. Duffy asked Dr. Hermance and me to see the case with him, as it was doing very badly. We found the woman in collapse with every evidence of a profound septic peritonitis. We advised an immediate posterior section to drain the pelvis. The woman was immediately taken to the operating room and Dr. Duffy made a rapid section through Douglas's pouch. As he pushed his fingers up through the recent adhesions at the back of the uterus, a seropurulent fluid poured out over his hand. Without any irrigation, gauze for drainage was pushed well up into the pelvic cavity, and the patient was returned to her bed. Her temperature in a few hours came down to normal and she made an uninterrupted recovery. I have always considered this a most instructive case, showing how readily septic peritonitis may at times be approached and treated through the vagina.

Before leaving this subject of the anterior incisions, I must refer to the result in two cases of complete procidentia uteri: one in which I operated and one in which I had the pleasure of assisting my colleague, Dr. Hermance. In both the procidentia was complete with retroversion. In both cases we amputated the cervix and shortened the round ligaments, and in my case repaired the perineum. In Dr. Hermance's case reparative work on the perineum was deferred to a subsequent date. After a period of two years in mine and one year in Dr. Hermance's case, the results are perfect. In my case the patient became pregnant just eighteen months after the operation, and after a perfectly normal and comfortable pregnancy was delivered naturally on the 5th of this month. The baby was a large, fully developed child, weighing about nine pounds. There was no distocia, the patient being in labor in all not more than four hours, which was less than the average duration of her previous labors. I have to record one failure in a case of retroversion: I performed the operation last November, and considered it at that time very successful, but in the following March I examined the patient and found the uterus sagging backward again. The ligaments were shortened in this case fully two and a half inches on both sides, and the summits of the loops were stitched together; but in spite of this there is retroversion at the present writing. The only explanation for the failure is that probably the uterosacral ligaments had been so stretched that, though relieved of their tension, they failed to regain their tone. It is only fair to state that when this patient returned for examination at the time mentioned, she was wearing a retroversion pessary which had been inserted by her family physician, but unfortunately was upside down.

The technique followed in nearly all of the posterior sections has been very simple and is as follows: After a cleansing of the vagina and a preliminary curettage, a horizontal incision one and a half to two inches in length is made, in the posterior fold through the mucous membrane, and the cellular tissue directly behind the uterus is dissected up with the finger until the peritoneum in Douglas's pouch is reached. This is either caught with clamps and cut through or punctured with the finger and torn to the extent of

the external incision. Then, if no adhesions are present and exploration of the pelvis only is desired, a Peon retractor and Pryor's trowel are pushed up behind the uterus and held apart. If in addition the patient's hips are elevated in the Trendelenburg position, a very clear view of the pelvis and its contents is presented. The retractors are taken out and one tube and ovary after the other are brought down into the vagina for inspection, where either excision or resection can be done as is deemed necessary. Pus tubes, pelvic abscesses, pelvic hæmatoceles, and tubal pregnancies have all been most readily approached in this manner. It is astonishing how readily the strongest adhesions can be broken up when the dissection starts from below. The fifty-four cases reported show only two deaths, and when it is noted that many of these were profoundly septic cases—single or double pyosalpinx or puerperal sepsis—I think we are justified in concluding that this method of procedure has earned its right to live. It is only fair to say that the patient in one of the fatal cases, was uræmic and nearly moribund when operated upon: the operation being done only as a last resort. There were two cases in which success was not attained by the posterior section and a later hysterectomy was necessary. These patients recovered. Two puerperal patients so treated died, the deaths being recorded under hysterectomy. In some cases a second operation was necessary to break up later pus formations, but all of these recovered. In puerperal sepsis it has been our practice when intrauterine irrigation has failed, after completely emptying the body of the uterus of all retained products of conception, to make the posterior incision for purposes of draining the infected secretions before any formation of pus could be detected either in the tubes or adjacent cellular tissue, and to pack the pelvis thoroughly after the manner suggested by Pryor with iodoform gauze. In several cases so treated the temperature immediately came down to normal and all the urgent symptoms abated. The following case is a good example of this treatment:

Mrs. H., aged twenty-nine, primipara; admitted May 5, 1902. Four days after her confinement she became profoundly infected, and when admitted had a temperature of 105.8° and a pulse of 140. Intrauterine douching had been kept up for two days prior to her admission without any benefit. She was immediately curetted and a posterior incision was made. Two Mikulicz pads were placed well up behind the uterus and loose gauze was packed between. Her temperature in twenty-four hours came down to normal and remained so for ten days, when the left tube became infected. A second operation was done and the tube and ovary were removed. The woman made a slow but steady recovery, and was delivered last August, just fourteen months after her discharge from the hospital, of her second baby without any outward symptoms. I have given this case simply as a picture of several such puerperal cases, which, at times seemed utterly hopeless, but finally ended in recovery. In two cases particularly desperate we were rash enough to do a hysterectomy with a fatal result in both.

The technique employed in the hysterectomies necessarily varied somewhat as the nature of the cases required. In the main, however, that laid down in the ordinary textbooks was followed pretty closely, except that in all the cases, with one exception, the angiotribe of Tuffier was used instead of clamps or ligatures. In no case was any hemorrhage recorded. At times it was found best to hemisect the uterus, after clamping off the uterine arteries, and then, the half uterus being turned into the vagina, the angiotribe was more easily applied to the ovarian artery from above. In one case of a large submucous fibroid on the posterior wall, the size of a grape fruit, I hemisected the anterior wall of the uterus and removed the tumor by morcellation, and then did a hysterectomy with the angiotribe. This patient was sent to her room in splendid condition and remained so until the next afternoon, when she rapidly developed symptoms of iodoform intoxication, which proved fatal in four days, in spite of all that could be done for her.

One unfortunate condition has been recorded in two or three of the cases, viz., a fecal fistula. This has been caused either by nipping a piece of intestine with the blade of the angiotribe or by violence in tearing up strong adhesions. With one exception these have rapidly healed spontaneously—so perfect is the drainage. Usually, after this operation with the angiotribe, there is absolutely no pain or discomfort, but whenever pain has been a marked symptom, I have found that the bowel has been injured. The dressing after hysterectomy is very simple—a large bunch of iodoform gauze is pushed well up through the vaginal opening and is left in for four or five days, being gradually withdrawn after soaking with a weak boric acid solution. In my opinion it is a mistake to try to make the vaginal opening smaller by suturing the edges of the anterior and posterior vaginal incisions together at the sides and placing only a strip of gauze to drain. In one case in which I tried this method a collection of pus formed in a pocket behind the posterior wall of the vagina. I was fortunate enough to discover this soon, and, after liberating it, I put in a large wad of packing, which filled out the pelvis and prevented any further pocketing, and the patient made a rapid recovery.

Finally, in puerperal cases, our experience would certainly seem to teach us that a hysterectomy is attended with the gravest danger, and that better results can be obtained by a posterior section with removal of infected tubes and the opening up and draining of local pus collections as they may appear. A patient adherence to this line of treatment has, in several cases, seemingly desperate, given us most satisfactory cures.

In summing up the subject, the following conclusions are fairly indicated, not only from my own personal experience, but from what I believe a candid study of the table of cases would teach.

1. The anterior vaginal route is most useful to reach and operate upon the round ligaments in cases of retroversion of the uterus or procidentia; also for removal of small fibroids, either subperitoneal or pediculated, or for conservative work on the ovaries and tubes, or for removal of these organs.

2. The posterior incision is most useful for drainage in cases of pyosalpinx, salpingitis, pelvic abscess, some cases of tubal pregnancy with hæmatocele and puerperal sepsis, either with or without involvement of the tubes; for oophorosalpingectomy, when the ovary is held backward and downward by old adhesions, and even in some cases of acute general septic peritonitis.

The more I see of this work the more am I impressed with the important truth that no pus tube should be attacked by any other route than by the vagina.

The following are the summaries of the tabulated record of vaginal operations performed in St. Joseph's Hospital during these three years. The members of the staff of the hospital whose cases, in addition to my own, are included in this table are Drs. E. M. Hermance, N. A. Warren, E. F. Duffy, G. M. Mooney, M. N. Foy, and O. L. Austin.

*Anterior Sections.*—Shortening the round liga-

ments for retroversion, 11; exploratory with breaking up of adhesions, 2; myomectomy, 2; resection of ovary, 1; single oophorectomy, 3; double oopherectomy, 2; total, 21 operations, with no deaths.

*Posterior Sections.*—Single oophorosalpingectomy, 21; double oophorosalpingectomy, 8; drainage for (*a*) pelvic abscess, 10; (*b*) puerperal sepsis, 6; (*c*) pelvic hæmotocele, 5; (*d*) salpingitis, 2; exploratory operations, 2; total, 54 operations, with 2 deaths, giving a mortality of 3.75 per cent.

*Hysterectomies.*—Performed for complete procidentia uteri, 7; puerperal sepsis, 3; double pyosalpinx, 3; uterine fibroma, 2; double pyosalpinx and uterine fibroma, 1; carcinoma uteri, 3; total, 19 cases, with 6 deaths, giving a mortality of 31.6 per cent. In all but one of the operations the angiotribe was used, in the one case clamps. The deaths were in cases of puerperal sepsis, 2; uterine fibroma, 2; carcinoma uteri, 1; double pyosalpinx, 1.

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## INFLAMMATION OF THE BLADDER.

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Every case of inflammation of the bladder is caused by microorganisms, but these germs do not cause a cystitis in a normal bladder.

Any deviations from the normal arising in the general circulation of the blood, or in the urine, or from the spread of any pathological process, from the urethra, ureters or any neighboring organs into the bladder, or from any pathological condition arising primarily in the bladder causing a congestion in the histological layers of the bladder, predispose more or less to an inflammation of the bladder by causing a lessened resistance to the spread and growth of microorganisms that have entered the bladder through the general circulation, from the urethra or ureters, or in any other way. The conditions deviating from the normal that can favor the growth of bacteria after they have entered the cavity of the bladder are so numerous that it is beyond the conception of the human mind to grasp them or to make an adequate classification.

It has long been recognized that a congestion of the blood vessels in the wall of the bladder is one of the most important predisposing causes.

The study of comparative anatomy has shown that man assumed the upright position late in his development. While the assumption of this position has given us the superiority over the rest of the animal kingdom, yet it has given us one of the weakest bodies among the mammals, as the vascular system has not been able to adapt itself fully to this change assumed so late in our development.

The veins of the arms and legs have valves to prevent the hydrostatic pressure of the columns of venous blood from increasing too much by the force of gravity.

The large veins of the trunk have no valves. Thus in the portal system we have a direct column of blood, extending from the liver to the anus and bladder, exerting its hydrostatic pressure in these organs. This condition predisposes the bladder to chronic passive congestion.

The forces acting upon the organism, or any of its component parts, must come within the so-called physiological limits. Any excess of these limits is a cause of disease. Thus the bladder may be perfectly capable of coping with its ordinary conditions in youth, but in proportion as the regenerative force slackens with advancing years, the bladder becomes predisposed to a condition of chronic passive congestion, as in old age the system that undergoes the greatest change is the vascular system.

Cystitis, according to the course it runs, may be divided into (1) cystitis acuta and (2) cystitis chronica.

It may be divided according to the histological structures it involves into (1) cystitis mucosa (mucous membrane), (2) cystitis interstitialis or parenchymatosa (connective tissue and muscular layers). (3) Pericystitis (subserosa and muscularis).

It may be divided according to the more advanced changes of the component parts into (1) cystitis catarrhalis, (2) cystitis suppurativa, (3) cystitis crouposa, (4) cystitis diphtheritica, (5) cystitis gangrænosa.

Guyon has made a classification as follows: Cystitis caused by (1) gonorrhœa, (2) tuberculosis, (3) stones, (4) strictures, (5) prostates, (6) tumors of the bladder, (7) chemical irritation, (8) bacterial, and (9) cystitis in the female.

How unsatisfactory this classification is can be seen at a glance. The cystitis in the female, for example, may be any one of the other varieties.

Cystitis can never be said to be idiopathic, it is always secondary to some disease of the genito-urinary tract or to specific inflammations like tuberculosis. When cystitis is spoken of, the symptomatic cystitis acuta suppurativa, the most common form, should be considered.

It is caused (1) by the spread or advance of a pathological process from neighboring organs; (2) by pathological conditions arising in the bladder; (3) by modifications of the urine; (4) infectious diseases; (5) parasites; (6) poisons; (7) the uric-acid diathesis.

Guyon lays great stress on the constitution of the individual. Hereditary factors should also be carefully considered.

From 1875 to 1895 a mass of literature appeared to ascertain every microorganism that could cause a cystitis, and to show that microorganisms alone could cause this disease. On this theory the treatment was very simple, as all that was necessary to cure the patient was to kill the bacteria.

In 1860 a new era began. Pasteur, as a result of his experiments that have become classical, considered that an organic ferment was the cause of cystitis.

In 1874 Petersen[1] found that when the urethra of animals was bound for twenty hours, that the urine did not loose its acid reaction, and that pus was not formed. However, after injecting bacteria or foul blood into the bladder and tying the urethra off for a time, cystitis was caused. Injection of putrid blood into the bladder caused only a cystitis catarrhalis levis, but when the urethra was ligatured a cystitis gravis developed.

Dubelt,[2] in 1876, found that the injection of putrid blood into a normal bladder caused only a cystitis levis, but in the case of an injured bladder a cystitis gravis.

Droysen,[3] in 1883, found that stoppage of urine in a healthy bladder did not cause a cystitis.

In 1890 Krogius[4], by injecting his urobacillus liquefaciens septicus into the bladder, could only cause a cystitis when the urethra was tied for varying periods of time.

In 1892 Schnitzler,[5] from his experiments with injections of the proteus vulgaris Hauser and other bacteria collected from infected bladders, came to the conclusion that infection of the bladder did not always occur after a mechanical injury, or after a stoppage of urination, but under certain conditions quickness of increase in the bladder and the collection of toxic products could cause a cystitis, without any hindrance to urination.

Thus we see that the spread of bacteria into a healthy bladder exerts no lasting influence. That any injury to the bladder wall, or hindrance to urination, render a more favorable soil for the growth of bacteria in the bladder.

With the interest taken in the study of bacteriology in recent years, much attention has been given to find out the microorganisms found in infected bladders.

In 1886 Bumm,[6] in eight cases of puerperal cystitis, caused by catheterization, isolated a diplococcus which by its form and frequent grouping in the pus cells resembled the gonococcus. He injected cultures of these germs into the healthy bladders of dogs without producing any effects, but when the mucous membrane was first submitted to a chemical irritation, or when the urethra was tied, he produced a purulent cystitis. Bumm demonstrated the presence of this same diplococcus in the lochial discharges, and supposed that a sound had introduced it into the bladder.

Michaelis[7] confirmed the experiences of Bumm, in similar cases of cystitis, by finding the same microorganism. While these authors found diplococci in the cases of puerperal cystitis, the following investigations show that bacilli are found in the great majority of the other cases of cystitis:

In 1887 Clado[8] described a septic bacterium of the bladder.

In the same year Hallé[9] found a bacillus in pure culture in the blood and kidneys of a patient that died of cystitis.

In 1888 Albarran and Hallé,[10] in forty-seven out of fifty cases of purulent cystitis, found the same bacillus, always in enormous numbers; in fifteen cases it was found in pure culture. In the other cases it was associated with different species of cocci. They called it "bactérie pyogène." It is the same bacterium that Hallé and Clado have described. It is found nearly always in purulent urines with an acid reaction. These germs, when injected into the bladders of animals and the urethra tied, produced the same cystitis suppurativa.

Albarran,[11] in 1889, considered this bacillus as the most frequent cause of infection of the genitourinary tract, as it is always found, and often in large numbers. It was found by him in twenty-three out of twenty-five cases. Fifteen times in pure culture. In the eight other cases it was associated with other varieties of bacteria.

Tuffier and Albarran[12] found the same bacillus in four cases, three times in pure culture.

In all these works the "bactérie pyogène" were found to be the principal cause of the different local suppurating processes found in the different parts of the genitourinary tract. Albarran and Tuffier deserve the credit of being the first to describe and isolate these bacilli.

In 1891 Morelle[13] identified these bacilli with a species already known in the intestines, the Bacterium lactis aërogenes of Escherich, found in the fæces of nursing children.

In 1892 Krogius[14] regarded this bacterium as being identical to the ordinary bacteria of the intestine, but not to the bacterium lactis aërogenes, but to the Bacterium coli commune (Escherich). The cultures and experiments on animals showed a perfect concordance.

As a result of these investigations it can be seen that cystitis, like other suppurating processes of the genitourinary tract, is generally caused by the common bacterium coli commune found in the intestines. That these bacilli can exert no influence in the normal bladder, but when congestion, or stoppage of urine, occurs, the resistance of the bladder to infection is diminished, providing a favorable soil for the growth of these microorganisms. One of the chief difficulties in grasping this subject has been that each author has given a separate name to these germs.

The causes that weaken the bladder's normal resistance may be divided into (1) predisposing causes: (*a*) inherited, and (*b*) contracted; and (2) chance causes.

It is an interesting fact that foreign bodies and new growths of the bladder exert very little influence as long as they are not accompanied by a hindrance of urination. However, as soon as urine is passed with difficulty, or can not be passed at all, these conditions are of the greatest importance in starting up an inflammation of the bladder. In other words, as long as the decomposition of the urine in the bladder is not accompanied by congestion or circulatory disturbances of the wall of the bladder, no inflammation of the bladder occurs. The entrance of microorganisms can only exert a lasting influence when other lesions of the bladder have previously existed.

We shall now consider the diseases that tend to prevent the passage of urine.

It has long been recognized what an influence enlargement of the prostate gland has in causing inflammation of the bladder.

Strictures of the urethra, particularly those of the bulbo-membranous junction, gradually hinder the passage of urine. The residual urine increases, causing a congestion of the bladder, and then becomes alkaline and irritating from the ammonia set free from the decomposition of urea. The residual urine increases, exerting pressure on the pelves of the kidneys, causing pathological processes that are dangerous in the extreme.

Diseases of the central nervous system are very often accompanied with difficulty of urination, as Charcot has demonstrated. He has had occasion to follow some cases from the moment of strangury to the post-mortem examination. Acute and chronic gonorrhœal urethritis cause a swelling of the folds of mucous membrane of the urethra, that hinder the free passage of urine. They exert a direct or reflex irritation on the prostatic urethra, causing a more frequent desire to urinate, this, in turn, causing a frequent congestion in the blood-vessels of the bladder.

Laborers who work in laboratories where hydrochloric and other acids are manufactured are often afflicted in this way. The uric-acid diathesis works partly through changes in the kidneys, and partly through alterations in the other urinary organs.

How far chronic alcoholism exerts an effect we are not able to say. It probably acts by an irritating change of the urine, and through the process of fatty degeneration of the muscle layers of the bladder.

The toxic causes are chiefly cantharides and the terebinthinates.

*Prognosis.*—It can be readily understood how difficult it is to appreciate all the causes of the moment, from the clinical symptoms, physical examination, and even from an accurate bacteriological examination of the urine that should always be made. Therefore it becomes apparent how guarded the prognosis must be—the prognosis must be more unfavorable in proportion to the extent of the organic alterations that have taken place in the wall of the bladder, *e.g.* cystitis mucosa, cystitis interstitialis, and pericystitis. Even also on account of the more involved changes of the component parts, *e.g.* cystitis catarrhalis, suppurativa crouposa, diptheritica, and gangrænosa.

The general constitution must also be considered. The weaker the patient and the worse the diathesis so much more unfavorable is the prognosis.

We are only justified in prophesying a cure when we are in a position to quiet the predisposing causes.

*Pathology.*—Cases of acute or chronic cystitis are rarely seen at a post-mortem examination. We must, therefore, rely on our knowledge obtained from experiments performed on animals and from the cystoscopic study of the bladder on living subjects.

The cystoscopic study of the acute gonorrhœal form shows that the disease is not equally distributed, as it attacks the neck of the bladder and trigonum.

Fig. I.

The inflammatory area is intensely reddened.

The parallel branches of the blood vessels given off in the mucosa are dilated, making apparent all the finer branches that can not be seen in a state of health. The mucosa is swollen, the inflammatory area at the neck of the bladder can be seen shading off into the normal light orange pink mucous membrane of the bladder in figure 1.

The inflammatory area appears at the top, as the picture was taken with the No. 1 cystoscope of Nitze. In the case of cystoscopes, with the reflected light, the object is always reversed in the vertical diameter. In very acute cases extravasations of blood can be seen under the mucous membrane and exuding from it, adding to the congested appearance, as seen in figure 2.

Clumps of the degenerated epithelium that have been thrown off can occasionally be seen floating in the contents of the bladder.

When the inflammation subsides, the mucous membrane becomes paler, and the blood extravasations disappear one after the other, until we again get the appearance of the mucous membrane of the normal bladder, as shown in figure 3.

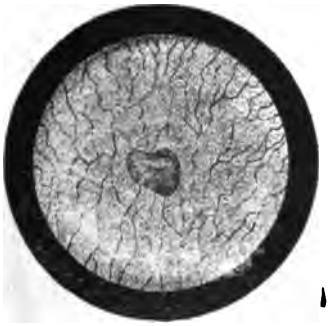

Fig. II.

The little round elevations seen in this picture are simply air bubbles that have been introduced by an imperfect syringe.

An experimental cystitis can be caused by cantharides. According to Guyon, three stages of the inflammation can be differentiated in animals so treated. (1) The blood vessels become congested and the epithelium is thickened. (2) The epithelium, having been invaded by pus corpuscles, is cast off. (3) The mucosa and muscularis are invaded by pus corpuscles and young round cells. A thickening of the mucosa and casting off of the epithelium, leads to the development of small abscesses that on emptying form surface ulcers, as seen in figure 4.

In a cystitis hæmorrhagica the bleeding occurs from the surface of a deeply congested and ecchymotic mucous membrane. Such hemorrhages must be differentiated from those that take their origin from a circumscribed area, due to trauma or tumors.

In catarrhus vesicæ the mucous membrane is hyperæmic, softened and swollen. The blood vessels are dilated, as shown in figure 5.

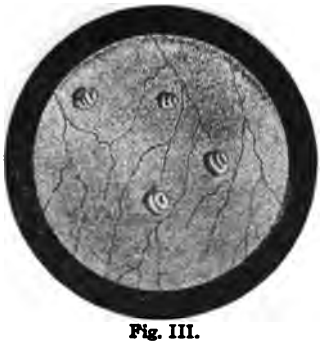

Fig. III.

The microscopical examination of the urine shows many red blood corpuscles, many pus corpuscles, clumps of epithelium, and numerous pus cocci and bacilli, according to the nature of the disease. The bacterium coli commune is nearly always found, often in pure culture.

In catarrhus vesicæ the mucosa shows only slight alterations. The congestion and casting off of the epithelium leave no important after-changes.

In cystitis suppurativa, of which the cystitis gonorrhoica, already described, is a type, the entire mucous membrane, or only a part of the same, is deeply reddened and thickened. In the intensely reddened areas, ecchymoses may be found. In cases that begin slowly and pursue a chronic course, we find the more important alterations on the base of the bladder. The epithelium is often thrown off, even to the deepest layers, and covered with strongly adherent pus.

When the inflammation has pursued a chronic course, the mucous membrane is decidedly hypertrophied in places. Small papillomata may be formed by the process of papillary proliferation. The small fibroma papillare (Virchow) so caused are the starting points of tumors of the bladder. Such conditions are seen often after the chronic gonorrhœal cystitis, often the muscular layers of the bladder hypertrophy, causing a trabeculated condition. In figure 6 is shown a trabeculated surface with a phosphatic concretion.

Fig. IV.

In cystitis parenchymatosa or interstitialis, we have an infiltration of pus into the submucosa and intermuscular connective tissue.

In pericystitis we have an infiltration of pus into

the subserous connective tissue. This may be the result of a spread of the cystitis parenchymatosa, or from the spread of an inflammation from neighboring organs. If an abscess is formed from a local accumulation of pus, it may empty into the bladder, rectum, vagina, or peritoneal cavity. Gravitating abscesses along the rectum are not uncommon.

Cystitis crouposa is a very rare disease, in which the wall of the bladder is covered over, with a more or less evenly measured fibrinous membrane, that can be removed without great substance losses.

Cystitis diphtheritica is caused most often from

Fig. V.

infection from open bladder wounds, or from the use of septic instruments, or from infection from the self-retaining catheter. Sometimes it occurs after severe infectious diseases, *e.g.* diphtheria, scarlet fever, and variola. It arises by contiguity from diphtheritis of the female genital organ. It has been seen in cases of paralysis of the bladder, or from infiltration of urine into a false passage made in the urethra. In all these cases the alkalinity of the urine favors a cystitis diphtheritica (Virchow). As a result of this inflammation, we have a large surface or several smaller areas of necrosis of the mucosa, leading to the formation of gangrenous grayish-black pseudomembranes, which are often encrusted with uric acid.

After these gangrenous eschars have been thrown off, either healing or a new advancing diphtheritic necrosis begins. This process may advance through ureters into the pelves of the kidneys. This process often leads to perforation of the bladder, with quick accompanying peritonitis, or to septic degeneration of the extraperitoneal connective tissue, when the point of discharge has not been at a place covered with peritoneum. In these cases we have an infiltration of the submucosa, forming abscesses in the wall of the bladder. When these interstitial

Fig. VI.

abscesses break into the bladder, pus is voided in large quantities from the urethra and healing begins.

Cystitis tuberculosa is of common occurrence, yet very little attention has been given to it in medical textbooks.

König considered that the half of all diseases whose chief symptom was the voiding of pus and mucus from the bladder was caused by tuberculosis. Rovsing considered that every cystitis with an acid urine was caused by tuberculosis. Melchior has, however, shown that the acid cystitis is only exceptionally tuberculosis.

Primary tuberculosis of the bladder is very rare. Most often tuberculosis of the bladder is noticed in connection with tuberculosis of the epididymis or of the prostate. In such cases it spreads very often into both kidneys. Tuberculosis of the bladder takes its origin very seldom from a descending course. Feleki has noticed cases of tuberculosis of the kidneys lasting for years without causing tuberculosis of the bladder. König, as proof of this fact, relates his experience that often after removal of a

Fig. VII.

tuberculous kidney which had caused vesical catarrh the latter quickly disappeared.

A secondary infection in the case of a tuberculous individual, through metastatic deposit of the tubercle bacilli is rare.

The disease advances by continuity. Cystitis gonorrhoica or other chance causes may make a more favorable soil for the tubercle bacilli that come from the kidneys. The pathological anatomy, as well as Rovsing's experiments on animals, vouch for the correctness of this statement. In these experiments tubercle bacilli were injected into the bladder, and the urethra tied off, but a tuberculous cystitis could not be caused in this way. However, when before these experiments the mucous membrane had been injured, or when a cystitis suppurativa had previously existed, cystitis tuberculosa could be caused in this way.

Tuberculosis of the bladder occurs more often in men than in women and children, and most often between the twentieth and fortieth years of life; still it is sometimes seen in young children and in old men. Birch-Herschfeld, out of 2,565 autopsies on women performed at the Dresden Hospital, found only four cases of tuberculosis of the bladder.

As the tuberculosis of the bladder, in most cases,

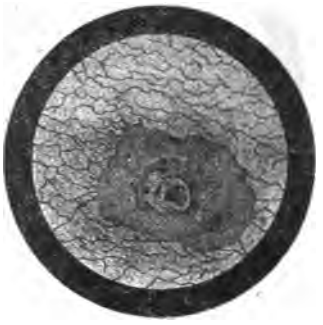

Fig. VIII.

is the result of a similar disease of the epididymis vas deferens, seminal vesicles, and prostate, as previously pointed out, spreading to the bladder, ureters, and kidneys, so it is easy to understand that the most important pathological changes in the overwhelming number of cases occur in the region of the ureteral openings and trigonum. This can be accurately seen in cases in which the cystoscope can be used.

We find numerous small, white-gray tubercles

which gradually increase in size, as shown in figure 7. These tubercles, through the process of cheesy degeneration, lead to ulcers. Surrounded by hyperæmic areas, as shown in figure 8. These ulcers increase in size, and as their walls coalesce, large tuberculous sores of the bladder arise that destroy a great part of the mucosa and submucosa. The symptoms are very much the same as in any other severe chronic inflammation of the bladder. In some cases the pain is very severe (cystitis dolorosa).

The prognosis is always unfavorable.

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# OBSERVATIONS ON THE USE OF THE SAHLI TEST-MEAL.*

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Early in 1902, Sahli[1] described a new method for the examination of the different functions of the stomach. In his opening remarks, he truly said that by means of the present methods of examination, we are unable to determine whether there is any disturbance, separately or together, of the motor secretory or absorptive functions of the stomach.

The quantity of a test-meal withdrawn after a stipulated time is not only dependent on the motility of the stomach, but also on the amount of secretion by the stomach; the percentage acidity is no direct indication of the secretion, but is also influenced by the motility.

The principle of the new Sahli method depended on the addition to a test-meal of some substance not absorbed by the stomach, which can be quantitatively calculated. After the withdrawal of the test-meal, it was possible to determine how much passed over into the intestine, how much remained in the stomach, and how much of the withdrawn meal consisted of gastric secretion. The important considerations, however, are that the entire test-meal should be homogeneous, that the substance which is to serve as the indicator should remain in complete admixture with the meal, and that, as v. Mering[2] has shown, the stomach absorbs no water. Fat was the substance selected by Sahli to serve as the indicator.

The idea of using fat for such a purpose did not originate with Sahli, but was first used by Matthieu;[3] v. Mering[2] also employed fat in the form of an egg-emulsion to determine the absorptive property of the stomach.

In order to undertsand the purposes of this paper, I will briefly describe the Sahli test-meal. Twenty-five grams of ordinary flour and fifteen grams of butter are placed into an iron or other suitable vessel over a flame and allowed to become a roast brown. To this are slowly added 350 c.c. of water, and the whole is constantly stirred; a little salt, sufficient for flavoring, is also added and the mixture allowed to boil for one or two minutes. After the stomach has been thoroughly washed, the patient is given 300 c.c. of this soup, and the reaining 50 c.c. are retained as a control.

After one hour the soup is withdrawn and the quantity noted. Three hundred c.c. of water are now introduced through the tube, and the stomach is gently massaged; within a few minutes, this diluted meal is then withdrawn and its quantity noted. The acidity of the soup first withdrawn and that of the diluted are determined and according to the formulæ of Matthieu,[4] which are as follows, we are enabled to calculate the amount which remained in the stomach:

a = the acidity of the undiluted soup.
b = the acidity of the diluted soup.
x = the quantity of soup remaining in the stomach:

Three hundred c.c. of water being used to dilute the soup remaining in the stomach after withdrawal of the first,

therefore $ax = b\,(x\ 300)$

$x(a-b) = 300b$

$$x = \frac{300b}{a-b}$$

The amount of fat in the control and in the first withdrawn soup is now determined. This was at first done by means of the Soxhlet method, but it was found to be too tedious and too inconvenient for clinical purposes. At the suggestion of Sahli, his assistant Seiler,[5] introduced the Gerber[6] butyrometric method, which is much more simple and rapid. Seiler made comparative estimates of both methods, and found the results to vary but very little.

Having found out the amount of fat in both the control and the withdrawn meal, Sahli uses this amount as an indicator and makes use of the foling terms and formulæ to reach results:

TO = amount of test soup withdrawn + the amount found to have remained in the stomach. The amount of fat in the soup which remained in the stomach, the "residue," gives an indication as to the amount of test soup retained—so that if in 300 c.c. test soup there is 4 per cent. fat—that is, 12 grams, and if, for example, we find that in TO there are 3 grams of fat, then we can conclude that $\frac{3}{12} \times 300$ c.c. = 75 c.c. remained behind of the amount of soup given to the patient. This remainder is designated by the term SU. Since TO includes soup + gastric secretion, then TO — SU = MA or gastric secretion. It must not be concluded that the amount MA includes all the gastric secretion, as some of the latter, together with some of the soup, certainly passed over into the duodenum.

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To repeat, TO = amount withdrawn + residue
F = per cent. fat in the control or original soup.
f = per cent. fat in the soup withdrawn,

$$\frac{SU}{TO} = \frac{f}{F}$$

then

$$SU = \frac{f \cdot TO}{F}$$

therefore

The acidity of the pure gastric secretion is determined as follows:

a = acidity in per cent. of the withdrawn soup.
A = acidity in per cent. of the pure secretion.

$$\frac{a}{A} = \frac{Ma}{TO}$$

hence,

$$A = \frac{a \cdot TO}{Ma}$$

Seiler[5] found as standard figures in persons with normal digestion, the following which may be used for the sake of comparison:

| No. | Amt. introduced. | To | Su | Ma | Acidity of pure secretion. Per cent. HCl. |
|---|---|---|---|---|---|
| 1 | 300 | 124. | 72 | 52 | 3.5 |
| 2 | 300 | 158. | 83 | 75 | 4.4 |
| 3 | 300 | 57. | 30 | 27 | 3.5 |
| | Average | 113. | 62 | 51 | 3.6 |
| 4 | 250 | 113. | 44 | 69 | 3.2 |
| 5 | 250 | 108. | 56 | 52 | 4.2 |
| | Average | 110. | 50 | 60 | 3.7 |

From the above we notice that the amount of the HCl varies between 3.2 per cent. and 4.4 per cent. which figures lie intermediate between that found by Pawlow[7] in the normal gastric juice of dogs, to be 5 per cent. and by Schüle[8] and Troller[9] in the gastric juice of patients to be 1.8 per cent. — 3.6 per cent. If therefore in the application of the Sahli test-meal, the acidity per cent. of the pure secretion is found deviating one way or another from the above mentioned normal figures, we can diagnose a hyperacidity or a hypacidity.

The ratio between Ma and Su is taken as a secretion — quotient and normally is found to be 1; hence a material difference either to one side or the other leads to a diagnosis of hypersecretion or hyposecretion.

The motility quotient is found by using the formula, $\frac{300 - Su}{300}$; normally this quotient varies between $\frac{7}{8}$ and $\frac{9}{10}$ and anything above or below these figures determines a hypermotility or a hypomotility.

Acting on the suggestion given to me by Professor Ewald, I determined to apply the Sahli method to a series of cases taken from the rich material of the Polyclinic and some from the wards of the Königin Augusta Hospital, for the purpose of ascertaining its practical utility and whatever advantages it possessed.

Owing to the fact that the Gerber butyrometric method for the quantitative determination of fat requires a special centrifuge, which was not at my disposal, I employed another method, that of Schmid-Bondzynski,[10] for the same purpose. This is a much more delicate method than the Gerber but requires more time.

The following table as a result of my experience with this test is submitted with comparative diag-

| Series No. | Amt. Introduced. | Amt. Withdrawn. | "Residue." | To. | Su. | Ma. | Acidity of Pure Gastric Secretion | Diagnosis according to the Sahli Test-Meal. | | | Clinical Diagnosis. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Per cent. | | | | |
| 1 | 300 | 110 | 87.09 | 197.09 | 99.445 | 97.645 | 29.5 | Hyperacidity | ..... | ..... | (Not mentioned.) |
| 2 | 300 | 35 | 150. | 185. | 163.78 | 22.22 | 9.5 | Hyperacidity | Hypersecretion | Hypomotility | (Not mentioned.) |
| 3 | 300 | 200 | 60. | 260. | 93.46 | 166.54 | 5.1 | Hyperacidity | Hyposecretion | Hypomotility | Ulcus ventriculi. Benign pyloric stenosis. Muscular hypertrophy. |
| 4 | 300 | 10 | 33.3 | 52.3 | 12.264 | 40.036 | 0.47 | Hypacidity | Hyposecretion | Hypermotility | Hypersecretion. Cholecystitis. Neurastheria. |
| 5 | 300 | 100 | 14.118 | 114.118 | 47.39 | 66.728 | 15.6 | Hyperacidity | Hyposecretion | ..... | Atonic ventriculi. Reu mobilis. |
| 6 | 300 | 90 | 66.6 | 156.6 | 68.31 | 88.29 | 14.2 | Hyperacidity | ..... | ..... | Chronic gastritis. Hypochlorhydria. Splanchnoptosis. |
| 7 | 300 | 65 | 150. | 215. | 105.23 | 109.77 | 2.1 | Hypacidity | ..... | Hypomotility | Splanchnoptosis. Hyperacidity. |
| 8 | 300 | 75 | 34.61 | 109.61 | 28.78 | 80.83 | 14.3 | Hyperacidity | Hyposecretion | ..... | Ulcus ventriculi. |
| 9 | 300 | 110 | 150. | 260. | 17.57 | 242.43 | 1.1 | Hypacidity | Hyposecretion | Hypermotility | Colitis. |
| 10 | 300 | 105 | 150. | 255. | 177.857 | 77.143 | 7.2 | Hyperacidity | Hypersecretion | Hypomotility | Carcinoma ventriculi. Lesser curvature (?) |
| 11 | 300 | 85 | 23.08 | 108.08 | 14.44 | 93.64 | 1.9 | Hypacidity | Hyposecretion | Hypermotility | Chronic gastritis. Splanchnoptosis. Pulmonary tuberculosis. |
| 12 | 300 | 16 | 100. | 116. | 13.84 | 102.16 | 0.8 | Hypacidity | Hyposecretion | Hypermotility | Cholecystitis. |
| 13 | 300 | 230 | 75. | 315. | 207.79 | 107.21 | 10.7 | Hyperacidity | Hypersecretion | Hypomotility | Hypersecretion. Hyperchlorhydria. Atonic ventriculi. |
| 14 | 300 | 160 | 93.75 | 253.75 | 46.48 | 207.27 | 7.1 | Hyperacidity | Hypersecretion | ..... | Albuminuria. Neurasthenia. |
| 15 | 300 | 105 | 150. | 255. | 168.21 | 86.79 | 3.2 | ..... | ..... | Hypomotility | Atrophic gastritis. |
| 16 | 300 | 285 | 23.07 | 308.07 | 252.41 | 55.66 | 3.7 | ..... | Hypersecretion | Hypomotility | Atonic ventriculi. |
| 17 | 300 | 135 | 50. | 185. | 54.95 | 130.05 | 7.3 | Hyperacidity | Hyposecretion | ..... | Atonic ventriculi. Achlorhydria. Cholecystitis. |
| 18 | 300 | 255 | 27.27 | 282.27 | 207.55 | 74.72 | 33.09 | Hyperacidity | Hypersecretion | Hypomotility | Catarrhal gastritis. |
| 19 | 300 | 90 | 150. | 240. | 130.60 | 109.34 | 2.4 | Hypacidity | ..... | Hypomotility | Catarrhal gastritis. Achlorhydria. |
| 20 | 300 | 220 | 58.53 | 278.53 | 194.44 | 83.09 | 47.7 | Hyperacidity | ..... | Hypomotility | Hypersecretion. |

noses, the one made according to the Sahli method, the other according to the clinical signs, together with the use of the Ewald-Boas test-meal.

In looking more closely over the table one is struck by the wide difference in many instances in the figures of the To and Acidity columns from the normal figures; again, in comparing the clinical diagnoses with those made according to the Sahli method, we notice the lack of agreement, especially in cases Nos. 4, 6, 17, and 19. All the patients were, of course, treated in accordance with the clinical diagnosis, and under such, improved or were entirely cured.

The very principle of the Sahli test-meal is open to criticism; it is not, as Sahli says, homogeneous for even on standing, within a very short time, there is a separation of the fat toward the surface and the thicker portion of the soup sinks to the bottom. Sahli also stated that this homogeniety was maintained by the constant churning through the peristaltic action of the stomach. This may also be objected to, for in every one of my cases, no patien was allowed to express the test-meal, but I aspirate. in each case, introducing the stomach tube at var-

ous levels and very often receiving the fluid at first, followed by the thicker portion, showing that the soup did not remain homogeneous within the stomach. This latter point was also observed by Koziczkowsky,[11] who says that the unequal distribution of fat within the stomach places the usefulness of the test in question. Bönniger,[14] in a criticism of the Sahli method, says that there is no equal distribution of the fat within the stomach, and on this ground alone depreciates the value of the test. Another cause for criticism is the fact that, owing to the presence in the stomach of a fat-splitting ferment, as was studied by Volhard,[15] the amount of fat remaining in the stomach after aspirating the test-meal is by the calculation entirely too small. Seiler,[5] however, in his work investigated this point, and states that the splitting up of the fat does not yet occur within the hour the test-meal remains in the stomach.

Owing to the fact that the soup as mentioned above, and as described by Sahli, was not homogeneous, I added mucilage of acacia in amounts of 30-50 c.c. to the soup, to make an emulsion and thus distribute the fat equally. I employed this emulsion in the second ten cases of my series. On aspirating, however, the homogenity was always disturbed in all cases in which mucus in any material amount was present. This corresponded with the findings of Zweig,[13] who says that the homogenity of the soup is disturbed in all cases of chronic gastritis with increased mucus and in cases of marked motor insufficiency.

Zweig made use of fifty-two cases, and found, as a rule, that the percentage acidity of free hydrochloric acid was considerably diminished as compared with Sahli's figures. In thirty-three cases he found varying combinations indicative of disturbances of the different functions of the stomach. No one case of nervous dyspepsia existed without showing a disturbance of function according to the Sahli test-meal. He further says that in cases of subacidity and possibly anacidity, the Sahli method is not commendable, as the irritation caused by the Ewald-Boas test-meal is more marked than when using the Sahli test-meal, and where free hydrochloric acid occurs with the former, it may be absent in the latter.

If we titrate the stomach contents in patients who have received an Ewald-Boas test-meal and also the Sahli meal, we will find that the figures resulting from each do not agree, but that the acidity after a Sahli meal is invariably less than after an Ewald-Boas meal. This is probably due to the fact, as above mentioned, that the roll of the Ewald-Boas meal stimulates the stomach glands to a greater degree than the bland soup of the Sahli meal and thus causes an increased secretion.

I made comparative examinations in many of my cases and found this always to hold true. I will mention only the few following cases:

| CASE NO. | EWALD-BOAS MEAL. | | SAHLI MEAL |
|---|---|---|---|
| 4 | Total acidity | 48 | 10 |
| | Free HCl | 28 | |
| 13 | Total acidity | 54 | 10 |
| | Free HCl | 34 | |
| 18 | Total acidity | 60 | 24 |
| | Free HCl | 42 | |
| 20 | Total Acidity | 82 | 49 |
| | Free HCl | 46 | |

Vannini[16] also made comparative examinations and was led to similar results.

Since its publication, the Sahli method has been criticised very freely by several observers, but no one, I believe, has called attention to the inconsistency in the determination of the acidity of the pure gastric juice. Sahli says that if on titrating the stomach contents we find a high percentage acidity then we should consider, in addition, the percentage acidity of free hydrochloric acid, as organic acids may be present in large amounts.

This test-meal serves well for the detection of lactic acid, as the soup contains none; in addition pepsin, rennet, starch digestion, etc., may be examined for in the same manner as when using other test-meals.

The application of the test-meal enables one to make a differential diagnosis between hyperacidity and hypersecretion which with the ordinary methods we are unable to do. Again, in the large number of different stomach conditions on a nervous basis which the internist sees, one can always find a disturbance of function when using the Sahli test-meal.

In the progress of clinical medicine we are continually looking for aids in order to perfect our diagnoses. Such aids, however, in order to be made use of by the general practitioner, must be practicable and not involve too much time in their employment. The Sahli test-meal certainly cannot be considered a practical aid, for no practitioner can allow himself the length of time necessary to carry out this test in the ordinary routine of practice, and therefore its use must remain limited to a hospital or sanatorium.

The Ewald-Boas test-meal has now been in use for many years, and has given satisfaction even to the specialist in gastric diseases, but this is no objection to the introduction of newer tests, which, in order to replace what we already have, must be simpler and give us at least as good results. A careful comparison of both tests fails to impress us with the results claimed by Sahli.

In summing up, I may mention:

1. When made up according to Sahli's description, the soup is not homogeneous.

2. The application of the test-meal to general practice is entirely impracticable.

3. The time consumed in determining results is incommensurable with the advantages derived from its use.

4. The lack of agreement in every case between the clinical diagnosis and the diagnosis according to the Sahli method.

5. The possible diagnosis by means of the test-meal, of function disturbance.

6. The diagnosis between the degree of acidity and amount of secretion.

Before concluding I wish to express my sincere thanks to Prof. C. A. Ewald and Dr. L. Kuttner for the material placed at my disposal and also for the great interest shown by them in carrying out the purposes of this paper.

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## A TYPICAL CASE OF SPORADIC CRETINISM.

By FRANK P. NEWELL, M.D.,
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Reports of numerous cases of cretinism have been published in England, on the continent of Europe and in America (Osler collecting sixty cases in America up to 1897); but considering this case of special interest, I wish to report it to the medical profession.

The history of the case is as follows: L. R. is a boy of thirteen years, living in northern Wisconsin, and born of American parents. The family history is negative, with the exception that the

mother has a goiter. The father and three brothers are in good health and mentally bright. The symptoms first appeared at the age of nine months.

When I first saw the child, seven weeks ago, he was 36 inches high, and weighed 37 pounds. His head was large, 20½ inches in circumference; hair coarse and straight, but dark, and the forehead low. The eyes were small, half closed, with swollen lids, and far apart, the base of the nose being wide. The nose was pugged, the lips were thick, the mouth half open, and the tongue thick and protruding. The teeth numbered twenty, all very much decayed, and only two of his second teeth had appeared. The neck was short and thick, with small, fatty tumors in the supraclavicular region, just behind sternomastoid muscle. The abdomen was large, resembling that of rickets. There was a kyphosis of the spine. The hands and feet were short and stumpy. The whole body was covered with a scaly eczema. The perspiration was scanty. Temperature was 96° F., pulse 78. The appetite was poor and bowels constipated. The sexual organs were undeveloped. He was dull, taking no interest in his surroundings, seldom smiled, and never became excited. He could not talk and walked in a clumsy way.

The treatment was begun immediately, and consisted of the administration of the thyroid extract in 1 gr. doses twice daily for one week; then 1 gr. three times daily for a week; then 2 gr. twice daily, increasing to 2 gr. three times daily, which amount is the present dose.

The results have been marvelous. After six weeks of treatment the facial expression changed entirely; the thickness almost entirely disappeared from the lips, tongue, neck, feet, and hands. The large abdomen was very much reduced. The eczema disappeared. Temperature rose to normal, and perspiration was increased. The bowels moved regularly. He became more active, took more interest in things, and tried to walk. He grew one inch.

The interesting features of this case are: (1) That the patient could have reached his present age without his case receiving proper diagnosis and treatment; (2) that the patient was born in the United States of American parents, and (3) the prompt response to the treatment in view of the advanced age of the child.

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**A Rational, Efficient, and Rapid Remedy for Gonorrhœa.**—W. H. Whitehead denies the truth of the theory that the gonococci invade the subepithelial spaces. It is rather the sulci and crypts in the urethral mucosa and their associated ducts that are the receptacle of the virus and that defy cleansing by any mere irrigation. He finds that the plugs blocking up these structures are best removed by a process of digestion. For this purpose he has devised a salve, the composition of which is as follows: Yellow oxide of mercury, gr. xx; oleic acid, ℥j; oxide of silver, ℥ij; powdered scale pepsin, powdered caroid, ää ℥iv; albolene, lanolin, water, ää ℥ij. He thus describes the treatment of a supposed case: A young man comes to the office with a plain case of gonorrhœa; was exposed five days ago; first noticed a little sticking of the mouth yesterday, drop of matter this morning; now has a drop, and signs on the clothing; has used no injection. Have the patient urinate, and instil one-half drachm of salve down the urethra two inches, put a bat of absorbent cotton over the penis to catch the salve that comes back, tie it on loosely, instruct the patient to keep the dressing on until he is compelled to urinate, and to come back twice daily for the insertion of the salve, morning and evening. Give internally this compound: sandal oil, ℥vj; powdered cubebs; benzoic acid, ää ℥j; powdered pepsin, ℥iv. M. ft. mass. Divide into 30 equal parts; put in cachets or cold wafers. Sig.: One before meals, and one at late bedtime. He finds that the salve is painless, the discharge is arrested by a two or three days' use of it, and radical cures are obtained by a dozen applications—six days' treatment. When all discharge has ceased for forty-eight hours and the first urine is clear, he suspends the local treatment, but continues the internal, or urine sterilizing treatment, for a week or ten days longer. If the discharge returns, he uses the salve again for one dozen instillations, by which time the discharge will have again disappeared entirely. He always continues the internal treatment during the entire course of the disease, does not irrigate, and does not let the patient use any injection.—*Therapeutic Gazette.*

MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

GEORGE F. SHRADY, A.M., M.D., EDITOR.

THOMAS L. STEDMAN, A.M., M.D., ASSOCIATE EDITOR.

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## WOMEN IN MEDICINE.

To-day, in America and England, as in most of the other chief civilized countries of the world, there is no law prohibiting women from practising medicine and surgery. In the United States women as physicians and surgeons are making great headway, and there are undoubtedly more female doctors in this country than in any one country of Europe. It is somewhat curious, too, that Russia, which is the most backward of the nations in progressive movements, should contain a very large number of female medical practitioners, while Great Britain—which is generally regarded as the land in which the most enlightened views take their rise and flourish—does not take kindly to the woman doctor.

The *Nineteenth Century*, November, contains an article dealing with the medical woman question in Great Britain, written by a woman. The writer, after remarking that there can be but two opinions as to nursing being an appropriate calling for women, expresses surprise that when it comes to the profession of medicine, which is but a higher, more theoretical and learned development of the same science of medical nursing, she is still, in spite of plenty of testimony to her efficiency, looked upon dubiously, even as medical attendant by those of her own sex.

Women have practised medicine and surgery from time immemorial, and, according to history, as far back as the times of the early Greeks, met with opposition, but from men and not from women. To-day, in England, it is the women themselves who refuse to countenance their sisters as medical practitioners.

Concerning the origin and development of the woman doctor in Great Britain, it is related that the London School of Medicine for Women was opened in 1874; that three others have been inaugurated in the metropolis since then; that there are now six schools in England where they can study with men, and, though Oxford and Cambridge are closed to them, there are six universities in which they can obtain medical degrees and diplomas on equal terms with men.

It would seem that for a period of almost thirty years, women in Great Britain have had ample opportunity for study and hospital practice, and the results, in numbers taken from the last census, are that there were then 212 fully qualified medical women registered in the country—including Ireland and Scotland, 249. The New Hospital for Women, founded by a woman, has a staff entirely composed of females. The Royal Free Hospital has women house surgeons and physicians as well as men acting in the same rôles. Several poor-law infirmaries and county asylums employ medical women in their female wards. There is, however, but one female medical officer for vaccination and one lady bacteriologist.

Women, too have achieved their fair share of distinction in examinations in England, and have proved that at least they are by no means deficient in brain-power and in perseverance. Among those who have taken degrees from the University of London, seven have won the gold medals offered by that institution. In 1892 a lady took first class honors; the same lady, in 1893, qualified for gold medal in surgery, and in 1896 won the additional and unique honor of taking the degree 'M S." London.

The writer endeavors to explain why it is that there exists a prejudice in Great Britain against women as physicians and surgeons, a feeling which is especially strong among members of their own sex. It is pointed out in the article that the existence of this sentiment among women against the employment of lady doctors, is in many instances to their own disadvantage. "There are," continues the writer, "many thousands of women who would rather suffer for years than describe their symptoms to a man, who neglect their health because they have a repugnance to consulting a doctor, until their ailments, slight at first, through neglect have become incurable. Many long illnesses, painful operations, and supervening deaths might probably have been avoided in the past, if these women had either less modesty about consulting a medical man, or retaining that old-fashioned characteristic, enough confidence and faith in their own sex to consult a qualified woman in the capacity of a doctor."

Lastly, the suggestion is thrown out, that in every township of importance in Great Britain, a qualified medical woman should be appointed officer of health, by such means, it is thought, women in general would be induced to place more confidence in doctors of their own sex, and would make use of them, the result being that the nervous diseases of women so prevalent to-day, if treated by medical women, would greatly decrease.

Women in the United States practising as physicians or surgeons are in a far better position than their British sister practitioners. There is little or no prejudice against them, but, like other women workers, they must stand or fall upon their own merits. Some of them are prosperous members of the community. In the *New York Tribune*, November 22, is an article treating of the Woman's Medical College of Pennsylvania. In reference to the question of what becomes of its graduates, an inquiry was instituted, and an effort made to trace the careers of 244 of these. Seventy-six women stated the monetary value of their practice in a year. Twenty-four made $1,000 a year or more, but less than $2,000; twenty as much as $2,000, and less than $3,000; ten as much as $3,000 and less than $4,000; five as much as $4,000 and less than $5,000; three as much as $5,000 and less than $15,000; four reported sums varying from $15,000 to $20,000 a year. Ten reported less than $1,000 a year. The average income was found to be $2,907.30.

Perhaps, the main reason why medical women do not prosper in Great Britain as in other countries,

is the innate conservatism of the British people, and particularly of its women. Unlike the members of the female sex in the United States, they have not yet learned to be independent and to make their own way in the world, but still retain old-fashioned notions as to the duties which fall within the province of a woman. Undoubtedly, there is a large field everywhere for women of the medical profession, and it is just as certain that they are here to stay.

## SPOTTED FEVER OF THE ROCKY MOUNTAINS.

In the spring of 1902 Dr. A. F. Longeway, Secretary of the Montana State Board of Health, engaged the services of Drs. L. B. Wilson and W. M. Chowning of the University of Minnesota to investigate the "spotted fever" then prevailing in the Bitter Root Valley. Surgeon-General Wyman of the Marine Hospital Service detailed Surgeon J. O. Cobb to also investigate the disease, and his report was published in the Public Health Reports, Volume 17, No. 33, August 15, 1902. The report of Drs. Wilson and Chowning and that of Surgeon Cobb were commented upon editorially in the MEDICAL RECORD, October 4, 1902. On April 22, of this year, Dr. John F. Anderson of the Hygienic Laboratory, U. S. Public Health and Marine Hospital Service, according to instructions, proceeded to Montana to make further investigations, the results of which he has embodied in bulletin No. 14. In the first instance the writer suggests as the name for the disease now known as the "spotted fever" of the Rocky Mountains, that of "Tick Fever," as there are already two maladies sometimes called "spotted fever."

The disease has been known in the valley of the Bitter Root River in western Montana for about twenty years. It has also been known clinically in Idaho for many years, while it prevails in northern Nevada and is met with in Wyoming and Oregon. The affection is present only in the spring and early summer. The parasite which is presumably the cause of the disease was discovered by Drs. Wilson and Chowning, and was described by them as an ovoid intracorpuscular body showing amœboid movements. Dr. Anderson states that this parasite apparently lies between the parasite of malaria and that of Texas cattle fever, and from the constancy of these bodies in the blood of persons suffering with "spotted fever," from their persistence for some time in the blood of these persons after recovery, and from their absence from the blood of persons suffering with other diseases and of healthy persons, concludes that it is very probable they are the cause of the disease, and that one more has been added to the rapidly growing list of diseases of man due to animal parasites. The mode of infection of the disease is by the process of elimination, supposed to be by means of ticks. These are active when the disease prevails and are absent when the disease has died out. Mosquitos do not appear in the Bitter Root Valley until after the first cases of fever develop, and remain some time after the last cases appear. Bedbugs and other house insects, the writer thinks, are well excluded, by the fact that there has never been known an instance in which two cases have occurred the same year in the same house. Other contributory evidence pointing to the tick as the means of transmitting the disease is forthcoming. Like the mosquito in malaria and in yellow fever, the writer thinks that the tick plays the part of intermediary host in "spotted fever." Nevertheless, although all the known facts favor the belief that the tick conveys the disease, the question cannot be definitely decided until carefully controlled experiments have been made on non-immune persons. The incubation of spotted fever is from three to ten days, usually about seven. Little or no fever in the morning with a slight rise in the afternoon, until the chill comes on. Then the rise is abrupt, and henceforward the temperature gradually rises in the evening, with a slight morning remission. The maximum is usually reached on the eighth to the twelfth day; then, in a favorable case, gradually falls, becoming normal about the fourteenth day, generally going to subnormal for a few days. In fatal cases the fever remains high, from 104° to 105° or 106°, and the morning remissions are very slight or not present. The pulse runs very high—out of all proportion to the temperature—usually from 110 to 140—a pulse of 120 not being unusual with a temperature of 102°. The eruption appears, as a rule, on the third day, first on the wrist and ankles, then, on arms, legs, forehead, back, chest, and, last and least, on the abdomen. The spots when they appear are of a bright-red color, macular at all times, from a pin-point to a split pea in size. In severe cases they soon become darker and in some cases are almost purple. From about the sixth to the tenth day of the disease they are distinctly petechial in character. In favorable cases, on or about the fourteenth day they begin to lose their petechial character, and as the fever declines the eruption begins to fade. When convalescence is well advanced desquamation commences and extends over the entire body. Gangrene of the finger and toes, and still more frequently of the skin of the scrotum and penis may occur in very severe cases, while the skin is always jaundiced to a greater or less degree. The digestive system is greatly disordered, and constipation is present throughout the course of the attack. The nervous system does not appear to be severely affected, but there is a great deal of pain in the head, and back, and muscular soreness even in mild cases, lasting until recovery. Dr. Anderson was greatly struck by the close resemblance between spotted fever and typhus fever, but while typhus fever is intensely contagious spotted is exactly the reverse.

Quinine seems to act as a specific in the treatment of spotted fever and should always be used. Other remedies, however, are valuable as adjuvants. The drinking of water in large quantities is recommended in order to flush out the kidneys.

The writer thinks that the disease, considered from a public-health standpoint, is of far greater importance than it was formerly thought to be, for the reason that it is spread over a comparatively wide area. Of course if ticks are really the cause of the disease, their destruction will put an end to the malady. Dr. Anderson points out hat, owing to the size and nature of the region in which ticks abound, this would be an almost impossible task. He advises, when conditions will permit, burning the undergrowth and stubble as an effective method for the destruction of ticks.

## TREATMENT OF ACUTE NEPHRITIS.

No disease affecting the inhabitants of the civilized world, holds a more prominent place than nephritis in its different forms. The treatment, too, of this complaint taxes the physician's skill to the utmost. This is notoriously the case with acute nephritis, for the reason that here drugs are of little use.

Dr. Thomas J. Horder, writing in the *Practitioner*, November, describes the treatment of nephritis generally, and especially that of the acute stage. He points out that next to disorders of the digestive tract diseases of the kidneys are more than all others directly influenced by dietetic considerations, and is of the opinion that it is along the lines of metabolism that any advance in therapeutic knowledge can be expected. Dr. Horder is a follower of von Noorden, and believes with him that the best method to treat nephritis successfully is to study the elimination of the food principles themselves. Von Noorden, in his work "Disorders of Metabolism," advises the treatment of acute nephritis by paying strict attention to diet. The author classes the following amongst the substances excreted with difficulty by a person suffering from acute nephritis, urea, creatinin, pigments, hippuric acid, phosphates, inorganic sulphates. The substances well excreted are: uric acid, xanthin bases, aromatic substances, ammonia, amido-acids, chlorides, and carbonates. As regards water, the important observation is made that in the early stage of acute nephritis water is eliminated with difficulty; later on, this difficulty passes away. The dietary recommended in acute nephritis may be set out in the following scheme: (1) To be avoided (*a*) Because of creatinin produced: meat-extracts, meat-broths, eggs. (*b*) Because of pigments produced: foods containing hæmoglobin. (*c*) Because of hippuric acid produced: green vegetables. (2) To be given sparingly (*a*) Because of urea and sulphates produced: milk. (*b*) Because of irritant effect during excretion: water. (*c*) To be given with impunity in all but severe cases, because no injurious end products are produced: cream, butter, white vegetable soups, puddings made from oatmeal, flour or maize, white bread. To neutralize the bad effects of phosphates in milk, a little calcium carbonate is added; this enables the phosphates to be got rid of in the fæces. Von Noorden does not believe in an exclusive milk diet for all cases of acute nephritis, nor does he advise the procedure usually followed of giving an unlimited supply of fluids. For severe cases in which there is partial or complete suppression of urine, increasing œdema, and threatened uræmia the author allows only a pint of milk a day, and avoids other fluids. Thirst is relieved by ice or very small quantities of water, a little alcohol is allowed. Free diaphoresis is encouraged. After four or five days, or in cases less severe, such as are common during or after acute infectious diseases, milk up to two pints and a half is allowed with calcium phosphate added, and half to three-quarters of a pint of sweetened cream, previously sterilized. If more food is required no more milk is given but articles are added as in three above. Fluids are still restricted so long as there is oliguria and œdema, and diaphoresis is favored; but if the excretion of water is good throughout, or has returned after being deficient, fluids should be given freely. If the œdema is passing off, diaphoresis is unnecessary.

The convalescent stage demands more food and a more varied dietary. White bread, legumes, cream-cheese, a little egg or meat may be added, taking care to keep the total amount of proteid below 100 grams per diem. At this stage fluid will be well borne and does much good. If œdema reappears the skin must be stimulated or a dry climate chosen for the patient. In all stages diuretic drugs, whether acting upon the heart or directly upon the kidneys, are of no use.

Dr. Horder states that, according to his views, von Noorden is the most eminent authority upon kidney disorders now living, and he agrees, with the German writer in all that he says regarding the treatment of acute nephritis. Few will be found to dispute the assertion that drugs exert little or no beneficial influence on the course of acute nephritis, and the majority of physicians will confirm the statement that in this condition a suitable diet is the first consideration.

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## GASTROPHILUS EPILEPSALIS LARVÆ IN THE SKIN OF AN INFANT.

The *St. Paul Medical Journal*, October, 1903, contains an account, by Dr. Burnside Foster, of the appearance of the above larvæ in the skin of an infant. The case was that of a female infant three weeks old, born prematurely and bottle-fed from birth. Its nurse was the first to notice a papular and pustular eruption of the neck beneath the jaw, consisting of not more than eight or ten lesions and one at the back of the neck. There was also noticed a pustule on the palm of the hand and one between the great and second toes of the right foot. Soon after attention had been called to this eruption, what appeared to be a small living worm, which had evidently come from the pustule, was found between the toes. Later a similar worm came from the palm of the hand and one from the pustule at the back of the neck.

The "worms," of which three specimens were obtained, were about one-fifth of an inch in length and evidently the larvæ of some species of fly. The specimens were sent to F. L. Washburn, State Entomologist, for identification, and by him forwarded to D. W. Coquillet, a specialist in diptera in the Department of Entomology at Washington, who identified them as Gastrophilus epilepsalis, a species somewhat closely allied to Gastrophilus equi, or bot-fly.

F. L. Washburn has also written an account, published in the *St. Paul Medical Journal*, of the little that is known of the history of the parasite, which is as follows:

"The genus belongs to the family of flies known as Œstridæ, types of which are found in the bot-fly of the horse, and in the so-called ox warble, which renders the backs of cattle sore and seriously impairs the value of the hides. Both of these flies lay their eggs on the hairs, which eggs later are licked off. In November, 1899, at the meeting of the Illinois Medical Association at Chester, Dr. H. C. Adderley reported a case under his charge of a boy ten years old, who had been subject to markedly characteristic epileptic spasms for four years, sometimes having twenty spasms in twenty-four hours. The general condition of the bowels was constipated. Upon the use of a cathartic, he noticed hundreds of maggots in the excreta. No one recognized these parasites, and French named them Gastrophilus epilepsalis.

He claims this case has all the appearance of being genuine epilepsy, the boy having globus hystericus with the spasms, and the other usual symptoms accompanied the attacks, including mental aberration."

Washburn thinks, from the language used by French, that the latter was of the opinion that the larvæ gave rise to other larvæ, and that when this occurred spasms would take place. Washburn, however, points out that with a few rare and well identified exceptions, reproduction in insects is confined to the adult or perfect form, hence the seeming absurdity of French's statement.

When the specimens of maggots were sent by Dr. Foster to F. L. Washburn they were at first thought to be Lucilia, but, as said before, D. W. Coquillet pronounced them Gastrophilus epilepsalis: "In other words, he says these subcutaneous maggots are the same as French's type, which was an intestinal parasite. Another specialist in diptera thinks that the parasites may be Lucilia after all.

Since the above was published in the *St. Paul Medical Journal*, Washburn has found an article, by Dr. Fred. Humbert, in Vol. V of the "Proceedings of the U. S. Natural History Museum, 1882," describing a case of maggots infesting man apparently similar to that of Dr. Foster. These maggots were identified by the late Dr. Riley, who was then U. S. Entomologist, as the larvæ of Lucilia macellaria. The larva of this fly being known as the screw-worm. Dr. Riley's identification tends to confirm Washburn in his views that the maggots sent him by Dr. Foster were Lucilia.

The case described in the *St. Paul Medical Journal* is interesting, both on account of its rarity, and owing to the difficulty in identifying the species of fly concerned. It would seem that Washburn is probably right when he suggests that the species is wrongly named, and that it has no connection whatever with epilepsy. At any rate, it is quite certain that there is much yet to learn with regard to its identification and life history.

### Insanitary Restaurant Kitchens.

Reference is made by the Medical Officer of Health for the City of London in his report for the past five weeks, published October 17, to the inspection of kitchens of restaurants. A portion of this report is contained in the *Sanitary Record* November 5, sixty-four of such kitchens were inspected for the first time, and many grave sanitary defects were discovered. Several of the kitchens were stated to be in a very dirty condition, the lighting and ventilation being bad, the floors defective, the cisterns uncleansed, and the sinks, ovens, and cooking utensils very much below the standard called for.

"As this inspection progresses," adds Dr. Collingridge, "I am led to more and more appreciate the great advantages accruing therefrom to the health of the customers using these restaurants, and still more to the workers who are compelled to spend their time underground in badly lighted, unventilated, and insanitary kitchens."

Full details are given in the report of the campaign directed against the sale of contaminated shell fish, and of ice-creams made on insanitary premises. With regard to ice-creams it is stated that: "In cases in which the manufacture of the article is carried on outside the city the Medical Officer of Health of the district in which the ice-cream is made is advised of the name and address of the manufacturer, and is asked for information as to the sanitary condition of the manufactory. In those instances in which unfavorable replies are received, steps are at once taken to prevent ice-creams manufactured at these places from being sold until the occupiers have complied with the requirements of the Medical Officer of Health of the district, and an intimation has been received to that effect."

There are doubtless insanitary kitchens in connection with many restaurants in New York, where these places of *public* entertainment are proportionately more common than in London. As to ice-cream, the manufacture and consumption of this delicacy is much larger than in the British capital. That food cooked in dirty kitchens is not conducive to good health, needs no emphasizing. Ice-cream manufactured under insanitary conditions cannot but be productive of a large number of cases of gastric disorder, and on occasion of serious sickness. The matter of both restaurant kitchens and of ice-cream manufacture is worthy of investigatin in New York.

### Tuberculosis among Indians.

The *New York Evening Post*, November 21, publishes a letter on this subject from D. A. Sanford, Bridgeport, Okla.

The writer had recently received a letter from the Rev. H. J. Kilemer, missicnary to the Cheyenne Indians, at Hammon, Okla., in which he said about tuberculosis: "I believe over 50 per cent. of the deaths occur from that cause. . . . An educated Cheyenne Indian told me: "In old days, the Cheyennes and Arapahoes were healthy and strong, with but few deaths. Many were killed in fights with white people, or with other Indians. They went barefooted over ice and snow, and through water. Now many have consumption. They catch the disease one from another." The Hon. W. J. McConnell, ex-governor of Idaho, wrote to the same effect and declared that Indian children were taken from their homes forcibly, and placed in poorly ventilated dormitories with tuberculosis patients. Mr. McConnell closed a four-year term as United States Indian inspector last July, and said he knew whereof he wrote.

Mr. Sanford enters a strong plea for just and humane treatment of the Indians, and asserts that if white persons were compelled to live under the conditions which are forced upon the Indian children, people would be aroused and demand a remedy. Races like Indians, who for generations have been accustomed to live a free healthy life in the open air, are peculiarly susceptible to tuberculosis when cooped up in a house. Contagious diseases of any kind will spread with amazing rapidity among such people, as it is virgin soil in which to take root. For this reason consumption —although contagious only to a slight extent— will quickly spread among Indians when they are brought into direct contact with those suffering from the disease. If the facts are as narrated by the correspondents of Mr. Sanford, steps should be promptly taken by the national authorities to safeguard the health of Indian children, and to permit them to live under proper sanitary conditions.

### Sanatoria for Consumption.

The opening of the King's Sanatorium for Consumptives, on November 5, has provided the opportunity to Dr. T. Glover Lyon to air his views with regard to sanatoria. His opinions, as expressed in a communication to the *London Times*, are so much to the point that they will, doubtless, meet with a ready response on this side. In the first instance the writer states that in England the cost per head, of the

more important public sanatoria is between £500 ($2,500) and £1,000 ($5,000). In Scotland satisfactory buildings have been erected for less than £50 ($250) a bed. The writer, commenting on this circumstance, remarks: "It may be well, perhaps, that some stately sanatoria should be erected, but it is important to remember that these should not be regarded as examples for general imitation. What is wanted is a large number of cheap sanatoria spread over the country as quickly as possible. One objection to the erection of imposing buildings is that suitability to the purpose in view is often sacrificed to architectural effect."

Dr. Lyon then discusses the question of the exaggerated ideas that now prevail with regard to the results that follow treatment in sanatoria. He says: "There is a general belief that if a man gets consumption, he has only to go to a sanatorium and he will come out restored to his former health. Unfortunately, this is not so; and it may be safely said that only a small percentage of patients undergoing treatment in London chest hospitals, even if they proceed to sanatoria, go back permanently to their work. Yet no public provision is made for the rest except the workhouse infirmary. A large number live on their benefit societies and friends, forming potent foci for the spread of the disease." The writer strongly advocates the establishment of colonies for consumptives, and proceeds to deal with the rational treatment of the disease. He concludes that the most important agent in preventing consumption, an abundant supply of fresh air, is neglected. At present the air of offices, private and public, is usually so foul as to render the unfortunate persons occupying them an easy prey to consumption. The same holds good for most theaters and other places of public resort.

Dr. Lyon's statements apply with as much force to America, with respect to the treatment of consumptives, as to Great Britain. Prevention must be the watchword in order to stamp out or even to check the spread of pulmonary tuberculosis. The conditions of life of the poor must be improved if progress is to be made in restraining consumption, and most assuredly public and private buildings of every description should be ventilated far more thoroughly than they are at present.

## Work and Worry.

Professor Osler, at the opening of the new medical buildings of the University of Toronto, delivered an eloquent address, a part of which he devoted to the discussion of the above subject. He told the students that the master-word, if they were ambitious of making good headway in their studies, and a name in after-life, was work. Carlyle defined genius "as an infinite capacity for taking pains," and although some may take exception to the definition as not entirely accurate, there is no doubt that steady work is essential to success. There are men of the most brilliant intellect who are cursed with a lack of perseverance, and so despite their distinguished ability either fail utterly in the battle of life, or disappointed and soured, merely exist. A slow, wilted person, endowed with capacity for hard work and who is the possessor of determined will-power, will nearly always win in the race. It is the case of the hare and tortoise over again.

Dr. Osler asked this question: "How can you take the greatest possible advantage of your capacities with the least possible strain" and answered it in this wise, "By cultivating system." He then went on to say: "Let each hour of the day have its allotted duty, and cultivate that power of concentration which grows with its exercise, so that the attention neither flags nor wavers, but settles with a bull-dog tenacity on the subject before you." In regard to the much-debated point as to breaking down in health from overstrain, the speaker had this to say: "I deny that work, legitimate work, has anything to do with this condition. It is that foul fiend, worry, who is responsible for a large majority of the cases. The more carefully one looks into the causes of nervous breakdown in students, the less important is work *per se* as a factor."

The opinions of Dr. Osler have been uttered times without number by great men. Work, unless carried to a degree incompatible with keeping the body in good physical condition, has hurt and will hurt no one. Students, however, must take a sufficient amount of outdoor exercise, and enjoy an abundancy of fresh air, in order to be able to effectually concentrate their thoughts and to attack their studies with zest. It goes without saying, that worry should be avoided as far as is possible, and to attain this object the ambitious student must forego many youthful pleasures which might give rise to causes for worry.

## The Insanity Question.

The *New York Evening Post*, November 21, publishes the views of Mr. Goodwin Brown on the reported increase of insanity. Mr. Brown holds opinions which are diametrically opposed to those of the great majority of authorities on the matter. Nevertheless, as for ten years he was a New York State commissioner in lunacy, his conclusions cannot but be respected and must carry a certain amount of weight. The writer states that during his experience and constant association with insane people, both he and his associates decided that the popular ideas as to the increase of insanity were wrong, and that, in fact, mental disorders were not increasing but decreasing. He puts down the erroneous views on the subject, which he thinks prevail, to misleading statistics, and points out that in the States outside New York figures relating to the number of the insane cannot be relied on, for the reason that patients are not all in State institutions, and there is no central authority, like the New York Commission in Lunacy, to compel private institutions to make a regular report of the number of their inmates. Consequently, proceeding on this line of argument, statistics concerning insanity—with the exception of regular institutions—are all guesswork, as many victims of insanity are cared for at home and are rarely reported as insane by their families. Therefore, the figures for the United States Census for 1899 must be eliminated. Mr. Brown does not contend that insanity has not increased, but does assert that there are no reliable figures to prove an increase. He also calls attention to the fact that our food has improved, our working hours are shorter, our hours for recreation have been lengthened, and these conditions, among others, tend to improve the public health, and as the public health grows better insanity decreases. Mr. Brown is also of the opinion that the nervous strain of city life is not apt to bring about a greater amount of insanity than the loneliness of existence in the country.

It is doubtless true that statistics concerning insanity in this country outside New York State are not to be depended upon, but how can the increase of insanity be explained in those countries in which fairly reliable figures are given? With remarkable unanimity medical men in charge of insane asylums in every country of the world declare that mental affections are increasing, and even allowing that statistics are somewhat falla-

cious, such testimony must count for something. While granting that the figures which go to show an increase of insanity may be exaggerated, and that the more careful mode of tabulating cases points to an apparent increase—which really does not exist to the extent imagined—yet it must be conceded when all has been taken into consideration, that there are proportionately more mad people than ever before.

Exception can likewise be taken to Mr. Brown's expressed opinion that the nervous strain of city life is not one of the most important factors in the production of insanity. It would seem but reasonable to suppose that city life under existing modern conditions cannot but exert a maleficent influence on the nervous system. The strain of work and worry is not all, but there must also be considered the ill-effects of vice and dissipation which are so prominent features of city life of the day. On the whole, when all the evidence has been sifted and carefully weighed, the judgment of those in a position to speak with authority would probably be that insanity has increased and is still making headway, although with less speed than is generally *believed* to be the case.

## News of the Week.

**Philadelphia County Medical Society.**—At a stated meeting, held November 25, Dr. Alfred Stengel read the report prepared by a committee "On the Control of Infectious Diseases by the Municipal Authorities." Among the recommendations made was the notification of cases of laryngeal and pulmonary tuberculosis, the notification by householders as well as physicians of the existence of communicable diseases, the establishment of a pay hospital for infectious diseases, the fixing of definite periods of quarantine for cases of scarlet fever, diphtheria, and smallpox, the discriminating placarding of houses in which there are cases of infectious disease, the proper disinfection of such houses after recovery, removal or death of the patients. The discussion was participated in by Drs. W. M. Welch, A. C. Abbott, Jay F. Schamberg, H. A. Hare, L. F. Flich, Edward Martin, A. A. Cairns, J. C. Cooper, H. C. Masland, Mordecai Price, A. B. Hirsh, James M. Anders, and others. It was pointed out that all of the necessary powers were conferred on the Bureau of Health by acts of the Assembly passed in 1818 and 1885.

**Philadelphia Neurological Society.**—At a stated meeting, held November 24, Dr. M. Allen Starr read by invitation a paper entitled "Is Epilepsy a Functional Disease, and Is It Ever Curable?" He has studied 2,000 cases of epilepsy, 1,750 in dispensary-practice, and 250 in private practice. He pointed out certain analogies between so-called Jacksonian or focal epilepsy and epilepsy of the ordinary or idiopathic type, and he showed that a close relationship exists between the symptomatology of the two types of disorder. In the one, as in the other, there is often an aura of fairly constant character and distribution, and the same is true in a measure of the motor disturbance. The differences appear to be in degree rather than in character. The similitude of the recurring attacks of ordinary epilepsy would seem to point a definite lesion in some part of the brain, and such an inference is supported by the not uncommon discovery of organic disease, though of varying character in different cases. The almost invariable presence of mental deterioration likewise is suggestive of such disease. Dr. Starr was, therefore, compelled to reach the conclusion that epilepsy, as a periodic and convulsive disorder of paroxysmal recurrence, is an organic disease, and, as such, is incurable by either medicinal or surgical measures. Relief may be afforded, both with respect to the frequency and the severity of the seizures, but actual cure, with assurance that there will never be a repetition of the attacks, cannot be anticipated; and this position is borne out by clinical experience, for there are on record few, if any, cases in which such recurrence has not taken place, perhaps even after an exceedingly long interval. Of course it was not implied that palliative measures should be neglected, and that every precaution should not be adopted and every therapeutic resource not employed to reduce the number and the severity of the attacks. Dr. Martin W. Barr, Medical Superintendent of the Pennsylvania Institution for Feeble-Minded Children, presented a communication in which independently he expressed views closely in accord with those that had been enunciated by Dr. Starr. His conclusions were based on a study of about eight hundred cases. In the discussion, which was participated in by Drs. Weir Mitchell, F. X. Dercum, Chas. K. Mills, W. G. Spiller, W. W. Keen, A. A. Eshner, J. M. Taylor, and F. S. Pearce, some dissent was expressed from the views put forth, although in reality the divergence of opinion was really less pronounced than it appeared to be. On the one hand it was contended that epilepsy is rather a disease of the entire individual, though with cerebral localization, and, on the other hand, that a good deal, if not actual cure, could be accomplished by intelligent treatment. Some of the lesions found after death, it was pointed out, might have been secondary.

**Typhoid Fever at Butler, Pa.**—A most severe epidemic of typhoid fever is reported raging at Butler, Pa., with a population variously estimated at from 12,000 to 18,000, the number of cases of typhoid is believed to be at least 1,000, four of the physicians of the place being among the sufferers. One physician broke down from the strain of trying to attend sixty-five patients all down with typhoid fever. There were fifteen deaths up to the beginning of this week. Dr. Benjamin Lee, secretary of the State Board of Health, who has been studying the situation at Butler, states that he found the epidemic to be due to a breaking down of the filter beds from which the town had been getting its water supply. After this all the drinking water was pumped from a creek which drained the town sewage. The whole town was obliged to use this water while the beds were being repaired. A relief committee has been organized and an appeal for physicians, nurses, and funds to fight the epidemic has been sent to Harrisburg and Philadelphia. It is stated that the citizens have not the means at hand of improvising temporary hospitals, and in many places four and five victims of the epidemic are crowded together in one room. Governor Pennypacker has instructed Dr. Lee to make a further examination into the condition of the epidemic and report, with a view to possible assistance by the State out of the fund of $50,000 created by the last Legislature for the suppression of epidemics.

**The Western Surgical and Gynecological Association.**—The thirteenth annual meeting of this association will be held at Denver on December 28 and 29, 1903, under the presidency of Dr. Alexander Hugh Ferguson of Chicago. An invitation is extended to the surgeons and gynecologists of the Great West to attend this meeting and take part in its deliberations. The meeting was appointed for the holiday week to enable those belonging to the teaching faculties of medical colleges to attend with-

out interfering with their college duties. There will be a symposium on "Prostatic Hypertrophy," and the preliminary program contains in addition the titles of twenty-five papers to be read at the meeting. The secretary of the association is Dr. George H. Simmons, 103 Dearborn Avenue, Chicago, and the chairman of the committee on arrangements, Dr. Leonard Freeman of Denver.

**Dr. Senn Suffering from Pyæmia.**—A despatch from Kansas City states that Dr. Nicholas Senn is ill at the Coats House in that city. He is suffering from an infection of the right hand, which resulted from a slight wound received during operation upon a pus case. We but voice the hopes of the entire profession that the trouble will be a slight one and that recovery will be prompt and perfect.

**An Isolation Hospital in Essex County, N. J.**—A site for an isolation hospital for contagious diseases has been chosen by a committee of the Essex County Board of Freeholders. It is to be for the use of all the cities and towns in Essex county. Many attempts have been made to establish a hospital of this sort in different places throughout the county, but every time there has been a vehement protest. The property selected is in Belleville, and there are forty-three acres in all. The price paid for the tract is $25,000. The hospital will cost in the neighborhood of $175,000.

**Dr. Edward F. Brush** was chosen mayor of Mount Vernon, N. Y., at the election recently held, having been the candidate on the victorious Republican ticket. He has appointed Dr. Archibald M. Cambbell president of the Board of Health.

**Reception at St. Vincent's Hospital.**—The medical staff of St. Vincent's Hospital gave a large reception on the afternoon of November 24, in the reception rooms of the hospital, from 4 until 6 o'clock, in honor of Archbishop Farley. Among the guests present were many clergymen and physicians, and persons of social prominence. A luncheon followed the reception. The committee of arrangements was made up of Drs. Frederick S. Dennis, chairman; Francis J. Quinlan, Constantine J. McGuire, J. M. Ferrer, Joseph D. Bryant, Charles Phelps, William R. Pryor, and George D. Stewart.

**Typhoid Fever at the University of Chicago.**—President Harper of the University of Chicago has warned the students against a typhoid fever epidemic at the university. Several cases of fever have developed in the last few days, and the authorities, fearing an epidemic, have made strenuous efforts to stamp out the disease before it gets a firmer hold among the students. At a special meeting of all the students, recently held Dr. Harper personally asked university men and women to do all in their power to help the authorities in their efforts to rid the university of the disease and prevent the classes having to be broken up and the students sent to their homes. The students were asked to leave boarding places where the water was not boiled and to take all other precautions.

**The German Emperor.**—There is a rumor current in Berlin that the throat trouble of the Kaiser is not progressing as favorably as it at first gave promise of doing. It is denied that there is any indication of malignancy, but the cord from which the growth was removed continues inflamed, and it is even thought a second operation may become necessary. The cable brings the scarcely credible report that Dr. Albert Robin of Paris has been called in consultation with the German physicians. Dr. Schmidt recently returned to Frankfort, Dr. Gustav Spies of the same city taking his place. Before leaving Potsdam Dr. Schmidt was elected an honorary member of the Berlin Laryngological Society.

**Illness of the Tsarina.**—The Empress of Russia is suffering from suppurative otitis media, and some alarm is expressed in St. Petersburg lest the inflammation spread to the mastoid cells.

**Southern Surgical and Gynecological Association.**—The sixteenth session of this assocation will be held at the new Piedmont Hotel, Atlanta, Ga., on Tuesday, Wednesday, and Thursday, December 15, 16, and 17, 1903, under the presidency of Dr. J. Wesley Bovee of Washington, D. C. Dr. Willis F. Westmoreland of Atlanta is chairman of the Committee of Arrangements. The preliminary program contains the titles of forty-six papers to be read at this meeting.

**The Senn Prize Essay for 1904.**—The committee on the Senn Medal begs leave to call attention to the following conditions governing the competition for this medal for 1904: A gold medal of suitable design is to be conferred on the member of the American Medical Association who shall present the best essay on some surgical subject. The award will be made under the following conditions: (*a*) The name of the author of each competing essay must be enclosed in a sealed envelope bearing a suitable motto or device, the essay itself bearing the same motto or device. The title of the successful essay and the motto or device is to be read at the session at which the award is made, and the corresponding envelope is to be then and there opened and the name of the successful author announced. (*b*) All successful essays become the property of the association. (*c*) The medal shall be conferred and honorable mention made of the two other essays considered worthy of this distinction, at a general meeting of the association. (*d*) The competition is to be confined to those who, at the time of entering the competition, as well as at the time of conferring the medal, shall be members of the American Medical Association. (*e*) The competition for the medal will be closed on, and no essays received after, March 1, 1904. Communications may be addressed to any member of the committee, which consists of the following: Dr. James H. Dunn, Chairman, Minneapolis; Dr. M. L. Harris, 100 State street, Chicago; Dr. Floyd McRae, Atlanta, Ga.

**Mississippi Valley Medical Association.**—The thirtieth annual meeting of the Mississippi Valley Medical Association will be held at Cincinnati, Ohio, October 11, 12, and 13, 1904. Dr. B. Merrill Ricketts has been elected chairman of the Committee of Arrangements. The following are the officers of the association elected at Memphis: *President*, Dr. Edwin Walker of Evansville, Ind.; *President-Elect*, Dr. Hugh T. Patrick of Chicago, Ill.; *First Vice-President*, Dr. Bransford Lewis of St. Louis, Mo.; *Second Vice-President*, Dr. Geo. W. Cale, Jr., of Springfield, Mo.; *Secretary*, Dr. Henry Enos Tuley of Louisville, Ky.; *Assistant Secretary*, Dr. S. C. Stanton of Chicago, Ill.; *Treasurer*, Dr. Thos. Hunt Stucky of Louisville, Ky.

A resolution offered by Dr. S. P. Collings of Hot Springs, Ark., and adopted at the Memphis meeting was to the effect that "it is the sense of of the Mississippi Valley Medical Association that measures be taken by boards of health, boards of education and school authorities, and where possible, legislation secured, looking to the examination of the eyes of all school children, that disease in its incipiency may be discovered and corrected."

**Harvard Medical School Buildings.**—The Boston correspondent of the *Commercial Advertiser* says

that announcement has been made by the Harvard Corporation that the new Harvard Medical School buildings, in course of construction near the Fenway in Boston, will probably be ready for occupancy in the fall of 1905. The school will be located on a twenty-six acre plot, with a frontage of 945 feet on Longwood avenue. The granite bases of three of the six buildings have been put in place, and excavations for the others are well under way. Five of the six buildings, all of which will be constructed of white Vermont marble, are to be grouped about a court 520 feet long and 215 feet wide, while the sixth building will be used as a power house. The dental school building, included in the original plans, has been abandoned for the present. Three of the buildings are the gift of J. Pierpont Morgan, while provision has been made for the others from Mrs. Collis P. Huntington's contribution and part of the Rockefeller fund, together with $250,000 from a friend of the university. The school will have affiliated hospitals nearby, and several of the institutions to which the corporation has offered parts of the large plot belonging to the university have expressed a willingness to avail themselves of the offer. Among these are the Brigham, Children's, Samaritan, and Infants' hospital.

**Obituary Notes.**—Dr. CYRUS EDSON of this city died on December 2, at Roosevelt Hospital, of pneumonia. He had been ill only four days. He was born in Albany, N. Y., in 1857, and was graduated in Medicine from the College of Physicians and Surgeon in this city in 1881. While a student at Columbia College he was prominent in athletics and was a member of the Columbia crew that won the four-oar race at Henley in 1878. Soon after graduation he was appointed inspector in the Health Department, and served successively as chief of the bureau for the inspection of food products, chief of the bureau of contagious diseases, and sanitary superintendent. He was appointed by Mayor Gilroy Health Commissioner of New York City, and by Governor Flower Commissioner of Health of the State of New York. He was for three terms president of the Board of Pharmacy of the city and county of New York, and was for some time surgeon and lieutenant-colonel in the National Guard of the State of New York.

Dr. CHARLES SCHAFFER died of heart disease in Philadelphia on November 23, at the age of sixty-five years. He was graduated from the Medical Department of the University of Pennsylvania in the class of 1859, but owing to ill-health he was unable to devote himself exclusively to the practice of medicine, although he continued in active practice until five years ago. He was greatly interested in the natural sciences and their applications. He was particularly well known in the field of botany. He had a profound knowledge of the local species of plants and shrubs, and during many visits to British Columbia he made special studies of the mountain flora of that district.

Dr. WILLIAM SHAW STEWART died suddenly in Philadelphia on November 25 at the age of sixty-five years. He was graduated from Jefferson Medical College in the class of 1863, and shortly afterward was appointed an assistant surgeon in the Federal army, serving in that capacity throughout the war. He was one of the founders of the Medico-Chirurgical College, for a number of years professor of obstetrics and clinical gyecology, and for ten years dean. He was also one of the founders of the American Academy of Medicine. For nine years he was a director of the public schools and for many years a director of the Charity Hospital.

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

HARBEN LECTURES—ANKYLOSTOMIASIS—RESEARCH PRIZES—MONUMENT TO ROYAL ARMY MEDICAL CORPS—GUY'S HOSPITAL—CHARING CROSS HEBREW WARD—ANOTHER HUXLEY LECTURE—LIVERPOOL UNIVERSITY—MISS HICKMAN'S DEATH—ROSS ON MALARIA—OBITUARY NOTES.

LONDON, November 13, 1903.

THE Harben Lectures before the Royal Institute of Public Health, delivered in October by Professor Hueppe of Prague, naturally attracted attention, both from the immense influence of the lecturer and the subject treated. The philosophical views of disease which he has taught for the last ten years have only gradually penetrated the conception of many actively engaged in practice, and even in research, and it is well he should have had an opportunity of laying them before us by means of examples. Close study of external causes might lead to exaggeration of their importance, as compared with constitutional causes. In both specific germs are found. Pasteur and Koch's work led many to hold the germ as the sole cause; Goodsir and Virchow looked to the diseased cell. Simon, Parkes, and others in England, and Pettenkofer in Germany, attributed a considerable part to "predisposition of place and time." Professor Hueppe recognizes the importance of all these three views. He said predisposition, denied by some, must be reckoned with. He did not regard it as something negative as opposed to immunity. Immunization proved the existence of predisposition. We know that predisposition may alter with age, and may be influenced by external conditions, such as cold, heat, hunger, or alcoholism. Also, perhaps, mixture of races, to judge by Kruse's observation on the location of cancer in Italy. Germs are not the entity of disease; they may be present in healthy persons; they may live outside the body as saprophytes; they do not affect different animals alike. Again, different germs may produce similar effects and different individuals behave differently toward infection. It cannot then be admitted that either the germs or the body cells are an entity in the process. The cellular pathologist may err by only considering the structure; the bacteriologist by concluding that his experiments with pure cultures are equivalent to what takes place in naturally acquired infections. In proof of the last point the guinea-pig, though highly susceptible to laboratory infection with the tubercle bacillus, practically never becomes infected naturally.

In his second lecture Professor Hueppe explained the views of Ehrlich, Bordet, Pfeiffer, and others as to the mode of action of bactericidal sera. He quoted his own statement in 1895 that "The property of specificity may not unreasonably be conceived as a quantitative variation, and as dependent upon the bringing into action of normal powers by appropriate stimuli." This conception has since been accepted by Ehrlich and others. Immunization, he looks upon as only the augmentation of faculties which are performed as disposition. Predisposition he held to be positive, but it cannot protect the body against infection.

In his concluding lecture Professor Hueppe considered tuberculosis. Here we have both the bacillus and predisposition to deal with. Laboratory experiments in which large numbers of bacilli are introduced at once are quite different from what takes place in ordinary infection. That tuberculosis is often cured necropsies prove. Virulent bacilli have been found in the air passages of healthy persons who have associated with patients. Tuberculosis is so general that everyone may be exposed to it, but the majority remain healthy. The lecturer opposes Koch as to the intercommunicability of bovine and human tubercle. Behring found bacilli which did not at first infect cattle, but did so after passing through the goat. Anthropoid apes have been infected with both bovine and human bacilli, and cattle have been rendered immune to bovine by treatment with human tubercle bacilli. The two bacilli must, therefore, be varieties of one species. Similar observations have been made as to other bacteria. On Koch's discovery it was thought that the bacilli in pulmonary phthisis entered only through the air passages, but Hueppe and others have shown that they may reach the lungs through the lymphatics, or the circulatory systems. Rabbits fed with tuberculous material develop intestinal disease in some and pulmonary in others. The *locus minoris resistentiæ* is the lungs of adults, the intestines of children. The fight against bacilli will not suffice alone. We must also increase the powers of resistance by hygiene. It is too early to estimate the value of immunizing experiments, such as those made by Macfadyen and Behring.

Yesterday a conference was held at the Home Office between representatives of coal owners and miners in

England and Wales, with reference to the outbreak of ankylostomiasis in British mines, for the purpose of determining the steps which ought to be taken to prevent the spread of the disease.

The conclusions reached were that the time has not arrived for promulgating special rules; that local conferences should be held in the various districts; that the Home Secretary should arrange for special examination of any mines seriously suspected of being infected, and that he should be asked to circulate information as to the diagnosis and treatment of the disease among medical practitioners in mining districts, and also, in a more popular form, among the persons engaged in the mining industry.

In regard to the last recommendation a good deal of information may be found in Dr. J. S. Haldane's report to the Home Secretary on ankylostomiasis in Westphalia, which was issued at the beginning of this week. The doctor was greatly impressed with the knowledge, and vigorous initiative displayed by the managers of the two chief colliery companies, and thinks the experience obtained will be most valuable in preventing the spread of the disease in England. The most important measures are (*a*) the exclusion of infected men from underground work, (*b*) sanitary underground improvements. He urges the necessity of further researches into the pathology of the disease, the mode of infection, development of the larvæ, diagnosis, disinfection, and the best forms of sanitary receptacles for underground use. Further, the organization of the means for examination of suspected cases should not be delayed.

The Craggs' Research Prize of the London School of Tropical Medicine, for the best piece of original work done during the current year by present or past students, has been awarded to Dr. Aldo Castellani for his researches on sleeping sickness. He lately returned from Africa, where, as I reported to you, he isolated a microbe and pointed out the association of the disease with trypanosomiasis. Dr. Travers has been awarded honorable mention for his paper on beriberi.

A monument to members of the Royal Army Medical Corps who lost their lives in the South-African campaign is to be erected at Aldershot. It will take the form of a granite obelisk, and on a marble plinth will be engraved the names of those who fell. The entire cost has been defrayed by subscriptions from past and present members of the corps.

Guy's Hospital is still in financial difficulty. At the annual Court of Governors the treasurer stated that with a cost for maintenance of £60,000 a year there was only an income of £35,000. In addition the King's and other funds had of late given £11,000, but, even so, there remains a deficit of £14,000. Of the £180,000 appealed for in 1901 only $103,000 has been received, and the hospital is in debt for the balance on temporary loans. The court resolved that "the treasurer be requested to obtain the widest currency possible for a short statement of the present circumstances of the charity, and further, to continue a vigorous appeal with a view of enlarging the basis of public support adequately to the increased needs of the establishment."

Yesterday the new Levy ward of Charing Cross Hospital was formally opened by the generous donor, Miss Matilda Levy. It is for female Jewish patients primarily, but not exclusively. A separate kitchen, larder, and pantry are provided.

The libel action against Stephen Coleridge by Dr. Bayliss, the assistant professor of physiology at University College, is now being heard in the King's Bench Division of the High Court before the Lord Chief Justice and a special jury. The libel alleged was in the speech at an antivivisection meeting where Mr. Coleridge accused Dr. Bayliss of a specific act of torture to a dog in a demonstration at the college.

The University of Birmingham is to have a Huxley lecture delivered annually, an anonymous friend of the late professor having provided the endowment. He is desirous that the first lecture should be given by some one who knew Huxley personally, and if possible who was associated with his work. It is proposed to invite Sir M. Foster to give the first lecture.

The new University of Liverpool was inaugurated with due ceremony on the 5th inst., when the Chancellor received from the Lord Mayor the charter of incorporation. It was a day of mutual congratulations between the medical school, the University College, and the citizens of Liverpool.

On the 10th inst. Major Ronald Ross lectured on "Malaria and the Duty of the State to Prevent It," at the Royal Colonial Institute. He holds that the State must protect its subjects in spite of themselves, for his experience convinces him that it is futile to trust to individuals exercising constantly proper precautions. Probably, he thinks, a majority of the white population in Africa do not yet apprehend the full import of the mosquito theory.

The coroner's inquiry into the death of Miss Hickman, the lady doctor whose disappearance from the Royal Free Hospital made such a sensation, was concluded yesterday. The verdict was that "she died from poisoning by morphine sulphate, self-administered at a time when she was temporarily insane."

Sir Charles Nicholson, Bart., died on Sunday at the great age of ninety-five years. He took his M.D. at Edinburgh in 1833 and the next year went to Australia, where he practised. In 1843 he was elected a member of the first Legislative Council of New South Wales, of which body he was elected speaker three times. He was knighted in 1852 and made a baronet in 1859. He was the first Chancellor of Sydney University (from 1854 to 1860), and to its museum he presented his splendid collection of Egyptian antiquities.

Surgeon-Major-General James Davis of the Army Medical Staff died suddenly at Southsea, on the 8th inst., aged sixty-eight years. He qualified in Dublin in 1855–6 and entered the army in 1858. He served in the New Zealand wars of 1861 and 1865, taking part in the repulse of the attack on the camp at Nukumaru and the affair of Kakaramea. He held the New Zealand medal, reached the rank of surgeon-major-general in May, 1894, having served as P.M.O. to the southern division from January. In the following April he went on the retired list.

Philip B. Mason, M.R.C.S., J.P., surgeon to the Burton Infirmary, died on the 6th inst. He was a man of great talents. As a student he carried off a great number of prizes at University College when Sir. J. Williams, Sir R. D. Powell, Sir W. R. Gowers, and others were fellow-students. The death of his father compelled him to leave in 1866 before taking the University degree. He had been demonstrator of anatomy, and but for the necessity of taking up his father's practice would probably have continued teaching at the college. All his life he was a collector of natural objects. His museum of entomological specimens is of great dimensions—probably excelled by none if any.

## THE PROFESSIONAL VS. THE TRAINED NURSE.

To the Editor of the Medical Record:

Sir: Some time ago the subject of the education of nurses was considered in the Medical Record in the hopes of bringing some kind of response from members of the medical profession, and opening up the question in a radical and fundamental manner. But no response came, though the question has been touched upon in more recent issues of the Medical Record. However, good material for opening up the subject may be found in an article in the Medical Record of September 26, which probably represents the conservative and general opinion of the medical profession. In this contribution it is said that, "thanks to the great advance made in nursing in our day, we physicians can usually have our directions and treatment of patients intelligently and faithfully carried out if we constantly have the courage to insist upon what is best for the well-being of our patients and our moral self-respect. I am not quite sure that the nurse's realization of the doctrine of self-sacrifice and devotion has continuously improved. I am also convinced that more than one subject nurses are taught at some length in the schools had better be let alone. This acquired smattering of anatomy, physiology, and therapeutics is often of practical detriment in the rôle of the nurse. They are tempted, with imperfect knowledge, to give counsel or direct at times when they should seek only to comfort and serve."

The name of the author of the above is purposely omitted in order to avoid every appearance of personal polemic in the advocacy of opposing opinions. For the same and other reasons, the writer assumes a nom-de-plume. Ideas are only of value as they prove true. The author is simply a vehicle, as his pen is, and amounts to nothing. The days of ambition for honors or notoriety have passed. The primary and fundamental question is the amount and character of the instruction given to nurses or asked for by them, and may well be introduced by requoting the following: "That more than one subject nurses are taught at some length in the schools had better be let alone. This acquired smattering of anatomy, physiology, and therapeutics is often of practical detriment to the nurse. They are often tempted, with imperfect knowledge, to give counsel or direct at times, when they should seek only to comfort and serve."

Admitting that the accusation is true in many cases, is it not equally true that the real trouble lies in the very "smattering of imperfect knowledge" on the part of the culprit? Is it not this "smattering" which con-

stitutes the dangerous thing or "little knowledge" complained of in the well-known and oft-quoted saying. Would not a more fundamental, and at the same time broader, education in scientfic fundamentals remove or nullify the very danger mentioned? Would not more knowledge with specific education in its professional application enable the intelligent nurse to better understand her place and keep her professional position, both in regard to the attending physician and patient? The trouble seems to be just where it has been placed, but with quite the contrary meaning—that is, in the "smattering of imperfect knowledge" now wofully given to nurse students in the so-called training schools. Not only does the trouble lie in the "smattering," but the manner of applying it to the needs of the nurse is still more culpable. It is neither the "fish, flesh, nor fowl" of education, and is practically indigestible for either medical student or student nurse. It is a sort of half-way nondescript unsuitable for any specific purpose. In a certain sense the lectures to nurses are mostly voluntary, and it has often happened that lectures are scheduled for certain hours, and no lecturer has appeared for a week, thus disappointing as well as demoralizing the nurse students. No serious study has yet been given to the proper adaptation of what may be termed medical education to the needs of the nurse, and, as previously intimated, the stuff they do get is not suitable to the medical student, and being a most indigestible digest of what is generally offered to medics is equally unsuitable to the nurse student. The education of nurses should be far more in the hands of especially gifted and educated nurses than at present. Even the physician or surgeon lecturer should know intimately the requirements of the nurses and have the power of special adaptation, and have time and enthusiasm to apply himself or he is unfit. The question of education in any line is fully as much in the specific adaptation of what is offered to the needs of the student as in the material itself. Too much education is to be likened to good food improperly cooked and totally unadapted to the digestive apparatus of the patient.

*Profession or Trade*—That is the question. Does not the issue before us find its counterpart in the medical profession? Is it not what all earnest thinking men have combated and are still combating? Should we not then uphold the endeavors of the most intelligent nurses for the better education of their class in our own self-interest? Certainly the intelligent public has no less interest and the unintelligent will be equally benefited. In medicine do we not have the educated professional, the physician, and have we not still with us the graduate of the medical hotbed, with his "smattering of imperfect knowledge," the trade-doctor? It is the trade-doctor the medical profession has been endeavoring to purge itself of as an undesirable parasite, and it is the trade-nurse, with her "smattering of imperfect knowledge" that must be purged out of the ranks ere we can have the more desirable and better-educated professional nurse. The question is, if the better class of nurses are ready and anxious to take the medicine, should not we physicians prepare and administer the dose? Cannot the nurses say to us "why stand ye idle here?" On all other questions of education we have come to the conviction that "a little knowledge is a dangerous thing," and that the most exact and fundamental education possible is the only remedy against social anarchy; but in regard to the education of nurses our most learned colleague would have even the "smattering of imperfect knowledge" removed "because the semi-educated nurse raises anarchy in the house by giving counsel and directing where the properly educated nurse would not. Is not the real remedy to be sought in following the adage to "take another bite of the dog that bit you": not only a "bite" but to consume the whole digestible part of the carcass? By education alone can the "trained (trade) nurse" be abolished and the professional nurse, in her way the equal of the professional physician, become a gloriously creditable member of society. It is the "trained nurse," with her "smattering of imperfect knowledge," that raises anarchy with the patient, as it is the trade-doctor who does the same thing. Both have that dangerous disease, *macro-cranialis giganticus*, the only remedy for which is more and better fundamental education. The trained nurse of to-day is simply a more or less perfectly drilled machine and not at all educated in the professional sense. Which is better for us physicians, to remove the "smattering" of knowledge the nurse may now possess and increase the trade-training, or augment the knowledge and thoroughly teach the nurse student how best to apply it to her own interest? Please do not jump on that ye altruistic emotionalist. Know ye not that he who serves himself intelligently (with all that word implies) will give the best possible service to others.

Who has not met a "trained nurse," a most highly approved graduate of some recognized training school, well drilled in all the tactics of her trade, absolutely without even a "smattering of knowledge" in anything but the trade sense, but unquestionably competent in that sense, whose looks and manners were that of an ill-bred person who murdered the King's English "to absolute distortion, who was without active intelligence and yet so well drilled as to automatically do her work? Is not the picture only too true? That is the kind of nurse our most distinguished colleague seems to advocate. Even such as that may have her place, in some wards in a hospital where refining influences are uncalled for? On the other hand, are we not straining every nerve in our endeavors to free ourselves from just that class of society? The educated and refined nurse in the hospital is a strong power in the elevation of such inmates. Again, the trade-nurse may be useful during an operation, or in the worst stages of a dangerous disease, when the patient is indifferent to surroundings; but of what value is such an ignoramus in the convalescence of a refined and educated patient? The thoroughly educated and refined professional nurse can do all the best of trade nurses can, and more still, and is to be depended on in emergencies where the drilled machine would stop short for want of intelligence and that education which makes a person active and reliable. The best trade nurse is to be compared to the old-time "able seamen" who knew all the details of his trade, but was absolutely useless to direct the work and generally completely demoralized without the guidance of the educated officer in case of disastrous emergency. As things are, too many nurses are of the trade-nurse type. Is not the medical profession ready for the truly professional nurse? The better educated and more refined portion of the public certainly demands them. They are equally necessary to the service of the less educated and cultured.

The writer has ever been an opponent of private, semi-public, or even endowed educational institutions for any branch of education having to do with fitting persons for the public service. If any branch of that service is especially public and should be controlled for and by the best representative public intelligence, it is the medical profession of which that of nursing is an inseparable part. As things now are, the hospital is the training school, but it can never become the school for the fundamental education of student nurses. The student nurses in hospital training schools are so driven with trade-work that it is impossible for them to find time for detailed study and critical thought over the conditions presented by patients. What knowledge they do get is too much of the "pick-up" type. It is a veritable "prostitution" of the name education. It is "drill, ye tarriers, drill," until all energy is fairly trained out of the unfortunate nurse candidates. The only recourse is, as stated in a previous article, for the public to establish preparatory or normal schools for the instruction of student nurses specifically and broadly in the scientific fundaments of their profession, by persons especially qualified by study and experience to adapt that knowledge to the needs of the professional nurse. This question of the specific fundamental education of the nurse will be treated in a future communication.

MEDICUS.

## AMERICAN AND INTERNATIONAL CONGRESSES ON TUBERCULOSIS AND TUBERCULOSIS EXHIBITS FOR THE YEARS 1904 AND 1905.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: During the past few months I have been the recipient of a large number of inquiries concerning the various tuberculosis congresses (American and International) which have been projected for the years 1904 and 1905. The multiplicity of these various congresses and the similarity of their names leads naturally to great confusion. It would be really too great a task to undertake to answer in full and individually all the letters with which I have been honored. I therefore ask you to grant me the space to give the desired information in your esteemed paper, so that all the readers of the MEDICAL RECORD who may be interested will have a clear idea of the various congresses, their officers, and time and place of meeting.

It is announced that a congress on tuberculosis is to be held in St. Louis on October 3, 4, and 5, 1904, under the name of "International Congress on Tuberculosis." Upon careful inquiry I have learned the following facts about this congress: Mr. Francis, the President of the St. Louis Exhibition, has been approached by the officers of the "American Congress on Tuberculosis," which was founded some years ago by Clark Bell, Esq., a lawyer of New York, to sanction the holding of an international congress on

tuberculosis in connection with the Louisiana Purchase Exposition. From a letter received from Dr. E. J Barrick of Toronto, Canada, the now president of this "American Congress," I learned that Mr. Francis has appointed the above mentioned Mr. Clark Bell chairman of the Committee on Organization. Mr. Clark Bell is also the treasurer and chairman of the Executive Committee of the "American Congress on Tuberculosis," season 1903-1904; Mr. Samuel Bell Thomas of 290 Broadway, New York, is the secretary of the latter. The officers of the International Congress are not yet elected. I was desirous to learn the names of other medical men interested in this congress, and Dr. Barrick very kindly wrote me on November 16 that he had asked Mr. Bell to furnish me the desired additional information, but nothing has thus far been received.

The other international tuberculosis congress announced is the one to meet in Washington, D. C., April 4, 5, and 6, 1905. It is to be held under the auspices of "The American Congress on Tuberculosis for the Prevention of Consumption." The following is a list of the officers of this latter organization: *Honorary President*, Dr. Henry D. Holton, Brattleboro, Vt.; *Member Executive Council*, Dr. Chas. O. Probst, Columbus, Ohio.; *President*, Dr. Daniel Lewis, New York; *Vice-Presidents*, Drs. E. A. Egan, Springfield, Ill.; Frank Paschal, San Antonio, Tex.; Irving A. Watson, Concord, N. H.; Chas. Wood Fassett, St. Joseph, Mo.; *Secretary*, Dr. George Brown, Atlanta, Ga.; *Treasurer*, Dr. P. H. Bryce, Toronto, Canada.

Before going any further I wish to call the attention of the readers to the difference in name of the two American congresses. The one is "American Congress on Tuberculosis," the other "The American Congress on Tuberculosis for the Prevention of Consumption."

The congress which was to meet under the name of "Congrès International de la Tuberculose" at Paris from September 26 to October 1, 1904, has been recently postponed to the year 1905. The president of this congress is Professor Brouardel, Hon. Dean of the Faculty of Medicine of Paris. The general secretary is Dr. M. Letulle, professor agrégé of the Faculty of Medicine, residing at 7 rue Magdebourg, Paris. This congress will be divided into two sections, the medical and the social: I. In the medical section the following subjects will be discussed: (1) New methods for the treatment of lupus; (2) New methods for the early diagnosis of tuberculosis; (3) Comparative studies on the different forms of tuberculosis.

II. In the social section: (1) Etiological factors in tuberculosis; (2) Value of different means for the treatment of tuberculosis; (3) The voluntary insurance and the mutual societies in the combat against tuberculosis.

The congress will furthermore form a technical section under the name of "Museum of the Congress."

There will be held during the coming year independently of the above-mentioned congresses two tuberculosis exhibitions, one in Baltimore, Md., and the other in St. Louis, Mo. The Baltimore Tuberculosis Exhibition will be held in January, 1904, under the combined auspices of the Tuberculosis Commission, the State Board of Health, and the Maryland Public Health Association. Details are in charge of Dr. W. S. Thayer, president of the commission Mr. John M. Glenn, secretary; Dr. John S. Fulton, secretary of the State Board of Health, and Dr. Marshall L. Price. Dr. Henry B. Jacobs has been elected chairman, and 250 prominent professional men and laymen have been asked to act as an advisory committee. A series of lectures will be given, the object of which will be to present the extent and effects of the disease in a striking manner. The pathological, hygienic, sanatorium, and sociological aspects of the tuberculosis problem will be practically demonstrated by specimens, charts, literature, instruments, photographs, and plans. All communications concerning the exhibition should be addressed to Dr. Marshall Langton Price, 10 South Street, Baltimore, Md.

The other tuberculosis exhibition will be held in St. Louis, in connection with the Exhibition of Social Economy and under the Sub-section of Hygiene, of which Dr. J. N. Hurty of Indianapolis is superintendent. To avoid multiplicity of exhibits, Dr. Hurty has put himself in communication with the General Secretary of the International Bureau for the Prevention of Consumption at Berlin, Professor Pannwitz, so that the exhibits which the European countries contemplate sending shall also come under his direction.

All indications point toward the success of both exhibits, and it is to be hoped that they will fulfil their high purpose and at the same time be a credit to American physicians and hygienists.

Considering the various congresses, I do not hesitate to express a feeling of deep anxiety. The first one mentioned, which, for reason of brevity, I will call "The Bell Congress," because it owes its inception to Mr. Clark Bell, has, to my knowledge, not the support of our best known men in the field of clinical medicine, hygiene, tuberculosis pathology, or tuberculotherapeutics.

The second congress, in point of time, which again, for sake of brevity and clearness, I may call "The Lewis-Brown Congress" (names of the president and secretary), while it has many distinguished men of various State and provincial boards of health among the members, has, like the Bell Congress, thus far not among them the men we are wont to look up to as leaders in movements of this kind. No such men as Biggs, Billings, Bowditch, Flick, Jacobi, Janeway, Klebs, Osler, Otis, Trudeau, Tyson, are connected with this congress.

What are our confrères across the water to think if they hear of two American congresses on tuberculosis and each having an international one under its auspices? The European authorities found it best, instead of having a triennial congress, to have one more year to intervene. This will make the congress in Washington and the one in Paris convene in the same year (1905).

I hope this letter, in which I would address the medical profession in America, may result in a satisfactory solution of this very complicated problem. If President Francis of the St. Louis Exposition desires that a tuberculosis congress shall be held in St. Louis, let him call to his aid some of the men whom I have mentioned as leaders in our profession. They will consult with him on the advisability of such a congress, and if it is decided that one should be held, Mr. Francis can be assured that the best element of Europe and America will come to St. Louis to contribute to its success.

The officers and members of the Lewis-Brown Congress must realize that they cannot expect that their international meeting in Washington will be successful, when, six months later, there will be an international congress in Paris. I hope that there will be enough patriotism and national pride for all interested to realize that two American congresses on tuberculosis is an anomaly, and that, if the St. Louis Congress is to be a success, it must be in the hands of medical men well and favorably known in this country and abroad.

As a solution of the problem I beg leave to suggest the following: During the Tuberculosis Exhibition in Baltimore next January, all interested should meet at a certain date on this neutral ground for the purpose of coming to an agreement about a single representative national or international tuberculosis congress to be held in America. There, too, should be formed a national committee on tuberculosis which will be in touch with the international tuberculosis congress which will convene in Paris in 1905.

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NEW YORK.

# Progress of Medical Science.

*The Boston Medical and Surgical Journal, Nov. 26, 1903.*

**Diseases of House Officers in Hospitals.** — William R. P. Emerson presents certain conclusions from a study of this subject. The records indicate that the danger to house officers of pneumonia, phthisis, or typhoid fever is very small. Nasopharyngeal and febricular affections occur in the ratio of 12 to 1. The danger of infection in the examination of moist cultures and sputum is very slight. In a six months' service the chance of diphtheritic infection is 1 in 2, of scarlet fever infection, 1 in 7. The influence of improved living quarters and facilities for proper exercise upon the health of the men is marked. The sense of fatigue occurs most often in the hospital as the result of nervous tension and indoor air rather than of muscular exhaustion, and is relieved by proper exercise and baths.

**A Case of Post-typhoidal Myositis of the Rectus Abdominis.**—David D. Scannell reports the case of a boy aged nine years, who, after beng discharged from the hospital after recovery from an attack of typhoid fever, was brought back again in a few days. He was suffering from pain in the abdomen, most marked in the umbilical and hypogastric regions. The diagnosis of acute perforative appendicitis was made and the abdomen was opened. Both appendix and peritoneum were normal. Exploration of the intraabdominal surface of the anterior belly wall showed an ovoidal, indurated, nonfluctuant, extraperitoneal thickening of the right rectus muscle in its lower third, extending from just below the umbilicus to just above the symphysis pubis. The appendix was removed. Twenty-four days after the operation the parietal induration had completely disappeared. Post-typhoidal myositis is extremely rare, and this case is one of much interest.

**The Treatment of Diffuse Peritonitis.**—B. F. Lund believes that whatever methods are adopted a large

mortality will always attend the surgeon's efforts in those cases of diffuse peritonitis which come to him late. The most important point of the treatment is to remove the infecting focus immediately. The writer is not an advocate of the "waiting" policy. A complete removal of all necrotic tissue is indicated whenever possible. After the infecting focus has been thoroughly removed, the peritoneal cavity should be carefully cleansed. The writer irrigates the peritoneal cavity with decinormal salt solution at a temperature of 110°. Several quarts or gallons of salt solution are introduced through a long glass nozzle of large caliber which is rushed into all the recesses of the cavity. The water rushes out of the wound, bringing fragments which would otherwise have caused long suppuration. A part of the salt solution is left behind. This is absorbed and increases the amount of fluid in the vascular system. Another part of the fluid is taken up by the drainage gauze and starts a current from the abdomen out into the dressings, and helps to remove any infectious material that remains behind after the irrigation. The writer advocates the use of gauze drainage. He elevates the head of the patient's bed, about one foot above the level, by placing under the head of the bed the blocks which are ordinarily used to elevate the foot of the bed in case of fractured femur. One or two pillows are placed beneath the shoulders. The fluid then flows from the flanks into the pelvis, and the position is not so exhausting as is the more complete upright position.

*Journal of the American Medical Association, Nov. 28, 1903.*

**Removal of the Faucial Tonsil.**—The paper of C. M. Robertson is an exploitation of the use of the scissors.—a special shape of which he has devised. It is hardly correct to say, as does the sub-title of his paper, that this is a "new method of operation." The paper is, however, a good exposition of the general subject of tonsillar development and the measures for removing diseased tonsils.

**Etiology of Yellow Fever.**—J. Carroll who has made bacteriological studies on the subject, offers the following conclusions: (1) The fusiform stage of the so-called *Myxococcidium stegomyiæ* of Parker, Beyer, and Pothier (1903) is not connected in any way with the transmission of yellow fever. (2) This organism appears to be not a protozoan parasite, but a yeast fungus. In its fusiform stage, the only form in which it was constantly present, it shows the characteristic budding, staining affinities and vacuolation or spore formation of a blastomycete, and it is found with considerable regularity in both male and female mosquitos that have purposely been fed on overripe banana to which a pure culture of a wild yeast had been added in the laboratory. (3) The organism has not hitherto been found in repeated examinations of mosquitos of the genus *Stegomyia* that have bitten yellow-fever patients in the early stages of the disease, when such insects had been fed only on blood, dry sugar, and water. This statement applies also to mosquitos that are known to have reproduced the disease in human beings.

**The Causes, Prevention, and Management of Myopia.**—The views of J. H. Claiborne are thus summarized: (1) Myopia is a condition in which there is an increase in the anteroposterior diameter of the eyeball. This condition is, except in very rare cases, acquired. It is a distinctly vicious process, and in the great majority of cases tends to increase. It should, therefore, be regarded as a disease. It usually begins in childhood. (2) Its causes may be divided into predisposing causes and a direct cause. (3) (*a*) The predisposing causes are, in general terms: Heredity, naturally lax conditions of the eye tunics in certain individuals; the injudicious use of the eyes after sickness, usually in children, after the exanthemata; bad illumination, improperly placed illumination, incorrect position in the act of reading; the existence of refractive errors, generally astigmatism, which is uncorrected or improperly corrected; corneal opacities; any systemic condition which tends to produce cerebral congestion—for example, constipation. (*b*) The direct cause is an elongation of the eye on its anteroposterior axis, at the posterior pole, except in the case of corneal astigmatism. (4) When myopia has once been acquired, its increase is directly caused by the pressure on the globe by the extrinsic muscles, due to the convergence of the visual lines toward the far point—the convergence theory. (5) The weight of evidence and reason is distinctly against the accommodative theory. (6) Theoretically, full correction of the myopia is indicated, whereby the far point is thrust to infinity. (7) Practically, this is not always possible. (8) The far point should be thrust as far as possible toward infinity, but, at the same time, it should be compatible with the best vision and the greatest comfort.

*Medical News, November 28, 1903.*

**A Discussion of Some Common Forms of Liver Disturbances.**—A. P. Stoner first considers hyperæmia of the liver. This condition is produced by the ingestion of an ordinary meal. Highly spiced foods and alcoholic beverages produce excessive hyperæmia. More or less congestion of the liver may accompany valvular heart disease. The writer believes that the two conditions, sudden suppression of the menses and hemorrhoidal bleeding, considered by many authorities to produce hyperæmia of the liver, probably have very little effect upon the organ. As to cirrhosis of the liver, while many factors seem to be responsible for cirrhosis, none will produce the changes met with except the cause be long continued. The liver tissue possesses a remarkable capacity for regeneration. There is reason to believe that all liver cirrhosis is the result, whether directly or indirectly, of infection. It is not essential that the propagation of bacteria take place within the liver, for this process may occur in other organs of the body, but their toxins are carried to the liver and cause the death of the liver cell. Fibrous and connective tissue fill up the gap caused by the broken down cell, and cirrhosis is the result. Alcohol is undoubtedly responsible for a large number of cases of cirrhosis in children. Abnormal fermentation in the bowels is responsible for a large percentage of cirrhosis in both children and adults.

**Diet and Drugs in Nephritis.**—William S. Gordon states that the health of the kidney depends, in a great measure, upon the normal metabolic and depurative work of the liver, upon the state of the genitourinary tract below the upper opening of the ureter, upon the cutaneous circulation and vasomotor influences, and upon the absence of pressure and traumatism. An exclusive milk diet may do harm by being abused and furnishing too much urea, by causing constipation and absorption of toxins, by failing to supply the blood with sufficient nourishment, or by setting up lactic or butyric fermentation. A routine diet for all cases is unscientific and should be avoided. There are a large number of cases in which a diet composed wholly or largely of milk is beneficial. Abstinence from alcohol, tea, coffee, and coca, and a partial or complete reduction of sweets and acids, with the use of alkaline waters, are means promptly beneficial in acute cases and in the first stages of the chronic cases. Fowl, game, fish, and eggs should not be indulged in to excess because butcher's meat has been prohibited. An efficient cholagogue given before the diuretic, or in conjunction with it, is a powerful auxiliary in the treatment. Diaphoretics are very useful. In cases of acute nephritis with high pulse tension and diminished flow of urine, nitroglyerin is invaluable. In chronic nephritis iron is most serviceable. Chloral hydrate, the bromides, and morphine are useful. Taken all in all, strychnine is the best remedy we have for weakness and exhaustion of the nervous system, while its combination with the hypophosphites will sometimes give results better than can be obtained from either drug alone

**The Best Method of Dealing with the Stump in Appendicectomy.**—Howard Lilienthal discusses two objections which have been made to the ligation and cauterization of the stump of the appendix. It has been stated that when the appendix is ligated, mucous surfaces are brought into contact, and as mucous membranes will not adhere to each other, the stump formed in this way is insecure. The ligature has been proved to be secure, and the mucosa has been shown to be cleanly cut by the constricting ligature. The submucous coat and the peritoneum in the specimens examined have been uncut and held firmly. The hardened sections confirm the conclusions drawn from the observation of the recent specimens. The second criticism is that adhesions are apt to form. The writer has examined into the postoperative conditions in a number of cases treated by ligation and cauterization. In three cases of fatal peritonitis, examined from three to six days after the operation, there were adhesions almost everywhere else, but not at the stump. This had been thrown off with its ligature and only a smooth cicatrix on the surface of the cæcum remained. In a number of other cases, examined months or years after the first operation, the former site of the appendix was marked by a minute smooth white cicatrix. No adhesion was ever found in this location. The writer believes that the formation of the stump by the method of ligation is the only way in which adhesions at this point may be certainly avoided. He prefers cauterization by strong carbolic acid. He takes up a minute drop of the 95-per-cent. solution on the tip of a closed artery clamp, and after protecting the surrounding tissues, he applies the acid thoroughly

two or three times to the mucous lining of the stump. In from fifteen to thirty seconds the stump is dropped back into the abdominal cavity.

*New York Medical Journal, November 28, 1903.*

**The Use of Weak Cocaine Solutions in Operations for the Removal of Tumors.**—F. Griffiths reports six cases of respectively fibrolipoma of neck, sebaceous cyst of scalp, tuberculous glands of neck, glandular swelling of neck, papillomatous growth of scalp and cervical cyst. He uses ½ to ¼ per cent. solutions in weak soda menstruum.

**Ocular Headache and Other Ocular Reflexes; a Statistical Study.**—The paper of M. W. Zimmerman, based on two thousand cases, must be consulted in the original, as it does not easily lend itself to abstracting. Concerning the results of treatment he notes that his tables contain seven hundred and ninety-four cases in which the result of treating headache by the correction of an optical error is recorded. He reports 86 per cent. of cures, using the word "cure" in the sense of such a profound modification of the symptoms that the patient is no longer suffering any annoyance which cannot be controlled by a little attention to ocular and personal hygiene.

*American Medicine, November 28, 1903.*

**The Effects of the Secondary Static Currents in Removing Albumin and Casts from the Urine, with Reports of Cases.**—Boardman Reed speaks of those cases of gastrointestinal disease, in which albumin and casts are found in the urine. These cases have rarely shown any other renal symptoms. About a year ago the writer began the use of static electricity in these cases. The results are most gratifying. The static induced current has a decidedly greater curative power in the kidney affection here described than either the static wave or the high tension faradic currents

**The So-Called Starvation Cure for Bright's Disease and Diabetes.**—Charles T. Beeson reports the case of a man aged forty-four years, who was suffering from headaches and insomnia. In his young manhood, his eyes had failed. A few years ago a trace of sugar was found in his urine, and since then, he has believed that he had kidney disease. He decided to try the starvation cure. This treatment continued for forty days. At the end of this time he was in a very precarious condition. The writer believes that if this man had had either Bright's disease or diabetes, he would be dead to-day. The cessation of the excretory functions in the latter half of the fast, produced an autointoxication which would damage a healthy organ, let alone a degenerated one. The writer believes that eyestrain was the foundation of the sufferings of the patient. If the symptoms from which he suffered were uræmic or diabetic, they grew rapidly worse until food was taken. After his ordinary diet was resumed he returned to a condition of good health.

**The Demonstration of Nucleated Red Blood Corpuscles in Animal Spleens.**—Edward T. Williams states that his personal experiments in this subject have thus far been confined to animal spleens, those of the hog and the ox. His technique is as follows: From a fresh spleen is cut a wedge-shaped piece, about two inches long. Its raw point is drawn across the middle of a clean glass slide, without pressing or squeezing. The object is to make a thin smear. From twelve to twenty smears are made and dried at room heat under cover. The best stain is hæmatoxylin eosin, and the best fixative a dilute, watery solution of sublimate salt. One minute's application of the fixative is sufficient for spleen smears. They are then stained half an hour in watery solution of alum hæmatoxylin, washed, and counterstained from two to three minutes in a three-per-cent. watery eosin. After the proper field is found, a drop of cedar oil is placed on the uncovered slide. It takes great care and patience to discover the erythroblasts. The writer has given two years to this study, and he declares that erythroblasts are a constant anatomic element in the spleens of cattle and swine. Newmann states that he has many times seen these corpuscles in the spleens of human adults.

*The Lancet, November 21, 1903.*

**The Anæmias of Infancy.**—C. Riviere states (1) That anæmia from any cause in infancy, if severe enough, gives rise to the peculiar symptoms grouped under the headings "anæmia splenica infantum" and "anæmia splenica pseudo-leukæmic" of von Jaksch. (2) That consequently these are not specific blood diseases, but owe their peculiarities merely to the "infancy factor" and that they represent merely different stages of the same condition. (3) That the common cause of severe anæmia in infants is gastrointestinal catarrh, leading to the absorption of toxins either from the growth of microorganisms or possibly from the formation of poisonous by-products of digestion. (4) That leukæmia of infants is not a separate disease, but merely a still more advanced stage of this anæmia—that is, that the difference between them is one of degree and not of kind. (5) That leukæmia of adults is a return to the condition of an infantile anæmia, and that, being rare, its causation is probably so narrowed down as to be practically specific.

**A Case of Linseed Poisoning.**—J. O. Hollick records the case of a robust male adult who applied a hot linseed poultice to an inflamed hemorrhoid. Four hours later he began to have unusual sensations in the throat and on the skin; a reddish-purple hue of the latter, deafness, impairment of vision, diarrhœa and vomiting. Two hours after the commencement of symptoms he was first seen by the author and was in a state of collapse with quick and feeble pulse, a feeling of nausea, and cyanosed face and extremities. His respiration was quiet and the diarrhœa had ceased, but he had a marked condition of cutis anserina. He lay curled up on his side in bed and was very prostrate; he at once told me that he had been poisoned by linseed as recognized from his previous experiences. He was given an ounce of brandy in hot water, and hot bottles were placed to his feet and body; he passed a good night and on the next day was in normal health again. According to the author, the symptoms were due to one of the elements of the oil of linseed, viz., glyceride of linoleic acid. The patient had been previously twice poisoned by eating a few linseeds.

**Unusual Case of Intestinal Obstruction.**—The patient of D. Macartney was a woman of forty-two years and subject to obstinate constipation. She was suddenly seized with abdominal colicky pains, worse near the umbilicus and the left side. Later fecal vomiting appeared with the usual condition of collapse. Examination of the abdomen externally and per rectum revealed no cause for the obstruction. Abdominal incision was made and a few inches above the ileo-cæcal valve there was found a cylindrical plug nearly three inches in length, the upper part being soft and the latter made up of hard irregular bodies. By manipulation the various masses were gradually moved on into the large bowel. The wound was closed in the usual way. An enema was given in due time, and in the excreta were found a dozen small chicken bones and a large number of raisin skins. These peculiar substances were injected, the patient acknowledged, on the second day before the attack, she and her husband having eaten a chicken, feet and all, and a currant-bun.

**Guaiacol Carbonate in the Treatment of Measles.**—This remedy is extolled by D. M. Paton, who finds the remedy a specific in bronchial catarrh with fever. The latter is reduced promptly. The remedy has no effect on the measles itself. Bismuth added to the remedy will relieve any tendency to vomit; the same holds true of Dover's powder with reference to diarrhœa. The treatment is begun when the diagnosis is made, and continued in full doses till the temperature has fallen to normal, a reduced quantity being given for two days longer to make sure of the result. The dose is calculated at one drachm per diem in powders of ten grains every three hours for adults, and children in proportion. The powder is readily taken by children, and all the more so if an equal amount of powdered sugar is added. No unfavorable symptoms have ever been seen during its administration which could in the slightest degree be attributed to the treatment; in no case has it failed to abort the bronchial catarrh, and there have been no deaths.

*British Medical Journal, November 21, 1903.*

**A Preliminary Report on the Treatment of Advanced Pulmonary Tuberculosis by Intravenous Injections of Iodoform.**—Thomas W. Dewar declares that all the patients treated had tubercle bacilli, cocci, and elastic tissue in the sputum, and in all both lungs were affected. In every case there has been a great and sometimes rapid improvement in the physical signs; temperatures have become normal, weight and vigor increased, and expectoration and organisms diminished. This has taken place in patients with cavity formation, whose cases have been considered hopeless. The ethereal solution of this drug is used. The solution is not quite saturated. It must be introduced very slowly. This method promises excellent results.

**Two Cases Illustrating the Fallacy of Certain Physical Signs in Diagnosing Acute Perforated Gastric Ulcer.**—W. Harland Peake reports these cases. In both cases there was pain of a paroxysmal character. There was early vomiting in the first case. The presence or absence of liver dulness is an uncertain sign. In the first case the liver dulness was present, in the second case it was absent. The second case seemed very like a perforated gastric ulcer with resulting peritonitis. The writer believes it to have been an example of dilated stomach, due probably to a

gastric ulcer causing reflex spasm of the pylorus, but not necessarily at or near that orifice. The presence of spots tender to deep pressure was suggestive of that condition, in spite of the fact that salt water caused no smarting. The acute pain was probably due to gastralgia.

**Case of Aortic Disease with Unusual Course.**—H. E. Bruce-Porter sums up the points in this case as follows: There was an acute aortitis which caused puckering of the orifice and a regurgitant murmur, the heart for two years compensated by enlargement of the left ventricle; under the strain of service in India the compensation failed somewhat rapidly, and dilatation set in; this caused leakage at the initial orifice and the usual back pressure began to tell. For over six months the patient lived in a state of comparative comfort, with the mitral lesion, while there was albumin in the urine. At one time, as much as 1½ gr. morphine was given in the twenty-four hours with no untoward results. Toward the end the quantity of this drug was reduced. During the last five months there were not more than three attacks of angina.

*Deutsche medicinische Wochenschrift, November* 12, 1903.

**Substitution of an Ivory Rod for the Entire Diaphysis of the Radius.**—Vogel performed a sequestrotomy of the entire radial diaphysis on a girl of eight years. In spite of all efforts at correction the hand kept inclining toward the unsupported radial side; a subluxation of the corpus taking place. In order to prevent this from progressing an ivory rod was placed in the defect, its pointed ends being stuck into the two epiphyses. The soft parts were sutured and healed promptly. After three weeks, active and passive movements were begun, and one year after operation function was still practically normal, and *x*-ray pictures showed that the ivory radius was undisturbed and that a new growth of bone was taking place from the epiphyses to keep pace with the lengthening of the ulna.

**The Etiology of Dysentery.**—Jürgens believes that the efforts to reduce the etiology of epidemic dysentery to a single bacterium, such as the Kruse bacillus, are not likely to be successful, and that different organisms will be found in different epidemics and in different parts of the world. In a garrison epidemic lately observed by him twenty-six cases of true dysentery occurred and a careful bacteriological study was made. In none of them was the Kruse bacillus or the entamœba found, but from the fæces of eighteen patients a bacillus could be cultivated which was similar to the Kruse bacillus, but different from it in its agglutinating properties, as well as in the fact that it forms acid on mannit-agar. This organism appears to be identical to Flexner's bacillus, or at least very closely related to it. Several days after the onset of the disease it gave agglutinations in dilutions of from one to one hundred to one to five hundred and even higher, while no agglutination whatever occurred with the Kruse bacillus. The author concludes that though dysentery may represent a clinical entity, it undoubtedly has numerous causative agents.

*Berliner klinische Wochenschrift, November* 9, 1903.

**Lime Dust Inhalation and Pulmonary Tuberculosis.**—Reckzeh says that the statistics in lime-producing districts show that pulmonary tuberculosis is rare, and that sometimes when present its course is favorably affected. Various authors ascribe this beneficial effect to different features attending the occupation of lime burning. Such are, an effect of the inhaled lime dust in facilitating calcification of suppurating foci, the dryness of the inhaled air, and the deeper respiration it makes necessary, the warmth of the inspired air which contains no tubercle bacilli and the more active metabolism it causes. In order to determine the effect of the lime dust suspended in the air the author caused eight tuberculous patients to inhale air charged with the dust by striking suspended bags filled with powdered lime. At first the inhalations were carried on for five minutes daily, but the time and frequency were gradually increased. The results were without encouragement, no improvement in the pulmonary condition was noted, while there were marked undesirable secondary effects, such as headache, loss of appetite, and nausea.

**A Case of Multiple Cranial Nerve Palsy with Involvement of the Eighth Nerve.**—Aronsohn was consulted by a man who, after exposure to cold, developed pain and swelling of the left side of the face. These symptoms subsided in a few days, but in the course of two weeks the left side of the face became drawn, speech grew difficult as well as mastication on the left side. Headache and vertigo set in, and later tinnitus and deafness in the left ear came on. The origin of this left-sided palsy, including the facial, trigeminal, and auditory nerves was at first assumed to be the result of a multiple neuritis due to the exposure, as brain tumor, etc., could be excluded. Iodide of potassium was given to correct the vertigo, but the promptness with which all the symptoms, except the deafness, subsided under its use made it probable that some syphilitic disease of the base of the brain was at the root of the trouble. The same injury therefore damages the eighth nerve to a greater degree than its fellows, and its function once lost the palsy remains permanent after even only a few weeks have elapsed.

*Münchener medicinische Wochenschrift, November* 10, 1903.

**A Case of Hyperidrosis Universalis.**—Müller reports the case of a hospital nurse of twenty who for nine months had been suffering from a general hyperidrosis which was not amenable to any form of treatment. The condition was so severe as to require a change of the patient's linen about twenty times a day and to occasion a severe eczema. She had lost about forty pounds in weight and had a constant subfebrile temperature; pulse, 108-120; respirations, 24. Menstruation had ceased since the sickness began, but on one occasion when there was a slight flow the sweating was much diminished while the period lasted. After six months, with several exacerbations and remissions, the patient died. The author says that the rapid pulse and respiration, together with the sweating, gave the picture of a person doing violent muscular work, and he regards the condition as one of overactive metabolism. The underlying cause he believes to have been neurasthenia due to overwork, though he admits the possibility of some cerebellar or medullar lesion having been present and causing stimulation of the sweat centers, such conditions having been present in some of the few reported cases.

**Incipient Tabes and Cerebrospinal Syphilis.**—Schittenhelm calls attention to the fact that while formerly the lost knee-jerk was considered the most useful symptom in the early diagnosis of tabes, at the present time authorities are giving more importance to the Argyll-Robertson pupil. Owing to the difficulty of securing autopsies in the early stages of the disease, pathological reports are still scanty, but two cases are on record in which the lost pupillary reflex was the only symptom of a tabes subsequently proven to have been present; himself contributes a third. The patient died of a rapidly progressive pulmonary tuberculosis, and typical degenerative changes were found in the posterior columns of the cord beginning in the upper dorsal segments. That the tuberculous lesion could have had any connection with the ascending degeneration is impossible, owing to the greater age of the latter process shown by the extensive connective tissue growth, and the author considers that loss of the light reflex may be the earliest and *only* symptom of tabes, conditions likely to complicate the diagnosis are progressive paralysis and cerebrospinal syphilis. He describes an instance of the latter affection in which incipient cervical tabes was simulated, but which later developed symptoms pointing toward progressive paralysis, and finally cleared up completely under mixed treatment, showing it to have been cerebrospinal syphilis.

**Remarkable Complications of Gastric Carcinoma.**—Kaufmann describes two cases of this disease accompanied by unusual complications. The first is that of a man of thirty-four years who had had a posterior gastroenterostomy done on account of an inoperable carcinomatous stenosis of the pylorus. The operation was followed by great improvement, but after a few weeks symptoms of aggravated motor insufficiency developed, together with evidence of a stenosis of the transverse colon. The tympanitic distention limited to the right side of the abdomen increased in severity and was accompanied by intense colicky pains. Constipation was succeeded by bloody diarrhœa, and death ensued with the picture of perforative peritonitis. The autopsy showed a massive growth about the pylorus with involvement of the gastrocolic omentum, causing it to contract and obstruct the lumen of the colon. Secondarily to the fecal stagnation in the distended gut, numerous ulcerations of the mucous membrane had developed and extended even into the lower part of the ileum. Two of the latter had perforated and given rise to the fatal peritonitis. In the other case a growth at the cardia extensive enough to cause almost complete stenosis was accompanied by great motor insufficiency. At operation it was discovered that glandular metastases were obstructing the pylorus mechanically. An anterior gastroenterostomy with gastrostomy was done, but death followed on the ninth day, owing to hemorrhage from the tumor.

*The American Journal of the Medical Sciences, Nov.*, 1903.

**Hypertrophic Tuberculosis of the Larynx.**—Clement F. Theisen concludes that: (1) Hypertrophic or hyperplastic tuberculosis of the larynx must be considered a distinct and unusual form of the disease. (2) As a rule,

there is no ulceration, but there may be some late in the course of the disease. (3) Ulceration may be present at the same time as the hyperplasia of the tissues in some part of the larynx, but the characteristic circumscribed hypertrophics and tumor formations do not break down. (4) It is practically always secondary to the pulmonary involvement, but there appears to be some evidence in support of the statement that particularly this form of tuberculosis may at times be primary.

**Tuberculosis of the Tonsils, and the Tonsils as a Portal of Tuberculous Infection.**—Henry Koplik states that the tonsil is the seat of primary tuberculous infection, though rarely, as compared to the pyogenic forms of infection. The tuberculous tissue is found in the form of giant cells and tuberculous nodules; cheesy degeneration in the tonsil is not common; if the tubercle bacilli are abundant it is exceptional; tuberculous tonsillar ulcers are rare; as a rule, the lymph nodes leading from the tonsil are affected. Some of these tonsillar affections have been preceded by a simple catarrhal or diphtheritic inflammation of the organ. Tonsillar tuberculosis may be the source of a general tuberculosis of the body. As far as the cervical lymph nodes are concerned, when found, the seat of isolated tuberculous infection, of a primary nature, it can be justly claimed that such infection has proceeded from the tonsil.

**The Etiology of Nasal Polypi, with Especial Reference to Their Association with Other Pathological Conditions.**—Francis R. Packard discusses the frequency of these growths. They also ocur very often after apparently complete extirpation. He believes that recurrence is most frequent when polypi are the result of caries or necrosis of the ethmoid bone, and they can only be finally extirpated by the removal of the diseased bony tissue. The writer then speaks of the last six cases of intranasal polypi which have come under his care in private practice. He was able to remove dead bone from the middle turbinate region in two of the cases. In all six cases he is convinced that the polypi were present as a result of the disease of the bone; that the recurrence in four was due to failure to recognize their etiology and remove the cause, and that they would have recurred again in all six cases had the necrosed bone not been found and removed. The writer believes that nasal polypi are symptoms of underlying conditions.

**Spondylitis Deformans.**—John Ruhrâh speaks of the symptom-complex of this disease in the early stage as being made up of four parts: (1) Pain; (2) limitation of motion; (3) muscular contractions; (4) referred pains due to pressure on the nerve roots. Later in the disease the spine is as if the vertebræ had been soldered together. This condition may be complete or limited. There is present a certain amount of deformity of the spine as well as the stiffness. The upper part of the backbone curves forward. Ankylosis of the shoulder and hip-joints is a second marked feature of the disease. The disease is undoubtedly more common than has been generally supposed. As to prognosis, Goldthwait believes that with an early diagnosis and proper treatment it is better than was formerly supposed. The danger to life itself is trifling. The general condition of the patient should receive attention. The tendency to constipation should be corrected. Good food, plenty of fresh air, and tonics should be advised. Local warmth is agreeable to these patients, and a thick layer of cotton may be applied next to the skin. Forced movements are not to be used.

**The Fermentation Theory of Infection and Immunity.**—J. W. McLaughlin holds that infection and fermentation are analogous processes or phases of the same process, and that both are due to the operation of the same physical and chemical laws. The active, obvious cause in both processes is a microorganism or an ensyme, which is selective in its activity, in that a definite relation in molecular structure must exist between the acting substance and the substance acted upon before infection or fermentation can take place. The resulting products of the process, whether they be infectious or fermentative, are antibodies which tend to inhibit or to arrest the process of which they are the products. The writer believes that the manifestation of specific energy by ferment and pathogenic cells, which varies with the species and variety of the microorganism, is a result of specific differences in molecular structure of the cells of the different classes. The specific energy of the living ferment or pathogenic cell is capable of converting substances into ferment or pathogenic products whose molecular structure does not deviate too far from the molecular structure of the cell. The forces involved in the fermentation theory of immunity are those operating in nature within and without the living organism. They are the forces which constitute motion in matter. It is seen that the fermentation theory, in many respects, runs parallel to the side-chain theory of immunity. The writer finally calls attention to what may be regarded as weak places in the fermentation theory.

*French and Italian Journals.*

**Hysterical Aphasia.**—M. Raymond reports the case of a young woman, who, after a severe mental shock, became paralyzed on the right side, and was unable to speak. She remained in bed for a month, recovered speech in a fortnight, and in a few months walked normally. Slight cerebral hemorrhage might have been supposed to be present, except that the face was unaffected, the shoulder showed no drooping, the reflexes were normal, and when rising and sitting up from a recumbent position, both legs were raised equally. Moreover there were other signs of hysteria.—*Journal des Praticiens*, November 11, 1903.

**Predisposing Causes of Surgical Tuberculosis in the Italian Army.**—Antonio Perassi considers the following conditions to be the expression of an unstable equilibrium of health, favorable to the invasion and dissemination of the Koch bacillus: (1) Organic weakness, connected with development. (2) Previous tuberculous infection, which has remained latent in the system. (3) A sort of acquired predisposition, depending on imperfect hygiene, or following violent lesions in which the non-success of treatment is in the early stages considered as a cause, and later as an effect of the tuberculous localization.—*Giornale Medico del Regio Esercito*, October 31, 1903.

**A New Method of Administering Oils.**—H. Boissel remarks that the facility with which castor oil can be given in frothing beer is well known to all practitioners. It is, however, not always easy nor advisable to give beer, therefore he has devised a frothing mixture which serves the same purpose. It is in the form of a powder, composed of gum arabic, liquorice, and lactose flavored with vanilla. A pinch of this powder, shaken with a little water, produces a very persistent froth, in which any oily substance as cod-liver oil, castor oil, iodized or phosphorated oil can be given, as well as medicines lighter than the mixture, such as the salicylate of methyl, essence of santal, etc., can be given, without the slightest unpleasant taste.—*Gazette Hebdomadaire des Sciences Médicales*, November 8, 1903.

**Chloride of Lime in Puerperal Infection.**—A. Ethier reports the successful use of this substance in a uterine douche in a case of puerperal infection. One hundred grams of the chloride of lime were dissolved in 1,200 grams of boiled water, and filtered. A glassful of the fluid was mixed in nine glassfuls of hot boiled water, and injected very slowly. He has also used it in cases of simple metritis with a viscid glairy discharge. It liquifies the viscosities, is non-irritating, causes no pain, and is not poisonous like bichloride. In cases of ulcerated and inoperable neoplasms of the vagina with fetid discharge, it causes rapid deodorization. It must not be used in a vagina which has recently been treated by the carbide of calcium without carefully removing all traces of this salt, otherwise the two substances will ignite and explode. Calcium chloride is also indicated in suppurating wounds with no tendency to heal, and in abscess of the breast.—*La Revue Médicale du Canada*, November 12, 1903.

**Seasickness.**—M. Pénaud holds that this affection is a true morbid entity with definite symptoms, the primordial cause being the motions of the ship, accompanied by numerous adjuvant causes. It is a disease of equilibrium, affected first in its orientation, and then accompanied by a complication of symptoms due to a veritable discharge from the centers of equilibrium toward other centers. General kinæsthesia vitiated in its muscular and tactile sensations, plays its part, the rôle of the displacement of the abdominal organs being a prominent one. The other paths of orientation (labryinthine, optical) may also serve as a starting point for the trouble. Faulty equilibration and naupathia are closely connected by their causes and symptoms. The centers of equilibration may in time become accustomed to the motions of the vessel. Treatment should be preventive and curative, etiologic and pathogenic. Etiologic forms of treatment are aëration, ventilation, superoxygenation, disinfection, deodorization, autosuggestion and suggestion medicines. Pathogenic treatment consists in the application of bandages, calagn or wedging of the patient with Auffret's apparatus, the wearing of smoked or red glasses, the fixation of an immovable point on the horizon, closing the eyes, the arranging of a special infirmary in the middle of the ship for seasick patients equipped with all the necessary things for resisting the affection.—*Journal du Mal de Mer*, May–July, 1903.

# Book Reviews.

THE MEDICAL RECORD VISITING LIST, or Physicians' Diary for 1904. New Revised Edition. New York: William Wood & Company, 1904.

THIS favorite pocket record of visits made and to be made, of consultations held, and of surgical and obstetric operations performed makes its usual timely appearance. In addition to the tables of doses of drugs, antidotes, modes of artificial respiration, and other memoranda liable to be needed in emergencies, we find some brief suggestions regarding the writing of wills and a conveniently arranged obstetric calendar for determining the probable date of the termination of pregnancy. The book is well made with tough paper which takes ink readily without spreading, while yet of a sufficiently rough surface for lead-pencil use, and excellently bound in flexible morocco covers.

THE PRACTICE OF OBSTETRICS. By J. CLIFTON EDGAR, M.D., Professor of Obstetrics in the Cornell University Medical College; Attending Physician to the New York Maternity Hospital. Philadelphia: P Blakiston's Son & Co., 1903.

AT first glance, this large and handsomely bound volume, of over 1,100 pages and 1,200 illustrations, suggests a medical dictionary, but despite its apparent voluminousness no space is wasted in theorizing; it is everywhere practical and helpful. The author's long experience as a teacher is evidenced by his painstaking attention to the little details which cause the novice so much trouble, and which are too often passed over in textbooks as unworthy of notice. For example, the toilet of the finger nails is described with the greatest minuteness, and pictures are inserted to show just how the orange stick and the edge of the towel should be used, and how the nails should be groomed.

The book is divided into ten parts, each of which is subdivided into sections, and a table of contents precedes each part and section. Pelvimetry and cephalometry are very properly placed under the head of the examination of pregnancy, and are here considered with all the fulness which their importance demands. The sections on deformities and monstrosities of the fœtus, and on antenatal pathology are very full, and the mechanism of labor is clearly described by a new method. Under obstetric surgery a description is given of a simple operation but rarely mentioned in textbooks, viz., cleidotomy, or division of both clavicles. It has proved very useful in cases of contracted pelvis, after perforation and extraction of the fetal head, in which the shoulders offer obstruction. The appendix contains an interesting description of methods of keeping obstetric histories both in private and institutional practice. Last, but not least, there is an index which cannot fail to evoke the gratitude of the student, for it is almost a book in itself.

INTERNATIONAL CLINICS: A QUARTERLY OF ILLUSTRATED CLINICAL LECTURES AND ESPECIALLY PREPARED ORIGINAL ARTICLES. Edited by A. O. J. KELLY, A.M., M.D. Vol. III. Thirteenth series. Philadelphia: J. B. Lippincott Co. 1903.

THE scientific menu for this term includes Diseases of the Gall-bladder and Gall-ducts, by John H. Musser; Diagnosis of Gallstones, by R. D. Rudolph; Cholelithiasis, by C. G. Stockton; Biliary Cirrhosis, by F. P. Weber; Surgical Intervention in Cholelithiasis, by F. Lejars; and Surgical and Postoperative Treatment of Chronic Gallstone Disease, by John B. Deaver. The therapeutic section contains many good short articles on both surgical and medical topics. The general tone and scope of the work is keeping well up to the standard. There is an excellent colored frontispiece illustrating different forms of malarial parasites as described in the article on malarial infections, by Charles F. Craig. There are papers of interest also on anæsthesia, leukæmia, etc.

AN ATLAS OF HUMAN ANATOMY FOR STUDENTS AND PHYSICIANS. By CARL TOLDT, M.D., Professor of Anatomy in the University of Vienna, assisted by ALOIS DELLA ROSA, M.D. Translated from the Third German Edition and Adapted to English and American and International Terminology, by M. EDEN PAUL, M.D., Brux, M.R.C.S., L.R.C.P. First Section: A, The Regions of the Human Body; B, Osteology. New York: Rebman Company, 1903.

THIS excellent atlas has been a favorite of the German profession and of a few anatomists and surgeons in this country for a number of years, but to the majority of American surgeons it is practically unknown. The latter are to be congratulated on having the work now placed within their reach. An atlas cannot, of course, take the place of a treatise on anatomy, such as Gray's or Cunningham's, for students' use, but as a work of reference it is often more convenient than a textbook, and to the student also it is of service as a means of reviewing and fixing in his memory the knowledge he has gained by practical dissection. For these purposes Toldt's Atlas is not surpassed, so far as we are aware, if, indeed, equalled by any work now published in any language.

The work is to be completed in six parts, of which this is the first. It is devoted chiefly to osteology and contains 377 figures illustrating fully the skeleton and all its component bones, together with the architecture of the osseous structures. The names of all the bones and their parts are given in English, or what passes for English in anatomical nomenclature, and Latin. A very satisfactory index completes the volume.

DISEASES OF THE URINARY ORGANS, INCLUDING DIABETES MELLITUS AND INSIPIDUS. By CLIFFORD MITCHELL, A.B., M.D., Professor of Renal Diseases in the Chicago Homœopathic Medical College, Urologist to the Chicago Laboratory for Clinical Diagnosis. Philadelphia: Boericke & Tafel, 1903.

THE author believes that the general practitioner of today must be a specialist in all branches, and, with this view, has prepared a special work which, when digested, will fit the digester for doing as well by his patients as a real specialist could. The surgical side of treating kidneys, bladder, prostate, etc., has been given prominence, and the strictly medical practitioner has no excuse for not knowing that in conditions usually considered strictly medical the knife may, at times, be applied to relieve painful conditions and even to save life.

LES ACTUALITÉS MÉDICALES; LES MÉDICATIONS RECONSTITUANTES, LA MÉDICATION PHOSPHORÉE, GLYCEROPHOSPHATES, LÉCITHINES, NUCLÉINES. PAR HENRI LABBÉ, Chef de Laboratoire a la Faculté de Médecine de Paris. Paris: J. B. Baillière et Fils, 1904.

THIS is a little bound volume of less than a hundred pages. That the proper manner of giving phosphorus under its various forms is a question of decided importance goes without saying. The chemical features of the existence of phosphorus in our tissues and the possibility of adding to and detracting from the same open up fields of inquiry of decided interest. Modern injection methods and the extended use of various glycerophosphates makes the work of interest to most practitioners.

DISEASES OF THE SKIN: AN OUTLINE OF THE PRINCIPLES AND PRACTICE OF DERMATOLOGY. By MALCOLM MORRIS, Consulting Surgeon to the Skin Department, St. Mary's Hospital, London; Corresponding Member of the K. K. Gesellschaft der Aertze in Wien; Honorary Member of the Wiener Dermatologische Gesellschaft and of the Société Française de Dermatologie. New Edition. Chicago: W. T. Keener & Co., 1903.

Dr. MORRIS' original work had many good features. It was small, concise, and to the point, written with the confidence of one who knows. The revised edition, out about five years ago, has been some time exhausted. In bringing out this new edition, the manual form has been preserved, and additions have been made without increasing much the size.

Though radiotherapy is touched upon here and there, we are surprised not to find more written upon it, knowing from his other publications how much attention the author has given to these newer methods.

Many of the illustrations are wholly inadequate and disproportionate to the worth of the text. In regard to the contagious nature of molluscum contagiosum, the author is strangely reserved, although this seems no longer to be an open question. He is mistaken in his claim that it never occurs upon the palms or soles, hence this cannot be used as an argument in favor of its being of sebaceous glandular origin. While the work is not perfect, it has many points in its favor.

CLINICAL PATHOLOGY OF THE BLOOD. A Treatise on the General Principles and Special Applications of Hematology. By JAMES EWING, A.M., M.D., Professor of Pathology in Cornell University Medical College, New York City. Second Edition. Revised and Enlarged. New York and Philadelphia: Lea Brothers & Co., 1903.

AN index of the amount of work that is being done in hematology is furnished by the statement of the author of this book, that he has added the titles of about four hundred journal articles and monographs which have appeared in the two years since the first edition of his work was published. He has incorporated what was new in these articles in the present edition, the additions and changes being chiefly on technics, the serum test for blood, cryoscopy, and the morphology of blood cells. Ehrlich's theory of immunity is also described briefly. High rank was accorded to Dr. Ewing's book immediately upon the appearance of the first edition, and the sustained excellence of the second edition shows that the favorable judgment of the early critics of the work was not at fault.

# Society Reports.

## NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting, Held November 5, 1903.*

ANDREW H. SMITH, M.D., PRESIDENT.

**Eye Lesions Occurring in Diseases of the Heart, Blood Vessels, and Kidneys.**—Dr. CHARLES STEDMAN BULL read this paper (see page 881).

Dr. FRANCIS P. KINNICUTT opened the discussion (see page 884).

Dr. WARD A. HOLDEN spoke of the pathology of albuminuric retinitis. He divided the alterations in the retina into: (1) The diffuse œdema of the retina and optic nerve; (2) larger hemorrhages and white patches situated a short distance from the disk in the superficial layers of the retina, and (3) small hemorrhages and white patches arranged in a radiating manner around the macula. When the œdema affected the optic nerve, there might be considerable constriction of the vessels. He did not think one could speak of an actual retinitis in many cases; it was usually simply an œdema. The hemorrhages and white patches which appeared at some distance from the disk lay in the superficial layers of the retina and spread out in the direction of the nerve fibers. These began almost invariably as hemorrhages by diapedesis, the red blood corpuscles being poured out by the larger veins. After a time these red corpuscles broke down and were taken up by fatty granular cells, thus producing some of the white patches. Capillary hemorrhages in the macular region were the rule, because here there were no large vessels. When the capillaries became altered small hemorrhages formed, usually in the outer reticular layer. These red spots became very quickly transformed into white ones. These pictures of hemorrhages were in no sense characteristic, because they occurred in a great variety of toxic conditions of the blood, and even might be present as a result of simple arteriosclerosis. In the kidney affections producing albuminuric retinitis there was a condition of anæmia associated with a degenerated condition of the blood vessels and an increased arterial tension.

Dr. EMIL GRUENING said that he had never seen an arterial hemorrhage in the eye; the hemorrhages observed in the eye were, in his opinion, almost without exception, venous.

Dr. J. W. BRANNAN recalled two recent cases, both of women of about forty-five years of age, who had borne children. The first patient was known to have chronic diffuse nephritis, with albumin and casts more or less constantly pressure in the urine. The heart was rather weak. In February, 1902, when recovering from a severe attack of sick headache, she was found unconscious in the bath room. He found her suffering from left hemiplegia. From this she recovered fairly well. There was some slight impairment of vision, but no ophthalmoscopic examination was made. She lived about one year. The case was cited because of the comparative absence of eye symptoms notwithstanding the persistence of a marked albuminuria. The second patient had also been under his care for some years. In September, 1902, there was no albuminuria, but she suffered from chronic indigestion prior to the attack of apoplexy. When seen by him there was some impairment of the right side of the body and left side of the face. There was marked paralysis of the ocular muscles and of the face. She died about one year later. He had learned that she never fully recovered the use of the eye muscles, and that an ophthalmoscopic examination, made during the summer, was negative. Although no albumin had been found prior to the attack of hemiplegia, a large quantity of albumin was found in the urine just after the attack. A few casts were also present. Repeated subsequent examinations of the urine failed to show either albumin or casts. He had had the same experience in connection with other cases of apoplexy.

Dr. THOMAS R. POOLEY commented upon the paucity of our knowledge of this subject despite the voluminous literature. He said that some years ago he had found it exceedingly difficult to observe pulsation of the vessels of the eye in a series of cases of heart disease that he had specially studied with regard to this phenomenon. For this reason the ophthalmologist should be very circumspect in speaking on this point. He had long had grave doubts as to whether the picture said to indicate embolism of the central retinal artery was really due to this cause, and he believed Dr. Bull also entertained such a doubt. In very few of the autopsies reported on cases of embolism had the possibility of other causes been eliminated. In nearly all the carefully observed cases a thrombosis had also been found. It was very difficult for him to diagnosticate disease of the blood-vessels dependent entirely upon senile changes. With the ophthalmoscope one could only detect senile arteriosclerosis by observing a diminution in the size of the blood column, and when such a picture was observed one should be careful to exclude other conditions, such as syphilis, before putting the case down as senile. Typical cases of Bright's neuroretinitis were, in his opinion, few and far between. In many cases of granular degeneration of the kidneys he had found only petechial hemorrhages. The speaker said that he had been one of the first in this country to write upon the subject of the induction of premature labor in cases of albuminuric retinitis. This was about twenty years ago. He was strongly impressed with the necessity of inducing premature labor in cases of Bright's neuroretinitis, and these were the only cases that made the exceptions in the bad prognosis. If labor were promptly induced before the ocular disease had gone too far, restoration of sight might be expected. Dr. Bull's report of 103 cases was one of the most complete and classical studies in the whole literature of this subject. Dr. Pooley referred to the occurrence of hemorrhages in the eye between the retina and the vitreous, and also to the fact that many persons who had had subconjunctival hemorrhages subsequently died of cerebral hemorrhage.

Dr. H. KNAPP said that there were not only hemorrhages of the central retinal artery, but of its branches. Several such cases were described. With regard to choked disk he said it occurred principally in connection with disturbance of the intracranial circulation. It was true that it often occurred with tumor of the brain, but it was also present in connection with certain nervous diseases and with Bright's disease.

**Medical Superintendent for the State Tuberculosis Hospital.**—Dr. ALFRED MEYER announced that a civil-service examination would soon be held for the selection of a medical superintendent for the new State Hospital for Tuberculosis at Raybrook. The salary would be $3,500 besides maintenance, and the superintendent would have a handsome suite of rooms at his disposal. Applicants for the position must have had at least six years' actual practice of medicine, and have spent at least one year in an institution for consumptives. This special experience would count 50 per cent. on the examinaion. Further details could be obtained by applying to the Civil Service Board, Albany.

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*Anniversary Meeting, Held November 19, 1903.*

ANDREW H. SMITH, M.D., PRESIDENT.

**Anniversary Address: "The Economic Value of Medical Science."**—Dr. W. GILMAN THOMPSON delivered this address. He said that unquestionably the most far-reaching economic benefit in recent years arising from medical science was that the public was being taught not to flee from epidemics and pandemics, but to stay and control them. The shotgun quarantine was rapidly becoming a thing of the past. In 1853 the mortality from yellow fever in the districts in which it prevailed was as

great as from the plague in other parts of the world. To-day, instead of paralyzing the business of whole communities, the mosquito was killed, the rat destroyed, and the drinking water boiled. It was a hope, fully capable of realization, that the plague would be restricted before long to its home, the valley of the Euphrates. Malaria was now to be recognized as a preventable disease. It was easy to estimate the cost of this disease in any given locality. The mean annual mortality from malaria in Italy was estimated at 15,000, and there were about two million cases annually.

In the early days of the past century a large proportion of persons above twenty years of age were deeply pitted by smallpox, yet it was very rare to meet such a face to-day. Within the past decade in the State of Massachusetts alone the mortality from tuberculosis had been reduced exactly one-half. Typhoid fever and epidemic dysentery were now known to be completely preventable, and it was no fault of the science of medicine if the public did not adopt the measures necessary for their prevention. Not the least among the important aspects of medical science was the amount of capital invested in its colleges, research laboratories, training schools, and hospitals. The 125 medical schools of this country possessed property valued at over eighteen million dollars, and endowment funds exceeding eight million dollars. It was interesting to note that the schools of theology, while possessing nearly the same amount of property, enjoyed nearly five times as much in endowment. In the United States the twenty-nine schools for the feeble-minded represented a property value of more than three and a half millions, and the thirty-seven schools for the blind, six millions and a quarter dollars' worth of property. It was a conservative estimate that in this country alone there were three or four hundred million dollars' worth of property which had arisen mainly during the past two generations, largely from the coöperation of medical knowledge with humanitarian aims. In the care of criminals and of the insane great advances had been made, largely through the enlightenment brought about by medical science. It had been ascertained that 90 per cent. of the cases of insanity had their origin in errors of the body of the nature of chronic disease. It had been shown especially in this city that the place to check the spread of many of the contagious diseases was at the entrance to the public schools. The teachers of these schools should be masters of physiology and hygiene. In the hygienic problems of our own city we had much to learn and much to apply. The pupil, the public, was always late at school, if not an actual truant. The questions of proper ventilation of our tunnels and cars, the limitation of the building of skyscrapers, the avoidance of spreading clouds of dirt through the streets and in the eyes of pedestrians when removing ashes, were all matters which concerned the public at the present time. The public should insist that the members of health boards should have scientific training, capacity, and force. It had long been recognized that in all protracted military campaigns more men die from disease than from actual warfare. In camp life, at least, epidemics were preventable. The mortality from disease in early campaigns had been truly horrible. Of even greater importance in an active military campaign was the health or efficiency of an army, and recent years had shown a most gratifying improvement in this respect. The various methods of food preservation, although in some instances antedating bacteriology, were all expanded by it, and their efficiency had been greatly enhanced by its aid. Bacteriology, fundamentally a department of medical science, had been expanded to proportions which it was difficult for the mind to appreciate. The science of meteorology in this country had its origin in careful systematic observations of climate by the medical department of the army. In 1774 American medical literature comprised one new book and three reprints; to-day the output in medical science in this country was, on an average, one new book for each working day in the year, to say nothing of the many journals. The thirty years of bacteriology, in all its applications, had done more for mankind than all the medical researches that had preceded it.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION ON OBSTETRICS AND GYNECOLOGY.

*Stated Meeting, Held October 22, 1903.*

L. J. LADINSKI, M.D., CHAIRMAN.

**Tubo-ovarian Abscess; Extensive Pelvic Peritonitis, Probably the Result of Typhoid Fever; Abdominal Panhysterectomy.**—Dr. H. J. BOLDT reported this case, and presented the specimen. He said that it had been known for many years that infectious diseases had a detrimental effect on the pelvic organs, but that typhoid fever should have such a remarkable influence as in this particular case seemed inexplicable. However, the history pointed so directly to this being the case, that no other interpretation appeared to be warranted. The woman, D. T., had been sent to his service from Connecticut with the history of having been perfectly well up to an attack of typhoid fever, and of having since then suffered from pelvic pain and obstinate constipation, and at times discharges of pus with the movements of the bowels. Examination revealed an extensive pelvic exudate with the uterus tightly fixed in retroflexion. The adnexa were seemingly embedded in this exudate. The diagnosis from bimanual examination was suppurative salpingitis with the pus cavity probably communicating with the rectum. On opening the abdomen it was found that the diffuseness of intestinal adhesions from the pelvic peritonitis had been underestimated. The pyosalpinx on the left side communicated with the large bowel, and, after separation, the intestinal opening was closed with catgut sutures. The left ovary was not suppurating, but was firmly adherent. The tube was loosened, but the gland was left attached to the pelvic wall by its adhesions. On the right side was a tuboovarian abscess, with much thickening of the parametrium. The abscess ruptured during enucleation. The wound surface being so large, and the bowel having been slightly injured so low down, suture was out of the question, accordingly a pan-hysterectomy was done and the pelvis packed with gauze. The appendix vermiformis was unusually long, probably fully ten inches, and extended upward nearly to the liver. There was considerable inflammatory thickening, and it was adherent throughout. It was removed. It was now the third day since the operation, and the highest temperature had been 98.4°F.

**Unruptured Ectopic Gestation.**—Dr. BOLDT also presented this specimen, which was taken from a woman who had no bloody discharge whatever. A diagnosis of tubal abortion had been made. The case emphasized the fact that one could not distinguish tubal abortion from a slowly produced tubal rupture.

**Dermoid Cysts of Both Ovaries.**—Dr. CHARLES F. ADAMS presented this specimen, which he had removed two or three weeks ago from a single woman, twenty-six years of age, who complained only of some pain in the left iliac region. He said that while these dermoid cysts were frequently met with, it was quite uncommon to find them in both ovaries.

Dr. P. A. HARRIS said regarding Dr. Boldt's specimen that he believed the operator frequently ruptured the fetal membranes during the operation. He had succeeded in securing three such specimens of intact fetal sac. He had never met with pelvic inflammation apparently resulting from the acute infectious diseases.

Dr. J. FINLEY BELL asked Dr. Boldt whether he regarded the salpingitis in the first case as a local typhoid focus, and whether any cultures were made from the pus.

Dr. L. J. LADINSKI said that he had recently seen a woman with a large abscess extending down from the diaphragm almost to the pelvis. She was at the time

in the third week of typhoid fever. On performing laparotomy, it was discovered that the abscess had originated in the gall-bladder, and involved not only the appendix but also the tube and ovary on that side. In this case there was absolutely no question about the infections having spread through the colon to the gall-bladder, appendix, and adnexa. He could not at the moment recall any case of pelvic inflammation which could be attributed to typhoid infection. With regard to the second specimen he would say that if the physician had an opportunity of watching the patient sufficiently long the diagnosis of tubal abortion was possible. Dr. Boldt's case was the first one that had come to his knowledge in which there had not been some bleeding, and it was possible that the history was incorrect.

Dr. BOLDT said that the only reason for believing that the pelvic inflammation was the result of the typhoid fever was that there was nothing in the history pointing to any other infection, and the pelvic symptoms did not develop until she suffered from this disease. The pus had not been examined for typhoid bacilli. So far as the differential diagnosis between tubal abortion and partial tubal rupture was concerned, it was his opinion that it was absolutely impossible to differentiate these conditions. He had watched this patient for two or three days, she was quite intelligent, and a special effort had been made, not only by himself but by several other physicians, to secure a correct history in this case. This ectopic gestation was in the fifth or sixth week.

**Experience with Vaginal Section at St. Joseph's Hospital, Yonkers.**—Dr. HENRY MOFFAT presented this report of the work done in this field by the visiting staff of St. Joseph's Hospital, viz., Drs. Hermance, Warren, Duffy, Mooney, Austin, Foy, and himself (See page 886).

Dr. J. RIDDLE GOFFE said that there was not much to add, as the paper contained a frank statement of the results, both good and bad. The staff were to be congratulated on this series of excellent results, particularly as these men laid no claim to being gynecological surgeons. At one time he had himself thought, as did the reader of the paper, that the longitudinal incision was unnecessary, but when the longitudinal incision was made, the fundus could be brought down into the vagina, allowing of taking up the necessary slack in the round ligaments. He was in the habit of making this incision now for his hysterectomies. It was interesting to note that a uterus prolapsed to the introitus could be held in position, as a result of anterior colpotomy, and the patient afterward give birth to a child with so much comfort. He was particularly pleased to learn of this case because this operation had been accused of causing dystocia. The experience of all surgeons seemed to justify the conclusion that in puerperal septicæmia the less the surgical interference the better for the patient. One should meet indications as they arose, such, for example, as opening up pockets of pus, instead of resorting to a more radical procedure.

Dr. E. M. HERMANCE said that he could substantiate what had been said in the paper with regard to the practical value of this method of dealing with pelvic disease. The first time he had tried the method he had done a posterior section for pyosalpinx, and the results had been so excellent that he had since been a staunch advocate of this mode of treatment. The use of the posterior vaginal incision for the purposes of exploration was most important. A case in point was cited. He believed such satisfactory work as they had done on the tubes and ovaries could not have been accomplished in any other way.

Dr. BOLDT said that in determining upon the route for the operation one should consider the size and distensibility of the vagina. It was his experience that while the pelvic could be made accessible through any vagina, if the latter were rigid it would be necessary to make a longitudinal incision through the vagina. Under such circumstances he preferred to do an abdominal section. Whenever a case was suitable for vaginal section this should be selected, as the patients made a smooth and rapid convalescence. Of the two methods, that by the vaginal route was the more difficult. Some years ago when he was doing more vaginal work than at present, his colleagues had opposed it very strongly, yet these same gentlemen were now ardent advocates of vaginal section while he was disposed to limit it more than formerly.

Dr. P. A. HARRIS said that the advocates of the vaginal route had not assured him that the appendix could be excised by this method, and as one who removed the pus tubes through the suprapubic route he felt interested on this point because every now and then he saw, in connection with these operations, an appendix which should be removed. The value of the cul-de-sac incision could not be overestimated in cases of abscess formation, especially after childbirth and abortion. The abscess usually formed in nine or ten days. He was sure that in many cases of double pyosalpinx complicated by abscess of one ovary, the interests of the patient were best subserved by a simple vaginal incision with evacuation of the abscess, and allowing the patient to recover from the sepsis. Some of these patients would not desire any further treatment. This complete and honest presentation of the subject by the surgical staff of St. Joseph's Hospital made it all the more interesting. Only that very day he had done his one hundred and first operation for vaginal hysterectomy. Of the preceding one hundred operations, death occurred on the twenty-second, twenty-fifth, sixty-fourth, and seventy-fourth operation, the operation being done for a variety of conditions.

Dr. LADINSKI said that while he would admit that the vaginal route was preferable in some instances, his personal preference, in most cases, was for the abdominal route. His reason for this was that his experience up to the present time necessitated this view. With the Trendelenburg position he did not hesitate to attack a large pus cavity connecting with the abdominal cavity, yet such cases could not be properly reached from below. Mention was made of a case in which if the vaginal route had been selected it would have been impossible to avoid cutting into the rectum and bladder, for they were adherent to the abscess wall in such a way that any incision from below would have injured them. The paper was interesting as showing what could be accomplished in this field by general surgeons.

Dr. Moffat, in closing the discussion, said that these cases were not offered as an argument in favor of the vaginal route, but simply to show what they had been able to accomplish by this method; certainly every surgeon should perfect himself in both methods. The point made by Dr. Goffe regarding the longitudinal incision in the vagina was very well taken.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION ON MEDICINE.

*Stated Meeting, Held November 17, 1903.*

LEWIS A. CONNER, M.D., CHAIRMAN.

**Mitral Stenosis with Multiple Emboli.**—Dr. A. W. HOLLIS reported this case and exhibited the patient. He said there were at least five definite emboli, and they were of unusual size. The marked constitutional disturbance was good evidence of the size of the renal and splenic emboli. In ordinary health, plugging of the posterior tibial or peroneal artery by an embolus should not give rise to gangrene, but in consideration of the valvular disease of the heart, it was not surprising that gangrene should have occurred in this instance.

Dr. L. A. CONNER thought that these large emboli might possibly have arisen from thrombi behind the stenosed valve, and not from vegetations on the valves. The degree of spasticity present in the patient at the present time did not auger well for further improvement.

**Urostealith Calculi.**—Dr. E. E. SMITH exhibited these calculi. They were composed of fatty matter in crystalline form, and were almost entirely soluble in ether, the composition being about one-third neutral fat and two-thirds free fatty acids. Such calculi had been described as long ago as 1855 by Heller. In the case from which one of the calculi presented had been obtained an operation on the kidney had been required subsequently, and this revealed a similar calculus in the kidney, thus proving conclusively that these calculi might be formed in the body, although several observers in the past had maintained that the fatty matter was introduced from without, and was not formed in the body.

**Some Notes on the Widal Reaction.**—Dr. E. LIBMAN read a paper with this title. He said that experience had shown that if the blood were used immediately after drying, the result was not as good as if it were used some hours later; however, in the summer, if the blood were not used for the test within twenty-four hours, it was not so easy to obtain the Widal reaction. Moreover, the result was not so good if the drop of blood were so large that coagulation occurred before drying. It had been noticed at the laboratory of the Mount Sinai Hospital that each year in the month of October the Widal reaction was obtained much earlier in the disease than at other times, and that this period varied somewhat in the different months. At present he was not prepared to offer an explanation for this curious fact. It had been found very often that the Widal reaction was negative with a dilution of one to fifty, until quite late in the disease, whereas it was positive with a dilution of one to twenty. Still more interesting and curious was the fact that the reaction was occasionally positive with a dilution of one to fifty, and was negative or uncertain with the lower dilution of one to twenty. His own experience proved that the dilution of one in twenty was perfectly reliable, and because of the varying results with different dilutions, it was their practice to use both dilutions in every case. The explanation offered for the occurrence of a positive reaction with a high dilution and of a negative reaction with a lower dilution that it was dependent upon the presence of certain bodies, called proglutinoids; in other words, that certain bodies developed from the agglutination, which could combine with the bacilli, but lost the power of combining with the agglutinin.

**Jaundice and the Widal Reaction.**—The work done in this field by various observers was briefly reviewed by Dr. LIBMAN. He pointed out that a number of the reported cases, claimed to be evidence that the presence of jaundice often led to a positive Widal reaction, were far from being convincing on this point, as no effort had been made by bacteriological examinations to determine whether or not typhoid bacilli were present in the gall-bladder, in the fæces, or in the urine. If such examinations had been made, it would have been possible to exclude typhoid fever. The speaker said that in his own studies he had examined the bile in cases of various diseases. Even with a dilution of one to one he had not obtained any characteristic reaction, although occasionally there had been very slight, though imperfect, clumping. In only four cases had they obtained a positive Widal reaction in the presence of jaundice; in all the others, if there was any clumping present, it was no greater than could be obtained from normal blood. One of the positive cases apparently was one of paracolon infection, but as he was inclined to think there was mixed infection, the result was indecisive. In another one of the positive cases, an operation was done for cholelithiasis, and typhoid bacilli were recovered from the gall-bladder, although there was no history of an attack of typhoid fever, and the patient had suffered from cholelithiasis, according to the history, for thirty years. Another one of the cases proved to be cholecystitis occurring during typhoid, and associated with jaundice. The other positive case was also proved to be one of typhoid infection. It was very probable that the cases of positive Widal reaction reported as occurring in that indefinite disorder called "Weil's disease" were examples of infectious jaundice dependent upon typhoid.

Dr. F. C. WOOD said that in his own work at St. Luke's Hospital serum only was used, and in each case dilutions of one to twenty, one to forty, and one to sixty were employed, with a time limit of one hour. In four cases they had obtained agglutination, and had apparently been able to exclude typhoid.

Dr. LIBMAN said that the combination of jaundice and typhoid was rather rare, and, hence, if Weil's disease were nothing more than a combination of typhoid infection and jaundice, the number of reported cases of this disease would be different. His own opinion was that the term "Weil's disease" included several affections characterized by jaundice.

**The Early Diagnosis, and Some New Points in the Treatment of Pulmonary Tuberculosis.**—Dr. W. FREUDENTHAL read this paper. He said that, having practised laryngology for many years, he had made it a rule to look carefully for tuberculosis in every case of persistent laryngitis, and he had been surprised at times at his ability to detect in this way a pulmonary tuberculosis that had been hitherto unrecognized. He was convinced that a great number of those who suffered from dry atrophic rhinitis fell victims to tuberculosis. In many tuberculous subjects one would find very early a peculiar anæmia of the soft palate, and of a large part of the hard palate, associated with more or less congestion of the adjacent parts. Such individuals were very apt to show the well-known general congestion of the larynx with the characteristic pallor of the epiglottis. Every now and then one met with cases in which all of the usual diagnostic signs failed, and then one should resort to the injection of Koch's tuberculin. He had employed this agent for diagnostic purposes in thirty-one cases, six in private, and the remainder in hospital practise. The initial dose was half to two milligrams. If no reaction occurred, the dose was increased to three or five milligrams, and in rare instances, even up to eight or ten milligrams. The injection was made into the shoulder. In none of the cases did he recall any unpleasant results. Of the thirty-one cases, fourteen reacted after the first injection, twelve after the second, while five did not react at all.

With regard to therapy, he said that he believed the electric light was an important factor in the treatment of pulmonary tuberculosis. He had found that it acted as an anodyne, except in tuberculous laryngitis, that it favored expectoration and exerted a beneficial influence upon metabolism. By the use of the electric light the activity of the skin was greatly increased, and the deeper organs were also stimulated. The greater the proportion of oxygen in the body, the better the effect of the electric light. To secure this advantage he had adopted the old therapeutic resource of introducing carbonic acid gas per rectum, which caused a corresponding increase in the interchange of oxygen. He had employed this combined method of electric light and carbonic acid gas treatment in fifteen cases, eleven of which had shown decided improvement. The electric light was thrown successively upon different portions of the chest in order to avoid overheating.

Dr. S. A. KNOPF said that he always took the opportunity to denounce the use of tuberculin as a diagnostic method. He felt sure that very few physicians would be willing to have tuberculin injected into themselves, or into any member of their families, and this being the case, they could not conscientiously employ it on others. That the tuberculin was unreliable in diagnosis was shown by the fact that the reaction had been obtained in syphilis, actinomycosis, and in purely anæmic individuals without any taint of tuberculosis. He had been told by Dr. Janeway of a case, seen in consultation, in which there was every reason to believe that a sudden generalization of a very

early tuberculous lesion had been produced by the family physician's having injected tuberculin. If painstaking inquiry and careful physical examination failed to make the diagnosis, he would personally rest content, and would treat the individual as if he had tuberculosis. The taking of the rectal temperature before and after exercise was one of the most hopeful of diagnostic resources in cases of suspected tuberculosis.

Dr. MAX EINHORN said that he had made many injections of tuberculin shortly after Koch's first publication of his method, and while no deaths occurred, he had noted in some of them an extension of the lesion, and in a number of others there had been hemorrhages apparently as a result of the tuberculin injection. While the electric light and many other agents would no doubt prove valuable in treatment, he was inclined to believe that even fifty years hence diet would remain preëminent in the therapy of this disease.

Dr. GEORGE MANNHEIMER said that if the body temperature rose half a degree or a degree after an ordinary walk it was certainly very suspicious of tuberculosis. Another diagnostic point was a tenderness of the upper dorsal vertebræ. Careful percussion of the extreme apices of the lungs was also very useful. He was not disposed to try the electric light or the carbonic acid gas treatment, because there was no experimental evidence to show that such methods possessed any bactericidal power, or were of special service. Such methods were certainly useful, but chiefly by reason of the fact that the patient was thereby kept constantly under medical supervision.

Dr. L. A. CONNER said that a few days ago a hospital patient had been given a rather large dose of tuberculin—if he recalled correctly, about one or two milligrams. As a result, there had been a terrific chill, hyperpyrexia and collapse, and for some time it was feared the patient would die. This experience was, of course, exceptional, but it was proper to report it. There were so many cases in which the diagnosis was doubtful that a reasonably safe and reliable method was certainly desirable.

Dr. Freudenthal, in closing the discussion, said that recent investigations did not substantiate the assertion that tuberculin caused a reaction in syphilis, anæmia, and other non-tuberculous disorders. A case was mentioned in which the question of extirpation of the larynx hinged upon the diagnosis, and the injection of tuberculin had cleared up this diagnosis. Hemorrhages had not been observed in recent years from the injection of tuberculin in the moderate doses now recommended.

## THE PRACTITIONERS' SOCIETY OF NEW YORK.

*One Hundred and Eighty-second Regular Meeting, Held on Friday, October 9, 1903.*

DR. CHAS. S. BULL, PRESIDENT, IN THE CHAIR.

**Injuries to the Chest Wall Complicating Medical Diseases.**—Dr. WALTER B. JAMES read this paper, in which he reported four cases of serious injury to the chest wall from coughing. They were all in persons at early middle life, three females and one male. One occurred in the course of a severe attack of measles, two in influenza and one in whooping-cough. In two of the cases the evidences of fracture of the rib were so plain as to make the diagnosis of this condition certain; in the other two cases the same diagnosis was probable but could not be made certain. All of the cases were characterized by intense localized pain over one of the ribs, or over the costochondral junction, with extreme tenderness to even the slightest pressure. In all of the cases the duration was long, the pain and tenderness sometimes persisting for several months. In no case was there any accompanying pleurisy or any other serious complication. In all of the four cases there was ultimately a complete recovery without any disability whatever.

Dr. James had collected forty cases of similar nature from the literature, and he expressed the belief from this, and his own experience, that this injury was more common than generally supposed. He suggested also the likelihood that many of the cases of severe localized thoracic pain so common in various pulmonary complaints associated with coughing may be due to injuries of greater or less severity but of the above nature. He referred to the possibility that many of the cases of intercostal neuralgia may be of this type.

Dr. H. F. WALKER, who opened the discussion, said he had never had such an experience as related by Dr. James, although he had frequently seen cases with localized pain produced by attacks of coughing, and this he had attributed to rupture of muscular fibers, the result probably of spasmodic action of the muscles. In his own cases he said that it would be difficult to believe that a fractured rib had occurred. He would exclude fracture of the rib where no protective callous could be found. The tenderness which followed rupture of muscular fibers was oftentimes persistent; and, in one case, this seemed to last longer than the time required for the healing of muscular fibers, giving rise to a persistent neuralgia; the neuralgia and tenderness being so great that it prevented the woman wearing a corset for some time. Thinking it might be *à propos* to the subject, he referred to the separation of a costal cartilage from the rib which would not require a great deal of force to produce. Such an injury he had received once while having massage; this troubled him for months, but healed without special treatment. He mentioned this as showing that such injury could be easily produced by force as slight as massage.

Dr. JOSEPH D. BRYANT said he was very much interested in the paper presented. It had never yet fallen to his lot to have seen a case of fracture of the rib arising in the manner described, *i.e.* from muscular action. In such cases he thought the diagnosis would rest between (1) laceration of the muscular fibers which were inserted into the rib at that situation, (2) fracture of the rib from muscular action, as described by the reader of the paper, and (3) intercostal neuralgia. In rupture of the muscular fibers of the serratus magnus, the seat of pain was usually situated laterally in a line with the axilla. In reviewing the anatomy of the intercostal nerves he stated that the upper six gave off anterior and posterior branches, the posterior branches supplying the integument covering the spinous processes, while the anterior branches ran forward and divided into lateral cutaneous branches in the axillary line; these latter subdivided into anterior and posterior branches. The main trunks finally go forward, becoming known as the anterior perforating branches. He had been able to locate three tender points of distribution, namely, one close to the spinous process, one laterally, and the third in front corresponding to the respective branches. Almost invariably the posterior perforating branch was present. The arrangement of the intercostal muscular construction was such that he believed it to be almost impossible to fracture a rib by intercostal muscular violence; the intercostal muscles bound the ribs together, making them very secure. He had no doubt but that there might exist a condition of the rib in which the diaphragmatic, and serratus magnus muscular contraction incident to severe coughing, might give rise to fracture. But, on account of the different ages of these patients he was inclined to believe that in many of the older fractures might be confounded with intercostal neuralgia. With regard to the lower ones being fractured, he could understand how the diaphragm might contract so vigorously as to cause such an injury to the rib. He could also understand why fracture should occur more frequently on the left than on the right side, because of the greater contraction there due to the presence of the liver on the right. He said it should be borne in mind that intercostal neuralgia was said to occur

more often on the left than on the right side; therefore, it was the more easy to mistake rib injuries of the left side for intercostal neuralgia. The amount of callus thrown out in fracture of the rib was very small indeed, but a great aid in diagnosis was the false point of motion produced by pressing upon the rib on either side of the seat of fracture. A separation of the costal junction should be carefully considered. In fracture pain and tenderness are quite easily and promptly alleviated by constricting pressure, and the period of cure more certain and definite than in neuralgia.

Dr. ROBERT ABBE said that he was particularly interested in one of the cases referred to by the reader of the paper, because it was one of the most unmistakable cases of fractured rib that he had ever seen. This patient had had a violent paroxysm of coughing while the body was in an uncomfortable position, and a fracture of the eighth rib in the axillary line had resulted. All the physical signs were present, including crepitus. He believed that there had been a fixation of the posterior portion of the ribs by the latissimus and serrati muscles, and the paroxysm of coughing, with the body bent, forced the anterior portion of the ribs against this barrier, causing the fracture of one rib.

Dr. BEVERLEY ROBINSON said he had never seen such cases as reported by Dr. James. He had hoped that the reader of the paper would touch upon a point that had recently been discussed before the Pennsylvania State Medical Society, *i.e.* how far contusions of the chest wall might predispose to tuberculosis. He had had recently at his clinic at Bellevue a man who was coughing all the time he was lecturing; the man came to the clinic to have his cough stopped. He did not succeed in stopping it, but he made suggestions which, he had no doubt, would aid him. He had seen cases of the most obstinate coughing, resisting all kinds of internal medication, which were arrested by a few applications to the lingual tonsil of tincture of iodine and glycerin. He had known other cases, resisting all internal remedies, corrected by attention to ulcerations about some growth in the commissure of the larynx. Often local applications must be made to cure certain obstinate coughs.

Dr. WALTER B. JAMES closed the discussion, saying that the purpose of his paper had been to bring before the society a brief report of five cases of tolerably serious injury to the ribs from coughing. He was much interested in the remarks of Dr. Walker. He had himself intended to speak of minor chest injuries from this cause, such as the slight tearing of a muscle, a number of which had come under his personal notice. These cases he had not included in his report. These accidents and injuries of the periosteum, accompanied by pain, reminded him of the conditions met with in veterinary practice; in which there was a lesion of the periosteum from a sudden strain. As a result of these injuries bony or fibrinous material was thrown out, causing a thickening and interference with tendons.

In answer to Dr. Bryant's remarks, regarding the frequency of intercostal neuralgia, and the likelihood that the cases reported had been really of this nature, he replied that one patient, who was a young physician, a man in robust health, had also been seen by Dr. Abbe, and here the fact of the fracture of the rib being present was beyond dispute. In another case also the patient had been seen by a well-known surgeon, who verified the diagnosis.

In the others the point of tenderness localized directly over the rib, with the fact that it was elicited on pressure upon the rib at a distant point, and the presence of a localized swelling made it perfectly clear that the cases were not simply neuralgias. He believed that such cases are more common than is generally supposed, and suspected that such injuries were often the origin of many chest pains that were attributed to intercostal neuralgia.

**Foreign Body in the Bronchus.**—Dr. ROBERT ABBE reported the case of a young lady who had inhaled a black-headed shawl-pin, two and a half inches long, made of steel, having a very sharp point. She had the pin between her teeth and, while laughing and talking hilariously, inhaled it. She came to St. Luke's Hospital chiefly on account of the persistent cough. There was no fever. An *x*-ray showed the pin head behind the heart, and the point near the middle line. The photographic plate showed the situation of the pin very well. It was shown in its true shadow. A large low tracheotomy wound was made in the attempt to get it. A small laryngeal mirror showed the glistening black pin apparently transfixing the left bronchus. After grasping the pin he attempted its removal by manipulation, but failed, for the point had traveled upward in its course, piercing the division of the bronchus. At first it was tightly fixed in its position, the head of the pin being further down, and efforts at removal tended to drive the point in. After working one-half or three-quarters of an hour he desisted. He bent a long wire into a loop and bent the loop back as a hook, and he then engaged the hook under the point of the pin near the bifurcation of the bronchus. A cannula was then passed down to the hook and an attempt made to get the point of the pin hooked up into the cannula, but it was too tightly fixed. The patient made a good recovery from this operation. The hook was left *in situ*, thinking it might be of service in devising some other operation. The second *x*-ray showed the pin to be occupying a different position, and the end of the pin engaged in the hook of the wire. The Trendelenberg position was used in the second operation in order to lessen the danger from inhalation pneumonia. The second attempt was as unsuccessful as the first. A third attempt was made—a failure followed. Nature was then given a chance. A fourth operation was performed and the pin was grasped a number of times. Three distinct subdivisions of the bronchus could be differentiated by the curved dressing forceps. At the end of one hour's trial he asked his house-surgeon, Dr. Hodgson, to examine the patient and appreciate the facility of introducing the forceps into the third bronchial subdivision, and, incidentally, if by good fortune the pin had finally become dislodged, to spread the forceps and see if, by chance, he might bring it out. The forceps caught the pin by its tip-point and brought it out of the tracheotomy wound, the sensation of the glass head turning the corner in different bronchial divisions, being plainly perceptible. Dr. Abbe wished to emphasize the importance of the Trendelenberg position to prevent inhalation of clots and to lessen the chances of the patient getting an inhalation-pneumonia, or any reaction, in cases of trachea surgery. It also showed him that almost any part of the trachea divisions may harbor foreign bodies which can be reached through a large low tracheotomy wound. His review of the literature of posterior thoracotomy reaching the trachea through the mediastinum showed such uniform mortality that a persistence for four operations through a trachea wound was more than justified by the result.

**A Case of Broncholithiasis.**—Dr. WALTER B. JAMES reported this case and showed a calculus coughed up by the patient. The patient was a woman fifty-five years old, and she presented all the classical symptoms of the condition. She gave a history of having always been well until fifteen months ago, when she took cold. Her cough persisted and soon became paroxsymal in character, like a whooping-cough, but without the whoop. She began to raise blood with these paroxysms in moderate quantity. She began to develop moderate oppression of breathing, lost some strength, but no flesh. Her paroxysms then gradually became more severe. The physical signs of emphysema were obtained over the chest. Over the middle of the right upper lobe in front there was a very slight dulness, and the respiratory murmur was cog-wheeled. An examination of the sputum showed mucus with very slight purulent mixture and much blood-stained. A few days after being examined she coughed up this concretion.

It was clear that the case was one of chronic bronchitis,

associated with the formation of bronchial concretions, situated probably in small dilatations of the terminal bronchi. Such cases are exceedingly rare. The one reported presented the classical symptoms belonging to this condition. Several explanations had been given of the origin of such concretions; one that they were the result of calcareous degeneration of bronchial lymph nodes, the calculi then ulcerating through into the bronchi; another that they were small calcareous nodules from tuberculous foci in the lung; another that, they were formed *in situ* in the small bronchi by the deposit of the salts of lime in stagnant sputum.

In the case reported, the unusual paroxysmal cough, which refused to yield to any remedies, the frequent expectoration of blood-stained sputum, the gradual onset of chest oppression, together with the absence of tubercle bacilli, and the absence of any marked physical signs of disease, pointed to the fact that the calculi were probably an important element in the genesis of the diseased condition.

Dr. H. M. BIGGS said he was reminded of an extraordinary case found on the autopsy table. The man had died suddenly on the street when apparently he was in the best of health. At autopsy it was accidentally found that the lung was filled with branched spiculi, with points very fine. They were of the nature of true bone. When left on the table the spiculi stood up as if the tissues were filled with pins. He had found such cases reported, but had never seen any explanation for the growth of bone.

## Books Received.

*While the* MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

DISEASES OF THE NOSE AND THROAT. By CHARLES HUNTOON KNIGHT, M.D. 8vo, 423 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia, Pa. Price, $3.00 net.

INTRACRANIAL TUMORS AMONG THE INSANE: A STUDY OF TWENTY-NINE INTRACRANIAL TUMORS FOUND IN SIXTEEN HUNDRED AND FORTY-TWO AUTOPSIES IN CASES OF MENTAL DISEASE. By I. W. BLACKBURN, M.D. 8vo, 94 pages Illustrated. Government Printing Office, Washington, D. C.

NURSES' GUIDE TO SURGICAL BANDAGING AND DRESSING. By WM. JOHNSON SMITH, F.R.C.S. 48mo, 167 pages. Illustrated. J. B. Lippincott Co., Philadelphia, Pa. Price, 75 cents.

HYPNOTISM, ITS HISTORY, PRACTICE AND THEORY. By J. MILNE BRAMWELL, M.B. 8vo, 478 pages. J. B. Lippincott Co., Philadelphia. Price, $4.50 net.

A NARRATIVE OF MEDICINE IN AMERICA. By JAMES GREGORY MUMFORD, M.D. 8vo, 508 pages. J. B. Lippincott Co., Philadelphia, Pa Price, $3.00.

CHEMISTRY INORGANIC AND ORGANIC WITH EXPERIMENTS. By CHARLES L. BLOXAM. Ninth Edition. By JOHN M. THOMPSON and A. G. BLOXAM. 8vo, 872 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia, Pa. Price, $6.00 net.

PROGRESSIVE MEDICINE, VOL. III. By HOBART A. HARE, M.D. 8vo, 398 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

A SYSTEM OF PHYSIOLOGIC THERAPEUTICS, VOL. 8. REST, MENTAL THERAPEUTICS, SUGGESTIONS. By FRANCIS X. DERCUM, M.D. 8vo, 332 pages. P. Blakiston's Son & Co., Philadelphia. Price, $2.50 net.

A HANDBOOK OF OBSTETIC NURSING FOR NURSES, STUDENTS, AND MOTHERS. By ANNA M. FULLERTON, M.D. Sixth Edition. 16mo, 270 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia, Pa. Price, $1.00 net.

THE JOHNS HOPKINS HOSPITAL REPORTS, Volume XI. 4to, 555 pages, 1903.

THE MEDICAL EPITOME SERIES, NORMAL HISTOLOGY. By Drs. WATHEN and PEDERSEN. 12mo, 229 pages. Illustrated. Lea Brothers & Co. Price, $1.00 net.

## Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending November 28, 1903.:

| | Cases. | Deaths. |
|---|---|---|
| Measles | 267 | 8 |
| Diphtheria and croup | 406 | 36 |
| Scarlet fever | 161 | 13 |
| Smallpox | ... | ... |
| Varicella | 98 | ... |
| Tuberculosis | 257 | 162 |
| Typhoid fever | 74 | 17 |
| Cerebrospinal meningitis | ... | 3 |

**Transportation of the Dead.**—The following proposed national rules to govern the transportation of the dead were adopted by the Conference of State and Provincial Boards of Health held in Baltimore, October 23 and 24:

"RULE 1.—The transportation of bodies dead of smallpox or bubonic plague from one State, territory, district, or province to another is absolutely prohibited.

"RULE 2.—The transportation of bodies dead of Asiatic cholera, yellow fever, typhus fever, diphtheria (membranous croup), scarlet fever (scarlatina, scarlet rash), erysipelas, glanders, anthrax, or leprosy shall not be accepted for transportation unless prepared for shipment by being thoroughly disinfected by (*a*) arterial and cavity injection with an improved disinfecting fluid; (*b*) disinfection and stopping of all orifices with absorbent cotton, and (*c*) washing the body with the disinfectant, all of which must be done by an embalmer holding a certificate as such, issued by the State or provincial board of health, or other State or provincial authority provided for by law. After being disinfected as above, such body shall be enveloped in a layer of dry cotton, not less than one inch thick, completely wrapped in a sheet securely fastened, and encased in an air-tight zinc, tin, copper, or lead-lined coffin or iron casket, all joints and seams hermetically sealed, and all enclosed in a strong, tight, wooden box. Or, the body being prepared for shipment by disinfecting and wrapping as above, may be placed in a strong coffin or casket, and said coffin or casket encased in an air-tight zinc, copper, or tin-lined box, all joints and seams hermetically soldered. For interstate transportation under this rule, only embalmers holding a license issued or approved by the State or provincial board of health, or other State or provincial authority provided for by law, after examination, shall be recognized as competent to prepare such bodies for shipment.

"RULE 3.—The bodies of those dead of typhoid fever, puerperal fever, tuberculosis, or measles, may be received for transportation when prepared for shipment by arterial and cavity injection with an approved disinfecting fluid, washing the exterior of the body with the same, and enveloping the entire body with a layer of cotton not less than one inch thick, and all wrapped in a sheet securely fastened, and encased in an air-tight metallic coffin or casket, or air-tight metallic box, provided that this shall apply only to bodies which can reach their destination within thirty hours from the time of death. In all other cases such bodies shall be prepared by a licensed embalmer holding a certificate as provided for in Rule 2. When prepared by a licensed embalmer, as defined and directed in Rule 2, the air-tight sealing and bandaging in cotton may be dispensed with.

"Rule 4.—The bodies of those dead from any cause not stated in Rules 2 and 3 may be received for transportation when encased in a sound coffin or casket and enclosed in a strong, outside wooden box, provided they can reach their destination within thirty hours from the time of death. If the body cannot reach its destination within thirty hours from the time of death, it must be prepared

for shipment by arterial and cavity injection with an approved disinfecting fluid, washing the exterior of the body with the same and enveloping the entire body with a layer of dry cotton not less than one inch thick, and all wrapped in a sheet securely fastened, and encased in an air-tight, metallic coffin or casket, or an air-tight metallic box. But when the body has been prepared for shipment by being thoroughly disinfected by a licensed embalmer, as defined and directed in Rule 2, the air-tight sealing and bandaging with cotton may be dispensed with.

"Rule 5.—In the shipment of bodies dead from any disease named in Rule 2, such body must not be accompanied by persons or articles which have been exposed to the infection of the disease, unless certified by the health officer as having been properly disinfected. Before selling tickets, agents should carefully examine the transit permit and note the name of the passenger in charge, and of any others proposing to accompany the body, and see that all necessary precautions have been taken to prevent the spread of the disease. The transit permit in such cases shall specifically state who is authorized by the health authorities to accompany the remains. In all cases where bodies are forwarded under Rule 2, notice must be sent by telegraph by the shipping embalmer to the health officer, or when there is no health officer, to other competent authority at destination, advising the date and train on which the body may be expected.

"Rule 6.—Every dead body must be accompanied by a person in charge, who must be provided with a passage ticket and also present a full first-class ticket marked "Corpse" for the transportation of the body, and a transit permit showing physician's or coroner's certificate, name of deceased, date and hour of death, age, place of death, cause of death, and all other items of the standard certificate of death recommended by the American Public Health Association and adopted by the U. S. Census Bureau, as far as obtainable, including health officer's or Registrar's permit for removal, undertaker's certificate, whether communicable or noncommunicable, the point to which the body is to be shipped, and when death is caused by any of the diseases specified in Rule 2 the names of those authorized by the health authorities to accompany the body. The transit permit must be made in duplicate, and the signature of physician or coroner, health officer and undertaker must be on both the original and duplicate copies. The undertaker's certificate and paster of the original shall be detached from the transit permit and securely fastened on the end of the coffin box. All coffin boxes must be provided with at least four handles. The physician's certificate and transit permit shall be handed to the passenger in charge of the corpse. The whole duplicate copy shall be sent to the official in charge of the baggage department of the initial line, and by him to the Secretary of the State or Provincial Board of Health of the State or province from which said shipment is made.

"Rule 7.—When bodies are shipped by express, a transit permit, as described in Rule 6, must be made out in duplicate. The undertaker's certificate and paster of the original shall be detached from the transit permit and securely fastened on the coffin box. The physician's certificate and transit permit shall be attached to and accompany the express way-bill covering the remains and be delivered with the body at the point of destination to the person to whom it is consigned. The whole duplicate copy shall be sent by the forwarding express agent to the Secretary of the State or Provincial Board of Health of the State or Province from which said shipment was made.

"Rule 8.—Every disinterred body, dead from any disease or cause, shall be treated as infectious or dangerous to the public health, and shall not be accepted for transportation unless said removal has been approved by the State or Provincial health authorities having jurisdiction where such body is disinterred, and the consent of the health authorities of the locality to which the corpse is consigned has been first obtained; and all such disinterred remains, or the coffin or casket containing the same, must be wrapped in a woolen blanket thoroughly saturated with a 1-1000 solution of corrosive sublimate, and enclosed in a hermetically sealed soldered zinc, tin, or copper-lined box. But bodies deposited in receiving vaults shall not be treated and considered the same as buried bodies, when originally prepared by a licensed embalmer as defined in Rule 2, and as directed in Rule 2 or 3 (according to the nature of the disease causing death), provided shipment takes place within thirty days from the time of death. The shipment of bodies prepared in the manner herein directed by licensed embalmers from receiving vaults may be made within thirty days from time of death without having to obtain permission from the health authorities of the locality to which the body is consigned. After thirty days the casket or coffin box containing said body must be enclosed in a hermetically soldered box.

"Rule 9.—All rules and parts of rules conflicting with these rules are hereby repealed."

**Health Report.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended November 28, 1903:

SMALLPOX—UNITED STATES.

| | | CASES. | DEATHS. |
|---|---|---|---|
| Alabama, Mobile | Nov. 8–21 | 21 | .. |
| Colorado, Denver | Oct. 18–31 | 10 | .. |
| Illinois, Belleville | Nov. 8–21 | 11 | .. |
| Louisiana, New Orleans | Nov. 15–21 | 1 | .. |
| Massachusetts, Lawrence | Nov. 15–21 | 1 | .. |
| Michigan, Detroit | Nov. 15–21 | 4 | .. |
| New Hampshire, Manchester | Nov. 15–21 | 3 | .. |
| New Jersey, Camden | Nov. 15–21 | 4 | 2 |
| New York, New York | Nov. 15–21 | 4 | .. |
| Ohio, Cleveland | Nov. 15–21 | 1 | .. |
| Youngstown | Nov. 15–21 | 11 | .. |
| Pennsylvania, Altoona | Nov. 15–21 | 1 | .. |
| Carbondale | Nov. 15–21 | 2 | .. |
| Erie | Nov. 8–21 | 3 | .. |
| Johnstown | Nov. 15–21 | 3 | .. |
| Philadelphia | Nov. 15–21 | 68 | 7 |
| Pittsburg | Nov. 15–21 | 32 | 6 |
| Tennessee, Memphis | Nov. 15–21 | 3 | .. |
| Utah, Salt Lake City | Nov. 8–14 | 3 | .. |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Austria-Hungary, Prague | Nov. 1–7 | 9 | .. |
| Brazil, Rio de Janeiro | Oct. 19–25 | 40 | 34 |
| Canada, Manitoba, Winnipeg | Nov. 8–14 | 1 | .. |
| Colombia, Barranquilla | Nov. 2–18 | .. | 1 |
| Ecuador, Guayaquil | Oct. 18–31 | .. | 2 |
| France, Paris | Nov. 1–7 | 3 | .. |
| Great Britain, Glasgow | Nov. 7–13 | 7 | 1 |
| Manchester | Oct. 25–Nov. 7 | 7 | .. |
| New Castle-on-Tyne | Nov. 1–7 | 6 | .. |
| Java, Batavia | Oct. 11–17 | 21 | 6 |
| Mexico, Mexico | Oct. 8–15 | 1 | .. |
| Netherlands, Amsterdam | Nov. 8–14 | 3 | .. |
| Russia, Odessa | Oct. 19–25 | 5 | 1 |
| St. Petersburg | Oct. 25–Nov. 7 | 126 | 2 |
| Warsaw | Oct. 18–24 | .. | 2 |
| Spain, Barcelona | Oct. 25–Nov. 7 | .. | 2 |
| Turkey, Smyrna | Oct. 19–Nov. 1 | .. | 68 |

SMALLPOX—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Cebu | Sept. 1–30 | 5 | 1 |
| Manila | Sept. 27–Oct. 10 | 1 | .. |

YELLOW FEVER—UNITED STATES.

| | | | |
|---|---|---|---|
| Texas, Cannel | Nov. 19–23 | 4 | .. |
| Laredo | Nov. 20–23 | 68 | 5 |
| Minera | Nov. 14–23 | 6 | .. |
| San Antonio | Nov. 15–23 | 7 | 2 |

YELLOW FEVER—FOREIGN.

| | | | |
|---|---|---|---|
| Brazil, Rio de Janeiro | Oct. 19–25 | 1 | .. |
| Mexico, Ciudad Victoria | Oct. 25–Nov. 7 | 14 | 8 |
| Coatzacoalcos | Nov. 1–7 | 2 | 2 |
| | | (Imported) | |
| Linares | Oct. 25–Nov. 7 | 86 | 17 |
| Merida | Oct. 25–Nov. 7 | 4 | 2 |
| Tampico | Oct. 25–Nov. 7 | 3 | .. |
| Tehuantepec | Oct. 25–Nov. 7 | .. | 2 |
| Vera Cruz | Nov. 7–14 | 17 | 5 |

CHOLERA—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Manila | Sept. 27–Oct. 10 | 90 | 84 |
| Provinces | Sept. 27–Oct. 10 | 952 | 750 |

CHOLERA—FOREIGN.

| | | | |
|---|---|---|---|
| China, Shanghai | Oct. 3–10 | .. | 7 |
| Japan, Nagasaki | Oct. 20–26 | 49 | 27 |
| Yokohama | Oct. 4–10 | 1 | 1 |
| Straits Settlements, Singapore | Sept. 1–30 | .. | 9 |
| Singapore | Sept. 27–Oct. 3 | 1 | 1 |
| Turkey, Syria, Alexandretta | Oct. 18–24 | 2 | 1 |

PLAGUE—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Cebu | Sept. 1–30 | 11 | 8 |

PLAGUE—FOREIGN.

| | | | |
|---|---|---|---|
| Brazil, Rio de Janeiro | Oct. 19–25 | 54 | 20 |
| China, Newchwang | Sept. 26–Oct. 3 | 144 | 142 |
| India, Bombay | Oct. 20–27 | .. | 64 |
| Calcutta | Oct. 18–24 | .. | 13 |
| Japan, Yokohama | May 10–Oct. 17 | 29 | 23 |

# Medical Record

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## Original Articles.

### THE FUNCTION OF MATERNAL MILK IN DEVELOPING THE STOMACH; A FACTOR HITHERTO OVERLOOKED IN ARTIFICIAL INFANT FEEDING.*

BY HENRY DWIGHT CHAPIN M.D.
NEW YORK.

FOR a number of years the discussions on artificial infant feeding have centered around the chemical composition of milk, and certain principles thus derived have been enunciated which more recent chemical research has shown to be erroneous. The older teaching that breast milk is alkaline and cow's milk is acid, and consequently alkali should be added to cow's milk, has been shown by Kerley, Gieschen and Myers to be wrong.[1] It is well known that good results are often obtained by adding alkalis to cow's milk, but the reason that has been given is not supported by the facts. Both human milk and cow's milk are acid to scientific methods of examination. This fact can be easily demonstrated, but an indicator more sensitive than litmus paper must be used (phenolphthalein).

At one time it was taught that success in infant feeding lay in accurate adjustment of the percentages of fat, proteids, carbohydrates, mineral matter and water of milk, plus alkali, to suit the infant's digestion. Now the same teachers are claiming that their treatment of the proteids of cow's milk was not the best and that a new method of adjusting the character of the proteids of cow's milk is proper and scientific. Further study has shown that the proteids of cow's milk are not the same as those of human milk, and not a simple mixture of caseinogen and lact-albumin as has been taught.

The attempt to establish a purely chemical method of feeding has not succeeded, but it has pointed the way toward a clearer understanding of the true principles of artificial feeding.

Fat, proteids, carbohydrates, and mineral matter are generic terms that cover a host of substances. Fat includes fat of meat, butter, lard, and table oils.

Proteids include all lean meat, flesh of birds, fish, eggs, curd of milk, and gluten of cereals.

Carbohydrates include cane sugar, milk sugar, starch of cereals, and potatoes.

Mineral matter includes the entire surface of the earth.

When it is taught that an infant's food should contain certain proportions of fat, proteids, carbohydrates, and mineral matter, a wide range of possibility exists, and what argument can be more logical than that of some manufacturers of prepared foods, who take the words out of the teachers' mouths and make up mixtures that contain the same proportions of fat, proteids, carbohydrates, and mineral matter that were said to be proper, and offer them to the public as representing what some authorities advocate? and what can be more illogical than the same authorities decrying all prepared foods as being unscientific? This is not to be construed as advocating the use of prepared infant foods, but is to show that the teachers of scientific infant feeding have not been in an impregnable position as far as such teaching is concerned.

All animals require fat, proteids, carbohydrates, mineral matter, and water, so it is only citing a general principle of nutrition when it is stated that an infant's food should contain them.

Clinical results are greatly in favor of the fat, proteids, and mineral matter derived from milk of some kind as the food for infants. The source of the carbohydrates does not seem to be as important.

It does not strengthen the situation to teach that milk should be used in infant feeding because it contains animal proteid. Any one could add dried blood, egg albumen, or desiccated meat to a food and claim that it met all the requirements of the authorities, as it contained animal proteid.

*Young animals need milk because milk supplies forms of proteid that have special and peculiar functions that other forms of proteids do not have.* It is to this feature of the proteids of milk that attention is here specially called. To bring out clearly this function, a little sketch of the place of milk in the animal economy will be helpful.

The reproductive process in most animals consists in the development of a single cell into a perfect organism, from food derived from the parent's body. The great differences between animals lie in the manner in which this food is supplied to the germinal cell.

In the case of a hen, all of the food is separated from the mother's body at one time, enclosed in a shell, from which the chick emerges perfectly formed. In some other birds the organs of locomotion are developed after hatching, from the food brought by the parents.

In all forms of animal life the parent either nourishes the young from its own body, or brings it suitable food until it is able to secure food for itself, when weaning takes place.

In animals that suckle their young the greatest variety of methods of supplying nourishment to the germinal cell is seen, but it is not all supplied in one way, in one form or at one time.

Fig. 1. Duck-bill (Vogt & Specht). Lays eggs in nest.

Figs. 1, 2, and 3 show an animal that makes a nest in the ground, lays eggs with a lime shell,

*Read before Pediatric Section of New York Academy of Medicine, November 12, 1903.

hatches them, and then suckles the young, whose mouths are unlike their parent's, but perfectly adapted to cover the peculiar openings of the mammary ducts.

Fig. 2. Young Duck-bill as hatched (Owen).

Fig. 3. Mammary outlets of the Duck-bill (Owen).

Figs. 4, 5, 6, 7 show an animal that lays an egg which is hatched in an abdominal pouch and the young is there suckled, the mouth of the young and the outlet of the mammary glands being adapted to each other.

Fig. 4. Spiny Ant-eater (Vogt & Specht).

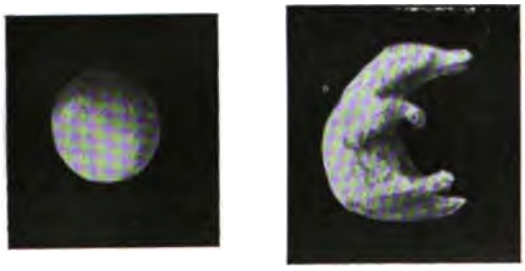

Fig. 5. Egg laid and hatched in mammary pocket shown in Fig. 6 and resulting fœtus. Life size. (Photographed from specimens in the Zoological Collection of Columbia University.)

Fig. 6. Mammary pocket of Spiny Ant-eater (Wiedersheim).

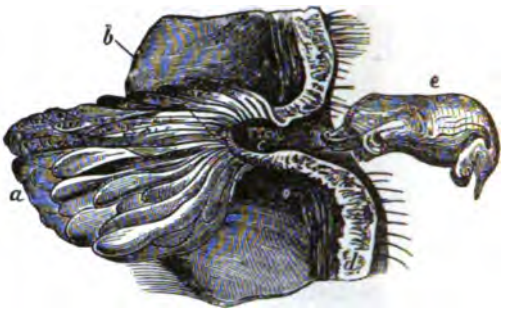


Fig. 7. Mammary gland and fœtus of Spiny Ant-eater (Owen).

Figs. 8, 9, 10 show an animal which lays no eggs but gives birth shortly after impregnation to a rudimentary fœtus whose mouth grows fast to a teat in the mother's abdominal pouch. Nearly all of this animal's development takes place on this teat. Its increase in weight is from about one-half ounce at birth to eight pounds at weaning. The mother ejects milk into a specially adapted gullet (Fig. 10), which does not connect with the wind-pipe until the young animal is able to suck, when its mouth ceases to be adherent to the teat. As development proceeds, the young thrusts its head out of the pouch (Fig. 8) and nibbles at the food its mother eats. A little later it leaves the pouch for good. Here is the highest development of the mammary function.

Fig. 8. Kangaroo at weaning time (Vogt & Specht).

Fig. 9. Mammary fœtus of Kangaroo in pouch

Fig. 10. Head of fœtus hemi-sected to show adaptation of teat to mouth.

Figs. 9 and 10. Life size photographs of specimens in the Zoological Collection of Columbia University.

Fig. 11 shows the young of the American opossum adherent to the teats.

Fig. 11. Young of Opossum adherent to teats. Half life size. Photographed from specimens in the Zoological Collection of Columbia University.

In none of these animals is there any placental connection with the mother. In past ages this method of reproduction predominated over the earth, but animals whose young were nourished in the uterus for a greater or lesser period were more successful in the struggle for existence. Modern mammals are distinguished by the formation of the chorion, which develops into the placenta, through which the nourishment is supplied to the forming organism, mammary development and nutrition not being so pronounced, although important. At one time mammary nutrition and development of the fœtus were primary. Now they are secondary in nearly all forms of animal life.

In the process of development from the germinal cell into the perfect organism, all animals pass from very simple forms to more complex ones. In the early fetal forms it is impossible to tell what kind of animal is going to be developed, as will be seen by a glance at Fig. 12.

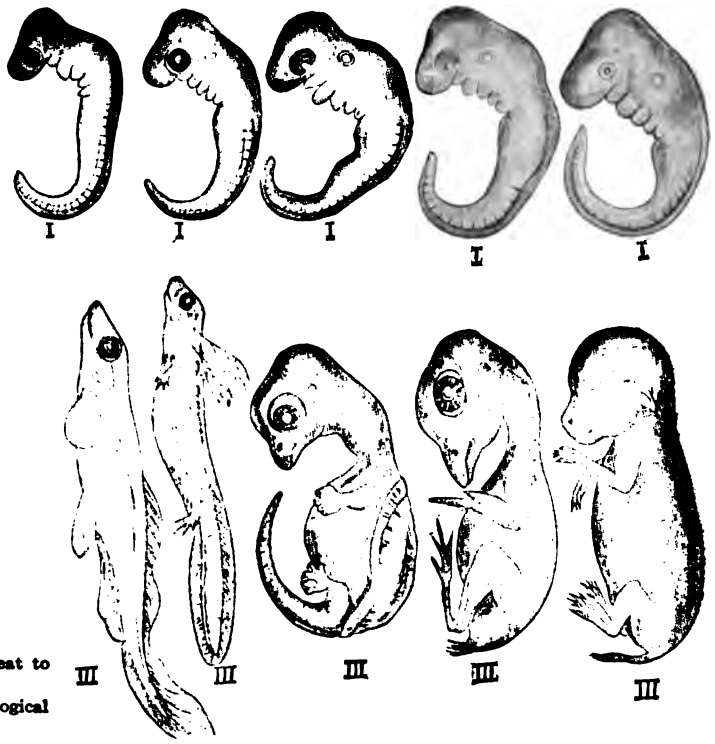


Fig. 12. Earlier and later fetal stages of Fish, Salamander, Tortoise Chick, Rabbit (Haeckel).

The digestive tracts of all animals are alike and simple in the early fetal stages and develop into the more or less complex forms of the adult before the time of weaning, the mammary secretions having a great deal to do with producing this development.

Fig. 13 shows the development

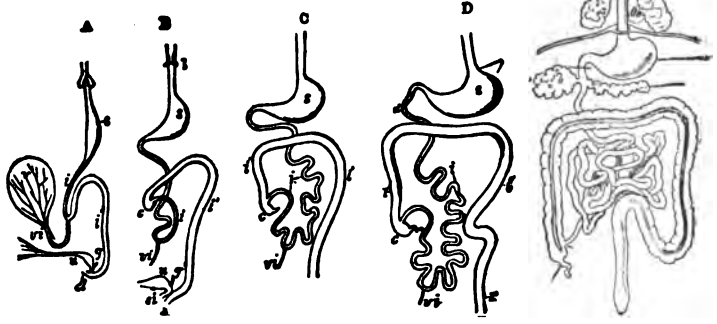


Fig. 13. Development of human digestive tract (Allen Thomson and Wiedersheim).

of the human digestive tract from a very simple tube into the specialized organs of the adult.

Figs. 14 and 15 show the stomachs of a number of mammals and the digestive tract of a cow. The upper part of the stomach of a cow is not developed by milk, but by grass after the true or fourth stomach has been developed by milk.

The digestive tract of the kangaroo at birth (Fig. 9) is very simple and nothing like what it is at weaning, and the stomachs of most mammals at birth are not the same as at weaning; *a profound change in the digestive tract takes place during the suckling period.*

Colostrum, the first secretion of the mammary

glands, is totally different from milk in composition and physical properties, but is particularly fitted for starting up the intestinal digestive process.

A high authority has stated that colostrum rep-

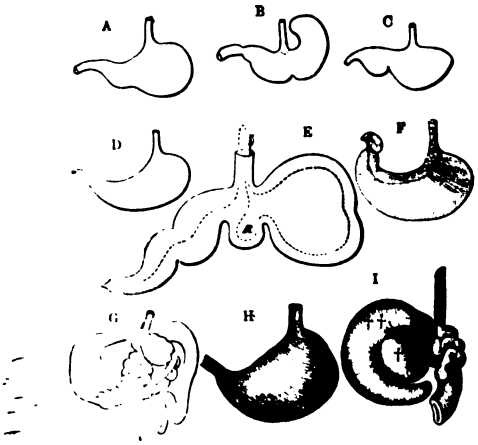


Fig. 14. Stomachs of different mammals (Wiedersheim). A. Dog. B. Rat. C. Mouse. D. Weasel. E. Ruminant. F. *Human*. G. Camel. H. Spiny Ant-eater. I. Three-toed Sloth.

resents an abnormal condition. If this is abnormal, it has happened to all species of mammals.

Henry[3] of the Wisconsin Experiment Station, who has studied the practical raising of many species of domestic animals, reports as follows:

"Colostrum: This first milk is exceedingly important to the young animal at birth, and should never be withheld from it, for besides yielding nutriment it possesses properties which serve to cleanse the alimentary tract and properly start the work of digestion. . . . The calf should always get the first milk (colostrum) of the cow, as this is necessary for properly clearing the bowels and starting the digestive functions. . . . It is of the highest importance in horse rearing that the young start in life in full health and vigor, and to this end the foal should very soon after birth take a good draught of the colostrum or first milk of the dam. . . .

Fig. 15. Digestive tract of cow (Colin & Muller).

"If the young lamb is unable to draw milk within a few minutes after birth, it should have help to secure this first and most important feed. With the first fill of milk from the dam, the new-born lamb becomes comfortable and is usually able thereafter to take care of itself."

It is well known that within a few days after birth normal milk displaces colostrum, which is composed of fat, proteids, carbohydrates, mineral matter and water, as is milk. Milk forms curds in the stomach, which is not the case with colostrum. As these curds are formed from a portion of the proteids of the milk, this is a case where nature quickly alters the character of the proteid of the food to suit a particular purpose.

The digestive secretion of the stomach of an adult is essentially rennet, hydrochloric acid and pepsin. The function of the stomach is to act as a food reservoir and to break down proteid tissue, so that it can be easily and completely digested in the intestine. Very little complete proteid digestion takes place in the stomach.[5] Before pepsin will act on proteid, a combination of the acid and proteid must take place. In young animals little acid is secreted in the stomach and gastric digestion is not prominent.

One thing about infant feeding that is noticeable is that, as the infant's stomach develops and becomes larger and stronger, longer intervals between feedings become necessary.

It may be argued that the older infant takes more into its stomach; but such an infant's stomach is larger and more vigorous, and should empty as soon as, if not sooner, than at birth.

During the colostrum period there is very little secretion in the stomach, and colostrum is particularly fitted for intestinal digestion. As soon as milk begins to displace the colostrum, there appears an abundant secretion of rennet in a calf's stomach, which acts on the proteid of the milk and changes the milk into a soft solid curd, or junket. Pepsin will not attack this altered proteid or curd of milk, which, being soft, is easily passed into the intestine and there digested. Thus the first function of milk is to fit the stomach for passing soft food into the intestine. The motor function is developed first. Rennet does not act on colostrum and is secreted in small amount during the colostrum period.

As soon as a little acid is secreted by the stomach, it combines with a portion of the curd to form a definite compound which is readily attacked by pepsin.[6] This compound is denser and tougher than the rennet curds, and unfit for intestinal digestion. The stomach has now something to do besides emptying itself, and the food remains longer in the stomach to give the pepsin time to act. As the secretion of acid increases, more of the curd combines with the acid, and there is more work for pepsin. In this way, as fast as the gastric glands develop they find work awaiting them. Thus it is that the stomach is called into action, and longer intervals between feedings become necessary. If there was not some such provision, mother's milk ought to change in character as the digestive function becomes stronger to meet the stronger digestive juices, or atrophy of the digestive glands would ensue. As it is, mother's milk adapts itself to a weak infant or to a strong one. If the gastric secretion is vigorous, the milk becomes more solid and stays longer in the stomach; if weak, the milk forms a softer clot which easily passes into the intestine in a condition to be rapidly digested there. *Mother's milk and the secretions of the infant's gastro-intestinal tract automatically adapt themselves to each other.* If mother's milk itself changed in character according to the age of the infant, it would never agree with a puny, backward infant; and if milk did not turn into a solid, but remained a fluid, the stomach would not be prepared for solid food at weaning, for there would be nothing to properly develop the motor and glandular functions.

It has been seen (Figs. 2, 3, 7, 10 and 11) that, anatomically, young animals and mothers are perfectly adapted to each other; *they are also functionally adapted to each other.*

In the change from colostrum to milk, the mother alters the character of the proteid supplied, and the infant's digestive secretions change at the same time for a specific purpose. The proteid of mother's milk adapts itself to the young animal's digestive secretions.

A glance at the different stomachs (Fig. 14) will suggest that one form of proteid would not fit them all unless their digestive juices had different effects on it. It is a familiar fact that the milks of different species form different kinds of curds under the action of the same rennet and acid, and universal experience has shown that the proteid or curd of the milk of the lower animals does not perfectly fit a baby's stomach. The only conclusion possible is that the proteids of different milks are not the same from a functional standpoint, no matter how nearly alike they may be in ultimate chemical composition.

In artificial feeding it is essential to supply as much fat and carbohydrates as is found in breast milk to serve as fuel for the body, and as much proteid and mineral matter as is found in breast milk to build up a strong body, or anæmia, rickets, and general malnutrition will follow. It is also essential that a portion of the proteid shall be of a form that will develop the stomach, as the lack of such food will profoundly affect the general nutrition.[3]

Fresh cow's milk is the only available source of such a form of proteid, and for this reason fresh milk should be the backbone of the baby's food. However, the proteid of cow's milk does not fit a baby's stomach and must be altered in some way to make it fit. In the cow, digestion is principally gastric, and food slowly leaves the stomach. Cow's milk curds in such large masses that it cannot readily leave the stomach. In man, finely divided food that readily leaves the stomach is natural, and human milk does not form solid curds, but flakes.[4] Alteration of the character of cow's milk may be brought about by a number of methods, and one method may succeed when another fails.

Sterilizing, pasteurizing, or heating cow's milk alters it chemically so that rennet will not act upon it readily. This fact is familiar to every cook, as on the packages of rennet sold for making junket for desserts will be found: "Use pure sweet milk, heat carefully until just lukewarm, remove at once from the fire, as you may overheat it, as milk or cream that has been boiled, sterilized, condensed or evaporated cannot be used." Heating milk also destroys bacteria that produce acid, an excess of which would combine with the rennet curds and form a dense mass far beyond the capacity of the infant's peptic digestion. Investigation has shown that pasteurized or sterilized milk as fed to infants is not at all free from bacteria, so a part of the benefit of heating milk lies in altering the character of the milk and preventing the formation of acid.

The addition of alkalis to cow's milk retards the action of rennet or neutralizes the acid of the stomach, and thus throws the milk into the intestine more rapidly and in a softer condition.

The dilution of cow's milk with plain gruels holds the curds apart and allows more rapid emptying of the stomach.

Diluting cow's milk with dextrinized gruels supplies the mechanical effect of plain gruels, puts a modicum of starch in the infant's stomach, adds a natural promoter of gastric secretion to the food[5] and supplies some readily absorbable food which is found in all milks, but which is reduced in quantity in diluted cow's milk.

No artificial food can be made up that will automatically adapt itself to the normal infant as maternal milk does. The infant gets from the mother the same percentages of fat, proteids, carbohydrates, mineral matter and water, whether its stomach is weak or strong; *its digestive secretions determine how and where digestion shall take place.* The skilful infant-feeder learns to discover functional derangements. He may find that the gastric function is not normal and will possibly add a large quantity of alkali to the milk to cause it to rapidly leave the stomach as a fluid, or he may decide that a nearly soluble food is required, and peptonize the milk or stop milk entirely and feed dextrinized gruel getting back to milk gradually. Reducing the quantity of proteid of cow's milk to .25 or .50 per cent., except temporarily to correct functional disturbances, is not justified, if another form of nucleoalbumin, with more or less cow's milk, can be digested. Indigestion is being treated by partial starvation where such low proteids are supplied. It may be found that the infant is taking a soluble food which requires little digestive effort, and is not doing well. A change to milk causing immediate improvement suggests that the stomach was craving work which the curding of the milk supplies.

A careful study of the experience of all pediatricians will show that success has not followed rigid adherence to any rule of feeding, but along adaptation of the food to the state of the infant's digestion, the most radical changes in the character of the food sometimes giving good results. In these instances the food was inelastic in its character, and only a portion of the proper functional development was being produced. The radical change of food produced a development that was needed.

Normal maternal milk supplies the necessary quantities of fat, proteids, carbohydrates, etc., for proper structural development and maintenance of the vital processes, in forms that automatically adapt themselves so as to develop the digestive functions of the growing animal.

It is easy to make up a food that will contain the same quantities of fat, proteids, carbohydrates, etc., as maternal milk, but experience and study only will enable the infant-feeder to do what nature does automatically—adapt the food to the conditions actually present and ensure proper functional development. Biology must be considered fully as much as chemistry in the study of artificial infant feeding.

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51 WEST FIFTY-FIRST STREET.

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**Victims of the Jungle.**—It is noted in *The Times* of London that in 1901 more human beings were killed by wild animals than in any year since 1875 except one, and reached a total of 3,651, while last year it was 2,836; and the number of deaths from snake bite was 23,166. Tigers killed 1,046 persons, of whom 544 perished in Bengal, 65 being in a single district. This was due to the depredations of a man-eater, for the destruction of which a special reward was offered without avail. In another district, where 43 persons were killed, most of them fell victims also to a man-eater. Wolves slew 377 persons. Eleven thousand one hundred and thirty deaths took place in Bengal alone from snake-bite, 3,258 of these being in the Patna division, while 5,110 deaths took place in the United Provinces; 80,796 cattle (an increase on the previous year) were killed by wild animals last year, and 9,019 by snakes. Tigers killed 30,555 of these, leopards 38,211, and wolves and hyenas most of the remainder.

## CYCLICAL ALBUMINURIA.*

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CYCLICAL ALBUMINURIA is the name employed by Pavy to designate certain cases of albuminuria occurring without demonstrable organic disease of the kidneys in individuals otherwise in apparent health. The term "cyclical" emphasizes a feature of the albuminuria which is often its most striking characteristic, *i.e.* its rhythmical appearance under the influence of posture and activity, and its disappearance while the body is at rest. Cases of this type show albumin in the urine voided during the day, whereas the morning and evening urines are free from its presence. It is or is not influenced by diet, and may even be absent after exercise. The upright posture seems to be the immediate exciting factor which induces the albuminuria. The majority of cases are discovered accidentally when no such development is anticipated. It is necessary in making a diagnosis to confine the term to albuminuria in its clinical, and not its laboratory, sense—only the albuminuria recognized by the common chemical tests—heat, potassium ferrocyanide, nitric acid—being admissible.

The greatest care must be taken to exclude incipient renal diseases of all kinds, anæmia (especially the essential forms), and circulatory disturbances. With the exception of the presence of albumin, the urine must conform in all respects to the normal standard; and vascular tension, retinal changes, and cardiac hypertrophy must be absolutely excluded. Cyclical albuminuria belongs to the class of so-called functional albuminurias, forming one of many types included under that heading. Other forms have been variously named, transient, intermittent, minimal, adolescent, postural, and dietetic. It is probable that these do not constitute different clinical entities, but that a common pathological condition underlies them all, individual cases reacting in such different ways to special exciting causes as to give them apparent distinctive characteristics. Cyclical albuminuria is most commonly met with in boys and young men. The age at which it develops is a matter of some uncertainty, because the symptom is almost invariably discovered accidentally during analyses performed for other purposes.

The question of this form of albuminuria is always of great interest to the clinician, because of the difficulties encountered in separating the condition from organic renal disease. The great question and the one necessary factor for the satisfactory classification of this phenomenon is the elucidation of the relationship which it bears to degenerative lesions of the kidney.

I submit the clinical histories of two cases of cyclical albuminuria which possess features of unusual interest.

CASE I.—A. C., a lad of fourteen years, was referred to me early in September last by Dr. D. R. McMartin of Chicago, for advice regarding an albuminuria of peculiar type. Patient presented at the time of consultation the appearance of health. He is possibly a little undersized for his age and weighs eighty-six pounds, which is about his average—normal. Patient is a very light blonde, with a clear, transparent skin, and mucous membranes of good color. He is very fond of out-of-door sports and athletics, and during the past summer has led the typical boy's life of activity in the country. A point of possible clinical importance is his strong resemblance, both physically and in temperament, to his father, who has had chronic diffuse nephritis for twelve years. The only other feature of interest in the family history is a decided gouty heredity on the mother's side. Patient passed a healthy infancy, and at the age of two years had pneumonia, from which he recovered without unusual length of convalescence. He had, however, three subsequent acute pulmonary attacks, which were also diagnosed as pneumonia, during the three succeeding winters. At the age of eight, he contracted diphtheria, which was followed by a tedious convalescence lasting three months. During no one of these infections was there any renal complication. In February, 1903, an acute febrile condition developed and persisted three weeks, with a maximum temperature of 103°F. This illness, in the absence of other definite indication, was diagnosed influenza, although scarlatina was suspected, owing to the presence of severe throat symptoms and the fact that the disease was prevalent at the time in the immediate neighborhood. No eruption appeared, nor was desquamation observed.

Analysis of the urine during the progress of this fever revealed the presence of albumin. On March 13 the amount of albumin attained a maximum of 5 per cent. bulk, and ten days later had declined to a mere trace. At no time was there any œdema or uræmic manifestation. Several analyses made after convalescence was established revealed the presence of an intermittent albuminuria, which was increased by activity. No subjective symptoms were complained of at the time of first consultation with the writer, on September 11, except a troublesome, intermittent, frontal headache, which was accompanied by transient dizziness. It had been observed that patient tired more quickly than usual. Physical examination revealed nothing of interest. The condition of the heart and arteries, which was noted with particular care, indicated no cardiac hypertrophy, nor vascular tension. The blood was normal in all respects. No enlargement of the glands was observed, and ophthalmoscopic examination proved negative. The urine was found to contain one-half per cent. bulk of serum albumin, traces of nucleoalbumin, but no casts. The bodily temperature was 99.5° F. From that time until the present, the urine has been carefully observed. Mixed albuminuria has been constantly present during the hours of activity. This albuminuria includes serum albumin and nucleoalbumin. The amount has ranged from a mere trace to 28 per cent. bulk of precipitated coagulum. Unusual care was observed in the search for casts, but in no instance were these bodies found present. Large numbers of mucous cylindroids have always appeared in the albuminous urine and renal cells have frequently been found in small numbers. The urine of rest has invariably been free from the slightest trace of any form of albumin, and in the evening urine either no albumin was found, or but a trace of nucleo albumin.

The taking of meals (unless combined with activity) seemed to have no influence in causing albuminuria. In order to determine whether the albuminuria was the result of bodily activity or of the upright position, patient was instructed to exercise the limbs as actively and continuously as possible for one hour, while lying flat in bed. The urine after this procedure contained no albumin. On another occasion, after the patient had stood erect for one hour with as little movement as possible, the urine was found loaded with albumin. The bladder was emptied before each one of these tests was begun. The tide of albuminuria was found to set in about one hour after rising, the first indication being the appearance of traces of nucleoalbumin. The maxi-

*Read at the annual meeting of the Mississippi Valley Medical Association at Memphis, Tenn., October 9, 1903.

mum was reached about 3 P.M. and by evening it had again subsided. Other features of interest regarding the urinary condition were the frequent presence of precipitated phosphates and the existence of a pathologic indicanuria. That the latter factor had little if any influence in causing the albuminuria seemed proved by persistence, of the albuminuria unchanged, after the indicanuria was eliminated by colonic irrigation and laxatives. In all other respects the urine conformed to the normal standard.

Of unusual interest in the history of this case is the behavior of the bodily temperature. This was systematically observed and recorded for ten days. A synchronous temperature curve was found to exist with the albuminuria. An elevation of from one-half to one degree was constantly noted during the middle of the day; the morning and evening temperatures being invariably normal or slightly below normal. The influence of bodily activity in raising the temperature was nicely shown by having the patient go through a short series of calisthenic exercises which sufficed to raise the bodily temperature from 98.4° to 99° F.

The presence of fever would point to the existence of a toxic element, and the question of there being a fatigue pyrexia is suggested, owing to its connection with exertion. It is doubtful whether any direct relation existed between the fever and albuminuria, for it was determined by the expedients already described that the albuminuria in this case was a pure postural albuminuria, unaffected by exercise in the recumbent position, and appearing under the influence of the upright position alone. It is probable that the pyrexia in this instance was due to lowered resistance and consequent excessive systemic reaction to stimuli.

CASE II.—B. D., æt. sixteen, first came under observation April 27, 1901, for post-scarlatinal nephritis. There was no œdema or secondary systemic evidence of the renal inflammation, but the urine gave frank reactions, for albumin, and many hyaline, epithelial and granular casts and renal epithelia were present in the sediment. The urine was systematically observed each day during the ensuing month, albumin being invariably present, ranging in amount from a trace to 2 per cent. bulk of moist precipitate estimated by centrifuge. Casts were constant features of the urine sediment. A marked decline in the amount of albumin was observed to begin May 30, and by June 24 there was no longer more than a trace to be discovered. Casts of every kind had disappeared by June 12, and a trace of nucleoalbumin was the only morbid feature of the urine on July 28, when my patient left the city for a summer outing. This was the first occasion upon which nucleoalbumin was detected. About ten days previous a system of observation of the urine voided at different times of the day had been conducted, with the result that the night urine voided on rising in the morning was found to contain no albumin; one hour after rising gave plain reactions, which had increased to one-fourth per cent. bulk by the middle of the morning. No casts were found in any of these specimens. The pulse was soft, the sphygmogram showed no wave of tension, and no cardiac hypertrophy or second aortic accentuation could be made out. The succeeding six weeks were spent by my patient at the seashore, the only restrictions imposed being against prolonged exertion and sea bathing. Upon his return, September 19, patient displayed every evidence of robust health. He was absolutely without evidence of secondary cardiovascular involvement; was excreting a normal quantity of urine, which contained 400 grains of urea to the twenty-four-hour specimen, and yet the urine of activity never failed to reveal serum-albumin, usually associated with nucleoalbumin, but no casts were discoverable. During the two years which have elapsed since that time, the urine has been repeatedly examined, with much the same results. The urine of recumbency fails to reveal serum-albumin, although occasionally traces of nucleoalbumin have been observed in the morning urine. The albuminuria of the active hours has attained a maximum of 2 per cent. bulk and a few specimens have revealed hyaline casts in very sparse numbers. The results of my last analyses, made October 1, 1903, are as follows: Urine voided on rising in the morning contains traces of both serum-albumin and nucleoalbumin. At midday the urine yielded one-half per cent. bulk, which had increased to one and one-fourth per cent. in the urine voided during the early evening. Microscopical examination of four slides of the highly concentrated sediment of the last urine revealed eight or ten narrow, very short hyaline bodies, evi dently casts, but not typical, and scattered renal cells. Meanwhile, although a careful watch has been maintained to detect the earliest evidence of developing tension and cardiac hypertrophy, no sign of such changes can be made out and the lad enjoys robust health; has developed normally, and is now a youth of five feet nine inches height and 142 pounds weight.

An element of importance, especially from the prognostic standpoint, is the existence of chronic nephritis in the immediate ancestry of both of my patients. The father of Case I has for twelve years suffered from chronic diffuse nephritis, with marked albuminuria, and is at present under the care of the writer. The father of Case II has been under my continuous observation for six years, the renal lesion being chronic interstitial nephritis with minimal albuminuria and well-developed cardiovascular accompaniments.

A second feature of interest in the cases reported is the nucleoalbuminuria associated with serum-albuminuria. This association has been noted by other observers, and in addition to nucleoalbumin, globulin and albumoses have occasionally been observed in these cases. Regarding the significance of nucleoalbumin much information is needed. It is the chief constituent of cells and occurs when cell elements undergo degeneration or are otherwise altered. It is often present in acute desquamative nephritis, and in the cases here reported may have been a feature of the urine from the start and escaped detection. Its persistence would seem to indicate the disintegration of renal epithelium.

The most interesting feature of these two cases is the direct connection between the cyclical albuminuria and preceding acute infectious nephritis. There exists some doubt as to the exact nature of the original infection in Case I, but whether it was influenza or atypical scarlatina matters little as far as the renal end-product is concerned. In Case II the direct connection with scarlatina is clearly established. In both cases the nephritis was a mild process, attended by little systemic disturbance, slight renal desquamation, and moderate albuminuria. It may be safely inferred that in both instances the lesion was glomerular, a mild cortical involvement. The gradual subsidence of the nephritis, disappearance of renal inflammatory bodies from the urinary sediment and passage of the albuminuria without remission from the organic continuous form to the cyclical variety, is clearly manifest in the clinical development of both cases. The resulting type of albuminuria conforms perfectly to Pavy's description of cyclical albuminuria, and the absence of casts completes the requirements that author

lays down for a diagnosis of this condition. I cannot doubt the accuracy of my physical findings, which enable me to exclude the element of cardiovascular fibrosis in these cases, and the excellent quantitative urinary results constitute ample proof of unimpaired adequacy of the kidneys.

The observation constituted by these cases of a direct sequential connection with acute infectious nephritis has been previously made by Johnson, Osswald, and Marie. Such cases have usually been regarded as not conforming to the true type of functional albuminuria, and have received consideration in a separate class. There seems to the writer to be no warrant for this distinction, for not only are the clinical manifestations identical with other cases without demonstrable connection with preceding nephritis, but our failure to establish a renal history is no proof of its non-existence. That acute nephritis may exist without subjective symptoms is a fact not sufficiently appreciated. A case at present under observation furnishes excellent demonstration of that fact.

A recent graduate in medicine, twenty-six years of age, three months after an attack of influenzal pneumonia, accidentally discovered albumin in his urine, while engaged in laboratory work. Associated with the albuminuria were many hyaline, epithelial, and granular casts, blood cells, and renal epithelia. These conditions have persisted for a period of six months, and at present there are many casts, blood and renal cells and 1 per cent. bulk of albumin in the urine. Despite the nephritis, this patient has gained twelve pounds in weight since the discovery of the renal condition and is entirely without symptoms or physical signs of disease. He declares that did he not know of the albuminuria, he would consider himself in the best of health.

Unfortunately, the fact that no well-authenticated case of functional albuminuria has come to autopsy renders the pathology of this condition a matter of theory, and it is as speculative and varied as conclusions so supported usually are. It seems to the writer that in attempting to explain what was not capable of actual physical demonstration, the endeavor has been to create exceptions to general pathologic laws. The problem demanding solution is how to account for certain anomalous cases of albuminuria, intermittent in character, unaccompanied by systemic indications of renal disease, and spontaneously disappearing without apparent detriment to the kidneys in a majority of cases—a minority succumbing to Bright's disease.

The infectious or toxic origin of every nephritis is a well-established law. The existence of nephritis in childhood presupposes an acute infection of some sort, usually one of the eruptive fevers, although influenza, typhoid fever, diphtheria, and even mumps, may cause it. The observations of Johnson, Marie, and Osswald, already referred to, and the two cases herewith submitted, demonstrate beyond question that an acute infectious nephritis may gradually lose its active qualities and pass into a cyclical albuminuria. Functional disturbance cannot exist without organic change, although this may be beyond our means to recognize. There can be no exception to this law in the kidneys more than in other organs. Most cases of cyclical albuminuria are discovered accidentally, with no means of estimating how long they may have existed previously. I believe these cases to be the aftermath of a prĕexisting, undiscovered, glomerulitis, caused by one of the acute infections in which early life is so prolific.

There is no characteristic of cyclical albuminuria hich is not shared by the albuminuria of organic renal disease. This is true of intermittency and the influence of posture and activity in causing its appearance and increase. The absence of casts, originally claimed by Pavy as significant of cyclical albuminuria, can no longer be maintained, the introduction of the centrifuge into urinary work having resulted in the frequent discovery of these bodies. The quantity of albumin forms no criterion, for it has been well known since the time of Bright that the quantity of albumin is no accurate guide to the severity and extent of the renal lesion. The only peculiarity that remains to distinguish cyclical from true renal albuminuria is its existence for months and years without systemic indications of nephritis and its frequent spontaneous disappearance, leaving behind no indication of renal impairment.

In post-mortem work it is a frequent experience to see in the kidneys indications of healed lesions—scars or areas of atrophy, showing where localized inflammatory processes once existed and became healed without detriment to the organ as a whole.

Klebs demonstrated many years ago that post-scarlatinal nephritis had its beginning in the Malpighian glomerules—was in the first instance a glomerulitis. This discovery was taken up and extended by other pathologists until it became established that every nephritis had its origin in the glomerular system. It is possible for this initial lesion of an acute nephritis to take place and proceed no farther, the tubular epithelium and connective tissue stroma escaping involvement. The cases recited seem to demonstrate clearly this localized glomerulitis. This fact accepted, the subsequent cyclical albuminuria becomes merely evidence of a defective glomerular condition, a few leaky glomerules, as yet imperfectly repaired, permitting under the high intraglomerular blood-pressure of the upright position the passage of albumin into the urine. If these views are correct, every cyclical albuminuria must be looked upon as simply a phase of mild degree of a true nephritis, which has preceded it.

This substitutes an organic for a functional explanation of the phenomenon, and views every case as being directly or remotely associated with a genuine nephritis, often latent, localized, and escaping detection, but invariably present. This view does not necessarily imply a serious prognosis. The disease is not active and progressive, but naturally tends to resolution. Under suitable conditions of diet and hygiene the symptom will in the majority of cases eventually disappear. Tessier and Merley were able to follow twenty-eight cases during periods varying from nine to thirteen years. Four of the twenty-eight cases developed Bright's disease, a percentage of 14.28. The possibility of this outcome must be kept in mind in treatment and prognosis.

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**A Rare Cerebral Complication in Malaria.**—The patient of P. A. Nightingale was an army officer aged thirty-two years: was taken down with malaria in the usual way. On the morning of the third day it was noticed that fluids regurgitated through the nose. The voice was hoarse and husky. The fauces were congested, the uvula elongated and œdematous, while the anterior half of both vocal bands was swollen and puffy with incomplete approximation on phonation. Four days later there was a decided improvement of all symptoms, but it was four months before the voice had regained its normal qualities. The throat symptoms were due, in the author's opinion, to embolism caused by the malarial parasite in some capillary vessels of the cerebral centers. The highest temperature during the attack was 104.6° F.—*Journal of Tropical Medicine*

# MUSCLE TONUS AND TENDON PHENOMENA.*

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AND
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THE nature of the so-called tendon phenomena has been a subject of discussion since Erb and Westphal called attention to their clinical significance. Authorities are divided now as they were then into those who, following the lead of Erb, regard tendon-jerks as a true reflex phenomenon, and those who, accepting Westphal's teaching, hold that tendon phenomena are expressions of the so-called muscle tonus—the latter being itself a reflex phenomenon.

At the present day the majority inclines to the latter belief. The objection still offered to a unanimous acceptation of this view is the fact that increase of the reflexes is occasionally found in connection with diminished tonus. This is often encountered in cases of total transverse lesion of the cord, and sometimes in partial lesion of the cord (ataxic paraplegia, transverse myelitis). In cerebral lesions this is illustrated by the late appearance or the occasional absence of contractures despite reflex exaggeration.

Clinical experience shows that there is a definite relationship between tendon phenomena and tonicity of muscles.

Examples of altered behavior of the tendon phenomenon, in cases in which there is conspicuous change of muscle tonus, are not uncommon. Increased muscle tonus (hypertonia) is, next to exaggeration of the tendon-jerks, the most constant clinical manifestation of disease of the pyramidal tracts. On the other hand, decrease of muscle tonus (hypotonia) is, next to diminution or absence of the reflexes, the most constant clinical accompaniment of disease of the posterior columns. Furthermore, disease of the primary motor or sensory neurons is usually manifested by hypotonia and diminution or absence of the tendon-jerks. All this shows that muscle tonus is concerned in the causation or manifestation of the tendon phenomena. To this empirical knowledge we bring the results of a study of muscle tonus, determined with a tonometer, and of tendon-jerks in patients upon whom tonometric measurements were made.

The tonometric measurements were made on the Achilles tendon, therefore the "reflex" phenomenon of this tendon, rather than that of the patellar tendon, was studied. This is the more fortunate, as increase and decrease of the Achilles reflex is less disputable.

The tonometer used was devised by Dr. L. J. J. Muskens of Utrecht, for measuring the tonicity of the Achilles tendon.† On working with this instrument we soon realized the fact that the values furnished by it were liable to variation depending upon the structural state of the tendon and its surroundings. For instance, the registrations of the instrument were different when such structural alteration existed as œdema of the soft parts around the ankle, induration of the skin, disease of the bones or joint of the ankle. In the estimation of tonometric values obtained from the examination of tabetic patients, it was soon discovered that when the tendon Achilles becomes so extremely relaxed that it lies in close juxtaposition to the tibia, the values registered by the apparatus are unreliable. We made tonometric measurements and observed the condition of the Achilles tendon-jerk in 230 individuals. The number of registrations was 554. All cases were examined under approximately the same conditions.

From a clinical standpoint the 230 cases were distributed as follows:

| | |
|---|---|
| Apparently healthy adults | 32 |
| Tabes | 25 |
| Organic disease of the nervous system | 33 |
| Functional nervous disease | 40 |
| Pulmonary disease (principally tuberculosis) | 70 |
| Heart disease | 12 |
| Various other chronic diseases | 18 |
| | 230 |

The tonometric values recorded in the course of this study range between 6 and 25. The low numbers on the scale denote a high state of tonus, the high numbers a low state. These values were ascertained by testing each extremity from 2 to 5 times, the averaged results giving a total of 554 tonometric registrations.

Before attempting an interpretation and analysis of the values obtained from these measurements, it is necessary to determine the range of numbers on the scale which represents the normal or physiological tonus—that is, normotonic values—and to use this as a key for the interpretation of the other values. Values ranging from 8 to 12 we have considered *hypertonic;* from 15 to 19 and upward *hypotonic:* and from 12 to 15, *normotonic.* Naturally we do not expect to find absolute values, merely those which hold good for the apparatus used. Neither should we expect to find values representing sharp and absolute divisions, but such only as indicate approximately normal tonus (normotonic values), increased tonus (hypertonic values), and diminished tonus (hypotonic values).

Let us now attempt to describe the method of procedure by which we distributed the tonometric values into the 3 classes above designated. We measured the tonicity of the Achilles tendon in 32 apparently healthy individuals. The tonometric values thus obtained fell into 1 of 3 groups: (1) A group in which the numbers on the registration scale were from 8 to 12, of which there were 6. (2) A group in which the numbers were from 15 to 19, of which there were 12. (3) A group in which the numbers were from 12 to 15, of which there were 14.

The 6 individuals constituting the first group were unusually muscular and athletic. Their muscles, it may be said, were normally in a state of hypertonia, dependent upon a plus development of the muscles, and upon vigorous exercise.

Three of the individuals of the second (hypotonic) group were above 50 years of age. They admitted having had at times trivial symptoms that might be attributed to approaching senility. Nine of them at the time of examination appeared healthy, but closer questioning revealed that they had had occasionally functional disturbances of the gastro-intestinal tract.

The third group is made up of 14 individuals in whom the tonometric values range from 12 to 15, and who, to all appearances, were practically healthy.

Assuming the foregoing to be correct, we call:

12 to 15 normotonic values,
15 to 25 hypotonic values,
8 to 12 hypertonic values.

It seems to be generally accepted that increase

*Read before the New York Neurological Society, March 3, 1903. A preliminary report on this subject was made by the writers to the American Neurological Association in May, 1900, and published in the *Journal of Nervous and Mental Diseases*, July, 1900.

†A brief description of this apparatus was published in the *Neurologisches Centralblatt*, 1899, Vol. XVIII, p. 1074. In this article Dr. Muskens utilizes the results obtained from the tonometric measurements of the inmates of the Montefiore Home, which are also the basis of this study.

of tonus and exaggeration of tendon-jerks are parallel phenomena and *vice versa*. In order to examine the validity of this belief, we have selected for separate study, from our collection of 554 tonometric registrations, those with hypertonic values and those with hypotonic values. For obvious reasons we shall exclude from this analysis the registrations of physiological hypertonia and those in which the working of the apparatus was interfered with by the above-mentioned structural impediments.

*Hypertonia.*

Hypertonic values were ascertained 78 times:

The Achilles reflex was exaggerated (ankle clonus).18 times (23 per cent.)
The Achilles reflex was absent..... 9 times (11 per cent.)
The Achilles reflex was normal.....51 times (65 per cent.)

A few words are necessary to explain these findings. In a general way it may be said that the greatest number of normal Achilles jerks was found in individuals whose tonometric registrations are about 12, *i.e.* around the upper limit of normotonic values. On the other hand the majority of those cases in which there was ankle clonus gave tonometric readings approximating the values of hypertonia, viz., 8. The reflexes were found absent on 2 occasions, in a case of syphilitic transverse myelitis, representing the clinical picture of ataxic paraplegia with invasion of the sacral cord, in which, at an other time, an ankle clonus was ascertained. In the remaining 7 instances the Achilles reflex was found absent in cases of tabes.

The hypertonia which was found to exist in the last named 7 instances was dependent either upon (1) the extreme relaxation of the tendon, or (2) upon the involuntary muscular contractions which are frequently seen in cases of tabes, and which interfere with the proper working of the apparatus. Indeed one of these cases gave, at a subsequent examination, decidedly hypotonic values.

We are justified therefore in excluding these 7 instances of hypertonia with absent tendon-jerks from the analysis. In this corrected form the table of hypertonic registrations would read thus:

Hypertonic values were ascertained 71 times:

The Achilles reflex was exaggerated (ankle clonus).18 times (25 per cent.)
The Achilles reflex was absent..... 2 times (2 per cent.)
The Achilles reflex was normal.....51 times (71 per cent.)

*Hypotonia.*

We find 269 hypotonic registrations.

The Achilles reflex was exaggerated (ankle clonus) 7 times (2 per cent.)
The Achilles reflex was absent.....55 times (20 per cent.)
The Achilles reflex was normal.....171 times (63 per cent.)
The Achilles reflex was diminished.....36 times (13 per cent.)

From the facts just cited it is seen that hypotonia is frequently associated with loss or diminution of the tendon phenomena. As we found in the hypertonic group a small percentage of registrations with lost reflexes, so do we find in this hypotonic group a small percentage of registrations with exaggerated reflexes. The large percentage of normal reflexes in the hypotonic group is easily explained on inspection of our tables by the same fact that applied to this occurrence in the hypertonic group. The largest number of registrations with normal reflexes in this group (hypotonic) was also very near the range of normotonic values, of course at the lower limit, *i.e.* near and around 15, while in the hypertonic group it was near and around 12.

A comparison of the tabulated hyper- and hypotonic findings shows the following:

1. A much greater number of hypotonic registrations. This is due to the fact that this study was made upon inmates of an institution which receives only those afflicted with chronic disease, and amongst these physiological hypertonia is not often found.

2. A large percentage of normal tendon phenomena despite the altered tonus. The explanation of this has already been suggested. The majority of registrations with normal tendon phenomena have tonometric values that approximate the normotonic area. Normal reflexes are found in the hypertonic group with values around and above 12, and in the hypotonic group above and around 15.

3. Next in frequency to the above are cases that show hypertonia and exaggerated tendon-jerks and hypotonia with absent tendon-jerks.

4. A small percentage of cases constituting an exception to the rule of the reflecto-tonic interdependence; 2 per cent. of hypertonia with absent or diminished reflexes, and 2 per cent. of hypotonia with exaggerated reflexes.

This last finding incites further study, and in prosecuting this we must digress somewhat. The term tonus is used in medicine in a two-fold sense.

1. In a general histological sense it is used to denote the state of general nutrition or succulence of the tissues. In this sense the term is applied to the muscles as well as to the other tissues of the body; thus we speak of the tone of the skin, the nerve tone, the general tone. When we use the word tonus in this sense, we call it, for the sake of brevity, *the histological tonus*.

2. In a special sense the term tonus is more exclusively applied to the tonus as muscle tonus, and is understood to represent the result of a purely neural phenomena. We propose to call this tonus the *neurogene* tonus. In physiological, and particularly in neurological, literature, it is the neurogene tonus that is meant when the word tonus is used.

In endeavoring to explain the small number (2 per cent.) of instances of disassociation between tonus and tendon phenomena, we shall consider only those cases of hypertonia and hypotonia in which the *neurogene* tone was evidently altered.

Let us, therefore, select for study those cases of organic disease of the nervous system which show marked alterations in the behavior of the tonus and tendon phenomena.

*Neurogene Hypotonia.*

The neurogene tonus was found diminished 71 times:

The Achilles reflex was exaggerated (ankle clonus). 7 times (9 per cent.)
The Achilles reflex was absent.....53 times (74 per cent.)
The Achilles reflex was normal..... 6 times (8 per cent.)
The Achilles reflex was diminished..... 5 times (7 per cent.)

In comparing this table with the table of hypotonic registrations obtained above, the following points are noted:

1. The comparatively small number of neurogene hypotonias. There are 269 examples of general hypotonia (histological and neurogene) and only 71 of neurogene hypotonia. In explanation of this it may be said that the very highest registrations of hypotonic values (from 20 to 25) are found in the neurogene group, and that a large number of hypotonias found in the general group approximate the border line of the normotonic values (15).

2. In the group of neurogene hypotonias the percentage of registrations in which there is loss or diminution of the tendon-jerks, is, on the other hand, much larger than the percentage of the same in the general group.

3. Exaggerated reflexes are much more frequent in the group of neurogene hypotonias than in the group of general hypotonia.

4. The percentage of normal reflexes is very much smaller in the cases constituting the neurogene group than in the general group. This tends to

substantiate the explanation of the comparatively small number of neurogene hypotonias given above. (No. 1).

It may, therefore, be said that neurogene hypotonia and absence or diminution of the tendon phenomena often co-exist and are parallel occurrences.

*Neurogene Hypertonia.*

The neurogene tonus was found exaggerated 28 times:

| | | |
|---|---|---|
| The Achilles reflex was exaggerated (ankle clonus) | 17 times | (60 per cent.) |
| The Achilles reflex was absent | 1 time | (3 per cent) |
| The Achilles reflex was normal | 9 times | (32 per cent.) |
| The Achilles reflex was diminished | 1 time | (3 per cent.) |

Deductions similar to those drawn from the study of hypotonias may be obtained from a study of the neurogene hypertonias. The 3 points that are impressed upon us are: (1) The comparatively small number of neurogene hypertonias. (2) The large number of instances in which there are exaggerated tendon-jerks. (3) The small number of instances in which the jerks are absent or diminished.

Therefore, from the study of the neurogene hypertonias, we conclude that neurogene hypertonia often co-exists with exaggeration of the tendon-jerks. Let us now make a comparative study of the neurogene hypo- and hypertonias.

| *Neurogene Hypotonia:* Registrations | Achilles Reflexes. normal. | exagg. | dim. | abs. |
|---|---|---|---|---|
| 71 | 6 (8 per cent) | 7 (9 per cent) | 5 (7 per cent) | 53 (74 per cent) |
| *Neurogene Hypertonia:* | | | | |
| 28 | 9 (32 per cent) | 17 (60 per cent) | 1 (3 per cent) | 1 (3 per cent) |

In looking at the above table we note the following points:

1. The largest number of registrations with corresponding changes in the behavior of the tendon phenomena, *i.e.* 81 per cent. of diminished and absent tendon phenomena in the hypotonias, and 60 per cent. of exaggerated tendon phenomena with hypertonia. Evidently the influence of a diminished muscle tonus upon the tendon phenomena is more marked than the influence of an increased tonus (81 per cent. against 60 per cent.). Whether the fact that pure lesions of the posterior columns are more frequent than pure lesions of the pyramidal tracts, is an explanation of this disproportion, is an open question.

2. Eight per cent. of hypotonias show normal reflexes against 32 per cent. of hypertonias with normal reflexes.

3. About an equal percentage of divergent changes in reflexes and tonus. Nine per cent. of exaggerated reflexes in hypotonia and about 6 per cent. of diminished or absent reflexes in hypertonia.

It now remains to attempt an explanation of this last point which seems to contradict the general belief in the interdependence of tonus and reflexes.

Absent or diminished reflexes, in spite of the increase of the muscle tonus, were found in one instance, and the explanation was given above (lumbar sacral myelitis). We remarked at the outset that the belief in the absolute interdependence of tonus and reflexes is particularly weakened by the occurrence of reflex exaggeration in conjunction with hypotonia.

In the group of neurogene hypotonias, exaggerated tendon phenomena were present in 9 per cent. of the registrations. Further study of this fact shows that hypotonia was ascertained three times in cases of cerebral disease and twice in cases of spinal disease. The 3 instances of cerebral disease in which hypotonia was ascertained were cases of extensive cortical lesions substantiated by autopsy. The lesion in the 2 cases was not confined strictly to the motor area; it encroached upon the cortical sensory areas as well.

Hypotonia and exaggerated tendon-jerks were further found in 3 cases of spinal cord disease. In these cases there was clinical evidence not only of disease of both the motor and sensory tracts, but there were also trophic manifestations (muscular atrophy) indicating involvement of the anterior gray matter of the cord.

From the foregoing we receive the suggestion that an analysis of our tables, from a purely anatomical standpoint, might possibly shed more light upon this mooted point.

*Cases of Tabes* (Lesions of posterior columns).—We examined 25 cases of tabes and registered their tonometric value 61 times. If we eliminate from the analysis those values, which evidently do not comply with the requirements necessary for the reliable working of the apparatus, we must throw out 6 examinations, leaving 55 examinations to discuss. Amongst these 55 we find:

| | *Achilles Jerk.* | | | |
|---|---|---|---|---|
| Hypotonic values 50 times, or 90 per cent. | | | | |
| Hypertonic value, once, or 2 per cent... | normal. | exagg. | diminished. | abs. |
| Normotonic values 4 times, or 8 per cent.. | ..... | ..... | 6 (10 per cent) | 49 (89 per cent) |

From this it appears that lesion of the posterior columns leads almost invariably to diminution of tonus and diminution or loss of the tendon phenomenon.

*Lesions of the Pyramidal Bundle.*—It has already been said that uncomplicated disease of the pyramidal tracts is of very rare occurrence. In fact the occurrence of a primary lateral sclerosis is doubted by some neurologists. It ought, further, to be borne in mind that modern neuropathology has demonstrated more than one central motor tract. At present the following 5 tracts are supposed to carry motor influences to the cord: (1) The pyramidal tract. (2) Monakow's bundle, leading from the red nucleus to the contralateral lateral column. (3) A tract leading from the quadrigeminal bodies to the contralateral anterior tract. (4) Tracts leading from the pons to the homo or contralateral, anterior, or lateral tract. (5) A tract leading from Deiter's nucleus to the ventral zone of the anterior tract.

It is evident that when the pyramidal tracts are commonly spoken of, it is not clearly stated which one of the tracts is meant. In our list one case of apparent primary lateral sclerosis is found. It is a case which presented, clinically, evidences of considerable spasticity with fibrillary twitchings of the muscles, without atrophy and without trace of sensory disturbances. In this case 2 tonometric examinations showed hypertonic values and exaggerated tendon-jerks.

As it is not legitimate to draw conclusions from but one case, we shall therefore approach the question from another standpoint and single out from the cases of organic nervous disease those in which there is clinical or anatomical evidence of disease of the pyramidal columns only. We consider spasticity without sensory or trophic disturbances to be clinical evidence of pure lesion of the pyramidal tracts.

It is needless to say again that only those cases to which the apparatus could be applied without difficulty are included in this analysis. It will expedite our efforts to consider these cases in 2 groups: a spinal and a cerebral group.

*Spinal Group.*

In this group we find 7 instances in which tonometric examinations were made.

Hypertonic values were obtained in 17 instances. Normotonic values in 1 instance (the exact registration in this instance was 13, just above the limit of hypertonic values).

From these 18 examinations the tendon-jerks were found:

| Normal. | Exaggerated. | Diminished. | Absent. |
|---|---|---|---|
| 5.11 per cent. | 16.88 per cent. | ..... | ..... |

From this the inference is justifiable that hypertonia produced by disease of the spinal section of the pyramidal tract is always associated with hyperactivity of the tendon phenomena.

Therefore the inference is justifiable that hypertonia produced by disease of the spinal section of the pyramidal tracts is always associated with hyperactivity of the tendon phenomena.

(2) *Cerebral Group.*

This group is made up of 17 cases with 36 tonometric registrations. In 8 of these the diagnosis was verified by autopsy and showed: (1) Two cases of meningoencephalitis with little damage to the motor area, normotonic values, no ankle clonus. (2) One case of extensive cortical and subcortical disease of the brain with normotonic values approaching the hypotonic border and exaggeration of the tendon phenomena. (3) One case with lesion of general paresis with little damage to the motor area, normotonic values, no ankle clonus. (4) Two cases of cortical encephalomalacia of motor area with markedly hypotonic values and ankle clonus. (5) One case of extended cortico-subcortical lesion, the latter more pronounced than the former, with normotonic values and ankle clonus. (6) One case of tumor in the left ponto-cerebellar angle. In this case there were hypotonic values and absent tendon phenomena on the right side, hypertonic values, and an occasional ankle clonus on the left side.

In the 9 remaining cases of cerebral disease we have to rely upon the clinical evidence only and we find: Three cases of evidently subcortical lesions with hypertonia and ankle clonus. One case of evidently cortical disease with hypotonia and normal reflexes. One case of chronic hydrocephalus with hypertonia and normal reflexes. This case is not suitable for analysis, because this hypertonia was manifestly one we call physiological hypertonia. One case of multiple sclerosis in which the examination could not be made reliably. Three cases of subcortical disease with normotonic values, in which there was in one an ankle clonus and in two no exaggeration of the reflexes.

From all the cases of the cerebral group we can evidently choose for our discussion only those in which there is: (1) Disease of the motor tract. (2) Those in which the apparatus worked without difficulties.

With these restrictions we find in the cerebral group: Two cases of cortical invasion of the motor area with hypotonia and exaggeration of the reflexes. Three cases of subcortical lesions with hypertonia and exaggerated reflexes. Three cases of subcortical disease with normotonic values, in two of which were normal reflexes, in one exaggerated reflexes.

Among the last-named 3 cases there were 2 in which there was scarcely any paralysis, therefore scarcely any permanent damage to the motor tracts, and in these 2 cases the tendon phenomena were normal. The third case showed more paralysis and also ankle clonus. It is further seen, from an analysis of the cerebral group, that uncomplicated disease of the pyramidal tracts is much less frequently cerebral than spinal. It is upon this point in particular that the whole discussion of the interdependence between tonus and reflexes is carried on. The authorities who believe in the absolute interdependence of the second phenomena explain the familiar clinical facts of the late appearance of contractures in cerebral lesions, and their occasional absence in transverse lesions of the cord, by a hypothetical inhibitory irritation. Others who deny any such extensive interrelation between tonus and tendon phenomena, explain the stated clinical facts on anatomico-physiological grounds. (van Gehuchten.)

We do not propose to attempt to decide which view is correct, but simply to state briefly the results of our analysis of the hypertonic instances. We have seen that hypertonia produced by pure lesions of the pyramidal tracts is always coupled with exaggeration of the tendon phenomena.

When, in addition to the pyramidal tracts, other tracts are involved, the tonophile influence of the diseased pyramidal fibers is neutralized by the antagonistic influence of diseased afferent fibers. For the neutralization of the reflexophile influence of diseased pyramidal fibers, apparently more extensive disease of the antagonistic fibers is necessary.

Aside from the cases that come within these two groups of organic nervous disease, we have 1 case of Friedreich's ataxia with tonometric registrations showing hypotonic values, and absent tendon phenomena, and 1 case of chronic anterior poliomyelitis (autopsy) with hypotonic values and absent tendon-jerks.

We shall now proceed to a study of the tonus in cases without organic disease of the nervous system. It is well to state at the outset that profound variation of tonus and of reflexes, such as exists in the group just studied, is not found in this group. In other words, amongst the individuals whose neurogene tonus was presumably not diseased we did not often find marked hypertonic values (6–9), or marked hypotonic values (20–25). At no time did we ascertain undeniable increase or undeniable absence of the tendon phenomena. The tendon phenomena were found lively, normal or diminished, and the tonometric values ranged between 11 and 20.

Thus we are enabled to outline further differentiation between what we call histological tonus and special or neurogene (muscle) tonus. We have learned that whenever the neurogene tonus alone is markedly increased or decreased, the tendon-jerks are increased or decreased correspondingly. Alterations of the histological tonus and of the tendon phenomena are not so marked. The fact of a mutual modifying influence of both neurogene and histological hypo- and hypertonia upon the tendon phenomena is, of course, to be borne in mind.

The conclusions reached are in brief as follows:

1. Disease of the posterior columns causes hypotonia and decrease of reflexes. When these conditions are present, the tendon phenomena are absent or diminished unless additional disease of the descending tracts counterbalance this influence. (Return of knee-jerks in cases of tabes after hemiplegic attacks.)

2. That disease of the pyramidal tracts causes hypertonia and increase of reflexes. The tendon-jerks under such conditions are increased unless additional disease of the ascending tracts, anterior horns or peripheral neurons neutralizes this influence.

3. Histological hyper- and hypotonia modify the above-stated relations to a slight degree when

the disease has not advanced to its full clinical representation.

4. We find in our lists a large group of more or less normotonic registrations with approximately normal behavior of the tendon phenomena.

5. We find a smaller group with more or less marked hypotonic registrations. In this group the tendon phenomena are mostly diminished. This diminution is evidenced by the fact that the tendon-jerks are not easily elicited, that the muscular contraction is sluggish and vermicular, and is easily exhausted. It is well to state here that the above mentioned behavior of the tendon phenomena is not influenced by a well-executed reinforcement.

## A RARE CASE OF PATENT DIVERTICULUM ILEI.

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John W., born April 19, 1903, after a normal gestation and physiological partus. fourth issue of perfectly healthy parents. The child was normal in every respect except the following anomaly:

While the normally implanted cord was being tied, there was seen in its inferior aspect, at its junction with the umbilical ring, a triangular slit about 2 cm. long, through which protruded a dark purplish-red tumor about the size of a small cherry; in the summit of this there was an opening, from which, with the straining incidental to crying, there issued in jets small amounts of meconium. This, after twenty-four hours, after the bowels had moved normally by the anus, changed in character to the ordinary yellow fæces of the healthy babe.

The child nursed well and scrupulous care was exercised to keep the skin around the umbilicus as clean and aseptic as possible. There was a very slow detachment of the cord; it came off on the eleventh day, leaving a clean scar. The protruding diverticulum of the bowel was then about the size of a raspberry. Under the use of a powder of boric acid and bismuth subnitrate and very firm compression, there was not only a reduction in the size of the tumor, but also a cessation of the discharge of fæces from the fistulous opening, so that for a time it seemed to promise a spontaneous cure. But a month later it grew larger again and a slight fecal discharge reappeared.

The reason I report the case is its great rarity. The literature on intestinal anomalies is not voluminous. Congenital umbilical hernia is rare; still more so is that abnormal condition in which the lower portion of the gut from the omphalomesenteric duct to the sigmoid is obliterated and the anus imperforate. Cases of this kind usually present other malformations also. But the rarest condition of all is the one described above. In a careful search of the literature I have been able to add to the thirty-nine cases reported by Morian and the four cases reported by Hubbard, twenty-one cases, including my own, that were overlooked or reported since Hubbard's article was written.

The table on page 934 includes the cases so far reported; but several of them are doubtful; others are cases of prolapse of Meckel's diverticulum without patency; and still others Tillmann looks upon as cases of artificial anus produced by accidental tying of the bowels; and for that reason such cases, for instance, as Schneider's, Stadfeldt's, Thudichum's, Latimer's, and Motte's are not included in the table; but Marshall's and Jacoby's are retained because they make part of Morian's table, and I have added Broadbent's because he reports his case as one of umbilical fecal fistula in the new-born, and as it is, in my opinion, a true case. I have also not included such cases as MacSwiney's, Bottini's, and Nicholich's, in which the patency was discovered only by the fact that ascarides used this tract as a means of egress, or which were only cases of persistent Meckel's diverticulum.

*Anatomy of the Anomaly.*—Its occurrence takes us back to the third or fourth week of embryonal life. In the embryo of the third week, the rudimentary fore-, mid-, and hind-guts are visible. The primitive mid-gut is connected at this period of embryonal life by a tubular canal, the vitelline duct, with the yolk-sac. The embryo lies curved over this yolk-sac with its endodermic surface spread out. Then as the cephalic and caudal extremities curl up, and the sides fold in, differentiation commences and the embryo is gradually lifted from but still attached to the yolk-sac by the yolk-stalk. At the fourth week the sac has begun to atrophy and the duct is only a very thin canal; by the fifth week the navel closes entirely and the omphalomesenteric duct is obliterated. In the sixth or seventh week the loop of intestine, which may be in the cord, is withdrawn and the intestines now lie free in the abdominal cavity. If this normal process is interrupted, various malformations result from the persistence of part or all of the vitelline duct.

Riesman (*Univ. Med. Mag.*, 1897–8, X, p. 526–539) classifies these as follows: (1) Persistence of the proximal portion of the duct—Meckel's diverticulum; (2) Persistence of the entire duct as a patulous canal; (3) Persistence of the distal part of the duct connecting with the navel; (4) Persistence of the middle of the duct; (5) Persistence of the omphalomesenteric vessels.

The cases under discussion come under the second heading of this classification; examples of the other forms are constantly reported in surgical literature, where their presence is no longer recognized as a rarity. The usual site of implantation of this diverticulum is on the ileum, anywhere from the ileocæcal valve of Bauhin to 58 cm. above it, and is varies slightly in length, but is never above 8 cm. long.

*Sex.*—The subjects of these anomalies are predominently of the male sex. In thirty-nine cases in which the sex is given, only five were of females.

*Age.*—Of course to be counted a true case of patent diverticulum ilei, the case should have been observed directly at or soon after birth. Many in the table were. Foerster's case, however, was in a woman, aged thirty-four, who came to necropsy, when the condition was discovered. Evidence by relatives proved the condition congenital; it had persisted until death, for colored food—berry-juice, etc.—had always stained the discharge.

The presence of the condition at birth and even finding meconium extruded before the cord was tied, removes all doubt as to the fetal origin of my case.

*Presence of Other Malformations.*—Unlike malformations of other parts of the gut, such as absence of the colon and imperforate anus, which are usually associated with other anomalies like harelip, cleft palate, spina bifida, exstrophy of the bladder, absence or defect of long bones, congenital dislocations, club feet, and genital defects, this condition occurs only in apparently otherwise normally developed children. Only Escherich's case (63) showed additional deformities (defect of radius and sacrum, caput obstipum, congenital hip dislocation, club-feet); but as he mentions no fecal discharge from the opening of the diverticulum, the case may have been one of persistence of the distal part of the duct (Riesman's third heading).

*Complications.*—In a number of cases reported, various complications occurred. Both Golding

| | Author. | Publication. | Sex. | Age. | Length of Diverticulum. | Distance from Ileocæcal Valve. | Prolapse. | Prolapse of Mucous Membrane. | Treatment. | Result. | Cause of Death. | When. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | King. | Ed. Weiss, "Über Diverticulare Nabelhernien," 1868. | M. | Newborn. | 13 cm. | 42 cm. | Yes. | 31 cm. | Caustic. | D. | ? | Soon. |
| 2 | Von Siebold. | G. Schröder, "Über Divertikelbildung am Darmkanal," 1854. | M. | 3 wks. | 8 cm. | Ileum. | Yes. | Yes. | Incision. | D. | ? | Shortly. |
| 3 | Dufour. | Ed. Weiss, *v. s.* | ? | N. B. | ? | ? | Yes. | 30 cm. | None. | D | Ileus. | Soon. |
| 4 | Webner | "De Fistula Stercorali." Dissertation. Halle, 1854. | ? | N. B. | ? | 23 cm. | Yes. | Yes. | ? | D. | Peritonitis. | 48 hrs. |
| 5 | Gesenius. | *J. f. Kinderkrankh.*, 1858, xxx. | ? | 3 wks | 2½ cm. | 23 cm. | Yes. | 10 cm. | None. | D. | Ileus. | 10 hrs. |
| 6 | Weinlechmer. | *J. f. Kinderkrankh.*, 1873 | M. | 5mos. | 2 cm. | 8 cm. | Yes. | Yes. | Resection of intestine | D. | Ileus. | 10 days. |
| 7 | Bassevi. | *Jahrb. f. Kinderheilkde.*, 1877–78, xii. | ? | 3 wks | .. | 12 cm. | Yes. | 4 cm. | Expectant. | D. | Pneumonia. | .. |
| 8 | Hennig. | Quoted by Bassevi, *v. s.* | ? | ? | ? | ? | Yes. | 9 cm. | .. | D. | .. | .. |
| 9 | Hüttenbrenner. | *Allgem. Wien. med. Ztg.*, 1878. | M. | 5mos. | ? | ? | Yes. | 25 cm. | Excision of prolapse. | D. | Peritonitis. | .. |
| 10 | Nicholas. | Thèse de Paris, 1883. | ? | 6mos. | ? | ? | Yes. | 30 cm. | Futile attempts at reposition. | D. | Peritonitis. | 60 hrs. |
| 11 | Schmid. | Quoted by Morian, *v. inf.* | M | 2 wks | .. | 30 cm. | Yes. | 7 cm. | Laparotomy. | D. | Exhaustion. | Few hrs. |
| 12 | Helweg. | *Hospitalstidende*, 1884. | M. | 4mos. | .. | 48 cm. | Yes. | 25 cm. | Ligation. Suture. | D. | .. | 24 hrs |
| 13 | Karewski. | *Centralbl. f. Chir.*, 1898, No. 10. | M | 3½m. | 5 cm. | Just above. | Yes. | Yes. | Resection. | D. | .. | .. |
| 14 | Karewski. | *v. s.* | .. | .. | .. | .. | Yes. | Yes. | None. | D. | .. | .. |
| 15 | Karewski. | *v. s.* | .. | .. | .. | .. | Yes. | Yes. | Resection. | D. | Ileus. | .. |
| 16 | Marshall. | *Med. Times and Gasette*, 1868; also *Schmidt's Jahrb.*, 1868, I. | M. | .. | .. | .. | Yes. | No. | Freshening up. Suture. | R. | .. | .. |
| 17 | Leisrink. | *Langenbeck's Archiv. f. klin. Chir.*, No. 26. | M. | 10 yrs | .. | .. | Yes. | No. | Laparotomy. | D. | Peritonitis. | 12 days. |
| 18 | Alsberg. | *Deutsch. med. Wochenschr.*, 1892, No. 46. | M. | 4½ m. | 4–5 cm | ? | Yes. | No. | Resection. | D. | Bronchopneumonia | .. |
| 19 | Roth. | *Virchow's Archiv*, Bd. 86 | M. | 6 m. | 4.8 cm. | 58 cm. | Yes. | No. | None. | D. | Diarrhœa. | .. |
| 20 | Wernher. | Ed. Weiss, *v. s.* | ? | 8 m. | 6½ cm. | 4 cm. | Yes. | No. | "Heftpflaster." | D. | .. | .. |
| 21 | Baum. | Cit. by Morian, *v. inf.* | M. | 4 m. | 1 cm+. | .. | Yes. | No. | Ligation. | R. | .. | .. |
| 22 | Brun. | By Nicholas, *v. s.* | ? | 4 wks | .. | .. | Yes. | No. | Ligation. | R. | .. | .. |
| 23 | Brun. | *v. s.* | M. | 3 wks | Small. | .. | Yes. | No. | Ligation. | R. | .. | .. |
| 24 | Jacoby. | *Tillman's Deut. Ztschr. f. Chir.*, Bd. 18, 1883. | .. | .. | .. | .. | Yes. | No. | Plaster. | R. | .. | .. |
| 25 | Kehr. | *Deut. med. Wochenschr.*, 1892, No. 51. | M. | 28 yrs | .. | .. | Yes. | No | Resection. | R. | .. | .. |
| 26 | Gevaert. | *Ref. Centralbl. f. Chir.*, 1894, No. 15. | M. | 2½ yrs | .. | . | Yes. | No. | Resection. | R. | .. | .. |
| 27 | Broca. | *Rev. d'Orthopædie*, 1895, vi. | M. | 6 m. | 8cm. + | End of Ileum. | Yes. | No. | Resection. | R. | .. | .. |
| 28 | Sheperd. | *Archives of Pediatrics*, 1892, Jan. | ? | 3 m. | .. | .. | Yes. | No. | Resection. | R. | .. | .. |
| 29 | Stierlin. | *Deutsch. med. Wochensch.*, 1897, No. 12. | M. | 2 m. | 6 cm. | ? | Yes. | No. | Resection. | R. | .. | .. |
| 30 | Kern. | *Beiträge z. klin. Chir.*, 1897, xix. | M. | 1 m. | 3 cm. | Ileum. | Yes. | No. | Caustic Resection. | R. | .. | .. |
| 31 | Körte. | *Centralbl. f. Chir.*, 1898, No. 10. | ? | 15 m. | .. | ? | Yes. | No. | Resection. | R. | .. | .. |
| 32 | Morian. | *Arch. f. klin. Chir.*, 1899, lviii. | M. | 5 wks | 6 m. | Ileum. | Yes. | No. | Resection. | R. | .. | .. |
| 33 | Hickman. | Tr. Pathol. Soc., xx, p. 418, *Virchow & Hirsch's Jahresber*, 1871, I. | P. | 4mos. | .. | .. | .. | .. | .. | .. | .. | .. |
| 34 | Chandelux. | *Arch. de Physiol.*, 2me. s., T. vii. *V. & H. Jahresbericht*, 1881, ii. | M. | 2½yrs | .. | .. | .. | .. | Excision. | R. | .. | .. |
| 35 | Kölbing. | *Bush's N. Ztschr.*, 1842, Bd. 14, H. 3. | M. | 5 m. | Short. | .. | .. | .. | Ligation. | D. | Collapse. | .. |
| 36 | Pernice. | "*Die Nabelgeschwülste*," 1892. | M. | 7 m. | Small | .. | Yes. | No. | Curetting | R. | .. | .. |
| 37 | Brun. | *v. s.* | F. | 3 yrs | cherry | .. | Yes. | No. | Ligation. | R. | .. | .. |
| 38 | Löwenstein. | *Langenbeck's Arch. f. klin. Chir.*, 1895, Bd. 49 | M. | 3 wks | 1.5 cm. | .. | Yes. | Slight | Suture of intestinal and abdominal wall | R. | .. | .. |
| 39 | Morian. | *Arch. f. klin. Chir.*, 1899, Bd. 58. | M. | 24yrs | 4 cm. | .. | No. | No. | Packed because of hemorrhage. Op. refused. | ? | .. | .. |
| 40 | Broca. | Bureau's "Prolapsus ombilicale," 1898. | M | 10 m. | .. | .. | Yes. | No. | Resection. | R. | .. | .. |
| 41 | Neurath. | *Wiener klin. Wochensch*, 1896, No. 49. | .. | .. | .. | .. | .. | .. | Resection. | R. | .. | .. |
| 42 | Briddon. | *Ann. Surgery*, 1898, vol. xxviii. | .. | 10dys | 1 inch. | .. | Yes. | .. | Excision | R. | .. | .. |
| 43 | Hubbard-Dane | *Ann. Surgery*, 1902, vol. xxxv. | F | 1 m. | .. | .. | .. | .. | Laparotomy. | R. | .. | .. |
| 44 | King. | Guy's Hosp. Reports, Oct., 1843, p. 470. | M. | 14 m. | .. | .. | Yes. | Yes. | Ligation. | D. | Intestinal Obstruction. | Soon. |
| 45 | King. | *v. s.* | M. | 2 yrs. | .. | .. | Yes. | Yes. | Ligation. | D. | Thoracic Disease. | .. |
| 46 | Broadbent. | *Schmidt's Jahrbuch*, 1866. | ? | N. B. | .. | .. | .. | .. | .. | .. | .. | .. |
| 47 | Kolaczék. | *Arch. f. klin. Chir.*, 1875, vol. xviii. | ? | ? | .. | .. | .. | .. | Excision. | R. | .. | .. |
| 48 | Eves. | *Lancet*, 1845, vol. I. | ? | 1 mo. | .. | .. | .. | .. | Ligation. | R. | .. | .. |
| 49 | Auvard. | Obst. & Gyn. Soc., Paris (?) | .. | .. | .. | .. | .. | .. | Ligation. | D. | ? | .. |
| 50 | Gibb. | Tr. Path. Soc., Lond., 1855–6, vol. vii. | M. | .. | Large. | .. | .. | .. | Ligation. | D. | .. | .. |
| 51 | Foerster. | *Würzb. med. Ztschr.*, 1862, iii. | F. | 34 yrs | .. | .. | .. | .. | None. | D. | Found at autopsy. | .. |
| 52 | Barth. | *Deut. Ztschr. f. Chir.*, 1887, xxvi. | ? | 9 dys | Large. | .. | .. | Yes, and of intestine. | None. | D. | .. | .. |
| 53 | Railton. | *Brit. Med. Journ.*, July (1895?). Cited by Vance, *Pædiatrics*, 1896, ii, p. 74. | ? | 11 m. | ½ inch. | .. | Yes. | .. | Ligation Excision. | R. | .. | .. |
| 54 | Golding-Bird. | *Brit. Med. Journ.*, 1895, Nov. 16, p. 1234. | ? | 4 wk. | Small. | .. | .. | .. | None. | D. | Intussusception. | .. |
| 55 | Deshin-Diakonow. | *Chir. Annalen*, 1895, p. 510, Russian. | M. | 5 m. | 3–4 cm | 49 cm. | .. | .. | Laparotomy. | D. | Cardiac asthenia. | 7 hrs. |
| 56 | Heaton. | *Brit. Med. Journ.*, 1895, p. 473. | M. | ? | Short-wide. | 7 inch. | No. | No. | None. | D. | Obstruction. | .. |
| 57 | Heaton. | *v. s.* | M. | 2½ yr. | Short | .. | .. | .. | Excision. | R | .. | .. |
| 58 | Sauer-Herzog. | *Deut. Ztsch. f. Chir.*, 1895, vol. xliv, p. 316. | M. | 8 m. | 5½ cm. | 53 cm. | .. | .. | Laparotomy. | D. | Peritonitis. | 3 days. |
| 59 | Abrahams. | *Pædiatrics*, 1900, ix. | .. | 7 wks | Small. | .. | Yes. | Yes. | Ligation. Excision Cauterization. | R. | .. | .. |
| 60 | Fittig. | *Allge. med. Centr. Ztg.*, 1902. | M. | 15 yrs | .. | .. | .. | .. | Excision. | R. | .. | .. |
| 61 | Kirmisson. | *Rev. d'Orthopædie*, 1901, 2me. ser., T ii. | M. | 5½ m | 5 cm. | .. | .. | .. | Ligation. Resection. | R. | .. | .. |
| 62 | | *Lancet*, 1884, p. 1142. | ? | 3wks | 1½ in. | .. | No. | No. | Ligation. | R. | .. | .. |
| 63 | | *Wien. kl. Rundschau*, | ? | 14dys | .. | .. | Yes. | Yes. | ? | ? | .. | .. |

Bird's and Barth's cases are reported as intussusceptions of the gut into patent Meckel's diverticula. Other forms of intestinal obstruction are always to be watched for. In Nicholas' case there were futile attempts at reposition. Another danger is the possibility of hemorrhage. This in two cases was sufficiently alarming to deserve attention. There is no difficulty with the feeding of these children; they all seem to thrive. Only in Heaton's second case was the emaciation extreme on admission to the hospital.

*Diagnosis.*—The presence of a dark purplish-red tumor at the umbilical opening, varying in size, not painful to the touch, covered by mucous membrane which bleeds readily, becoming tense when the child cries, and in which there is an opening whence meconium or fecal matter is discharged, makes the diagnosis of the diverticulum ilei reasonably certain. The presence of a fecal fistula at the umbilicus, or even a persistent opening there is suspicious; and Barth correctly advises careful scrutiny of every case of umbilical granuloma to discover a possible diverticulum; and if such is found, the introduction of a fine catheter serves to establish its patency and connection with the gut, if fæces are withdrawn in the eye of the instrument. This may be so minute in quantity that only microscopical examination establishes its identity. Tillmann's case of ectropia ventriculi is so far unique. In this case there was a gastric diverticulum—a prolapse of the gastric mucous membrane through the umbilical ring.

*Prognosis.*—For the condition itself the prognosis is very good. Most of the deaths in the recorded cases were in pre-Listerian times; and those of the later years were in moribund subjects or found at necropsies. Under aseptic treatment, operative or otherwise, the majority of cases recovered and remained well. Ledderhose's monograph on the subject unqualifiedly gives a good prognosis.

*Treatment.*—The various forms of treatment present almost equal rates of mortality. The ideal operation, of course, is excision, resection, suture of intestines, and suture of umbilicus.

*Conclusions.*—The following conclusions are warranted: (1) The condition is one of great rarity; (2) Males are more frequently afflicted; (3) Careful attention should be paid to any granulations at the navel, before and after the dropping of the cord; (4) It will be wise at all times to remember the possibility of an included bowel and tie the cord at least two inches from the umbilical ring; (5) A radical operation is safest, to do away with the possibility of intestinal obstruction through diverticula later in life.

ADDITIONAL REFERENCES.

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2. Schneider, *Medical Times*, July 14, 1866.
3. Stadfeldt, Gynäk. Og Obstetr. Meddelelser, utgivne of Prof. F. Horwitz, 1881; also Schmidt's Jahrb., Bd. 189, S. 159.
4. Thudichum, *Illustr. Med. Ztg.*, 1852, II, p. 267.
5. Latimer, *Medical and Surgical Reporter*, Phila., XLVI, p. 242.
6. Motte, Bull. de la Soc. Anat. de Paris, LIV, p. 494.
7. MacSwiney, *Dublin Journal Med.*, 1875, p. 168.
8. Bottini, *Gass. Sarda*, 1854, No. 11.
9. Nicho ich, *Gass. di Milano*, 1845, No. 11.
10. Ledderhose, *Deutsche Chirurgie*, Bd. 45.

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**Herpes Tonsurans.**—Bundt had observed several cases of herpes tonsurans, the origin of which he traced to the disease in a young bull. To avoid such a contagion he advises: (1) The prevention of transportation of infected animals. (2) Isolation of such animals. (3) Very careful cleansing of the caretakers of these animals.—*Zeitschrift fur medicinische Beamte.*

## THE TREATMENT OF CANCER BY CAUSTIC PASTE.

BY CHARLES WARRENNE ALLEN, M.D.,
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IN a series of reprints just received under the title of "*Radiotherapy*," which includes articles published in the MEDICAL RECORD, *The Journal of the American Medical Association*, *The Inter-State Medical Journal*, and the *Medical Mirror*, Dr. A. Campbell White of this city makes, in one of the papers, the following statement, which I think should not be allowed to go unchallenged. He says: "The caustic treatment in the form of injections, pastes, and all other kinds of mixtures, rarely prove of any service, and usually only deceive and render more uncomfortable the existence of a patient. They have been discarded by almost all except charlatans."

While it is quite true that treatment by arsenical paste, which once had quite a vogue, became much neglected by reputable physicians, although charlatan cancer-curers continued to use such application, the disrepute into which they fell was due largely to the attempt on the part of these ignorant and untrustworthy persons to extend the treatment to deep-seated, extensive, and unsuitable cases. For a quarter of a century I have made a practice of applying arsenical and other caustic pastes to various forms of epithelioma, especially about the face and often in regions which were inaccessible or unsuitable for successful knife surgery.

Believing that Dr. White does not mean to class me amongst the charlatans, I must come under the other class of the few who persist in this method of treatment. That there are many others both in this country and abroad who recognize the great value of the method and must be classed with the reputable members of the profession goes without saying. An ardent advocate in this city, whom I have the honor to number among my dermatological colleagues and friends, who has done much to advance the paste-treatment, may be mentioned, Dr. A. R. Robinson. Teaching as he does at one of our post-graduate schools, and I at another, never omitting an opportunity to advocate what we believe to be a superior form of treatment for many forms of cancer, it must follow that throughout the length and breadth of this country there are many reputable physicians curing epithelioma in this way whom Dr. White would not desire to designate as quacks.

Liquid air, the *x*-ray, the Finsen light, all have their use and advantages, and radium may soon be proven their equal or superior; but for the majority of practitioners these methods are not available. In answer to Dr. White's claim that caustic methods are painful and add to the patient's suffering without subsequent commensurate benefits, I wish to take advantage of this opportunity once again to put forward the painless method of my own device which I have practised for a number of years with the utmost satisfaction; I refer to the plan of making the arsenical paste with orthoform, the analgesic qualities of which drug exert their influence *pari-passu* with the painful effects of the arsenic on the tissues and nerves. Either cancer is becoming more prevalent or more patients are coming under early observation and treatment, and it is only due to the profession and the public to know that in some forms a cure can be effected, in the early stages at least, promptly and painlessly, and that advertising charlatans are not the only ones who cure these forms without the knife.

In looking over my statistics of epithelioma

treated before the days of *x*-ray, and comparing the results with those following *x*-ray treatment, I was struck with the little difference to be discovered. Comparing fifty cases treated by pastes alone with fifty patients who had the benefit of the *x*-ray in addition or as the sole method employed, the final results, number of recurrences, etc., were almost identical. I cannot now give the exact figures, as the table is in the printer's hands but will soon appear in book form.

Since the above was written I have opened the last volume, recenty received, of *Progressive Medicine*, and find on page 127 a quotation from some of my own writings in Dr. Gottheil's really excellent review of dermatology and syphilis. He does me the honor to say: "Allen's conclusions represent the position that seems rational, and as they summarize our present knowledge upon the subject, I repeat them:

"1. Cutaneous cancer is traceable in almost all cases to preceding local irritation.

"2. There may be other causes, but infection is probably a source of the disease.

"3. Benign epitheliomatous proliferation may be infectious.

"4. Cancer is curable, but if the disease is allowed to progress the patient may not be.

"5. Only the most radical treatment is to be tolerated.

"6. Caustic paste, with subsequent caustic dressing, is radical, and is often preferable to the knife.

"7. The earlier cancer is treated the less likelihood is there of relapses or metastases.

"8. The *x*-ray bids fair to be as effective as caustics."

With this added strong authority for the use of caustics it would seem that writers should refrain from referring to the method as one leaning toward charalatanism.

30 East Thirty-third Street.

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**The Origin of Malignant Neoplasms.**—F. de Quervain says that experimentation so far has shown that the existence of a parasite of cancer is not yet proved, and that clinical and experimental researches up to the present have only succeeded in establishing the inoculability of cancer by a "cellular graft," and not by a virus, outside living cancer cells. The theory of the parasitic origin of cancer, instead of explaining away all difficulties, gives rise to many new problems which are as difficult to solve as the development of a malignant tumor without the intervention of a microorganism. The search must be continued, but by means of experiments from animal to animal, and not from man to animal. This should be easy enough, because cancer is common in dogs and mice. First of all, one ought to find out whether cancer is transmissible by the cancerous juice, rigorously excluding in these experiments the transplantation of cancer cells. If one could thus discover the vehicle of the virus, it would make it less difficult to determine its nature.—*Medical Press and Circular.*

**Clinical and Pathological Observations of Joint Mice.**—Boerner reports observations in nineteen cases of this condition. His classification embraces: (1) Joint mice containing microscopical evidence of origin from articular surfaces and not of gouty nature. These may or may not give a history of trauma. (2) Joint mice which do not contain articular cartilage, but are excrescences produced in consequence of arthritis deformans. Microscopical examination of preparations showed that healthy cartilage was but rarely present, more or less pronounced necrosis being found even in bodies of recent origin. No relationship appeared to exist between the age of the movable body and the regressive changes, and it was impossible to find any explanation for their variations in different cases. No differences were observed between traumatic and non-traumatic cases, and evidence of inflammatory processes could not be detected. In regard to the mode of origin of such bodies, the author believes that they may be produced by gradual separation from the articular surfaces. A partially loosened body may remain for years in its hollow and give rise to symptoms of varying severity, its final separation being due to mechanical causes. No evidence of the existence of such a clinical entity as osteochondritis dissecons, supposed by some to be concerned in the production of these bodies, could be discovered.—*Deutsche Zeitschrift für Chirurgie*, Vol LXX, Nos. 3 and 4.

**Injections of Camphorated Oil in Pulmonary Tuberculosis.**—E. Nienhaus treated seventeen patients with subcutaneous injections of camphorated oil after the method of Alexander. The injections were given either daily (0.3 g. of 10 per cent. camphorated oil), or 0.1 g. of camphor was given daily for four days, then an intermission of eight days, four days of treatment, etc. It was found that the injections were well borne and never produced any disturbances of the general condition. Its action, however, is merely that of a heart stimulant, and it has no direct effect on the local pulmonary condition. The blood-pressure is not raised by the treatment, neither is the temperature influenced. The injections are of value in strengthening a heart severely poisoned by advanced disease, and in this way prolong life, though large doses must be used. Hemorrhage is a contraindication.—*Zeitschrift für Tuberkulose und Heilstattenwesen*, Vol. V, No. 1.

**The Congeners of Phagedena and Their Treatment with Turpentine.**—George Ross recalls a story of the early days of his practice, when gangrene threatened the life of a hospital patient, and nothing seemed of any avail to check it. A prominent physician gave the advice to mop the sloughing mass to saturation with pure spirits of turpentine, cover with a dressing, and give the patient a teaspoonful of the drug every two hours. At the end of forty-eight hours the slough had fallen out, leaving a granulating surface, red as a beefsteak, and the patient was on the high road to recovery. Another case of sloughing ulcers on the calf of a man's leg was treated in the same way and promptly cured, and the same result followed in a case of hospital gangrene involving almost the whole of the gluteal region of one side Pure spirits of turpentine, locally applied to fresh cut or foul sore, is Nature's perfected detroyer of germ-life—the ideal non-corrosive, innocuous disinfectant, and, when administered internally, save and except only adrenalin chloride, the product of the suprarenal capsules is the most efficient capillary astringent known.—*The Railway Surgeon.*

**Phthisis in Relation to Life Insurance.**—T. D. Lister states that the normal danger to the office arising from phthisis is made up of three factors: Inherited vulnerability, largely diminished after middle life, *i.e.* decreasing with age. Acquired vulnerability increasing with age. Infection, equally likely at all ages. The sum of these three factors causes the normal danger from phthisis to be the same at all ages, but as age advances the percentage of deaths from phthisis out of the total number of deaths diminishes with growing rapidity, owing to the larger number of other causes of death which occur in the later years. All additions for any extra risk from phthisis must, therefore, be larger in early life, but especially so with the danger decreasing with age. An excessive danger from phthisis may be inferred in an individual when he has inherited vulnerability, acquired vulnerability, or a risk of infection (or two of these) in a degree greater than average healthy members of his own class. Personal condition is an important factor in determining this degree.—*The Practitioner.*

MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

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## THE BORDERLAND OF DIPHTHERIA AND SCARLET FEVER.

A RECENT paper by H. E. J. Bliss in *The Lancet* discusses this question from a broad standpoint. The author comments on the rigid nosology of the present day, which, he says, is a period dedicated rather to the apotheosis of the systematist rather than to the philosophical contemplation of morbid phenomena. He states his desire to discuss the conditions that lie between those aggregations of morbid symptoms which we call, for convenience sake, scarlet fever and diphtheria. These are diseases, he says, which resemble now one of the two and now the other, but yet fade away to a sort of neutral zone, leaving us in doubt as to the exact category under which they ought to be placed. A similar illustration is the so-called "fourth" disease of the measles-rötheln-scarlet fever group.

The only justification for the creation of a new disease is the erection of a fresh and sufficiently distinctive criterion to which reference may be made in cases of doubt. Such criteria are constantly shifting their ground as our knowledge increases. Absolute truth is merely an ideal and not an attainable finality. As a matter of fact, diphtheria, scarlet fever, and tonsillitis, using those terms in their broadest sense, afford many examples of departure from their respective types, and at times insensibly merge one into another.

Various forms of tonsillitis present rashes, and the author calls attention to the necessity in every case of sore throat of making a routine examination of the skin. He states that he has been vividly impressed with the frequency with which erythemata of all kinds, shapes, and distributions occur in these circumstances. From a little mottling of the chest to the most intense general blush such rashes vary, and over and over again scarlet fever has been suspected where it did not exist. On the other hand, it is quite possible that many of these cases have been mild ones of scarlet fever in which the diagnosis has never been cleared up. The distinction is not possible with our present equipment. Another confusing class of cases is made up of sore throats attended with deep ulcerations. They are not frankly diphtheria or scarlet fever, but they run a severe course and are occasionally fatal. Their chief feature is the presence of a large ulcer or ulcers on the tonsils and surrounding tissues, some of considerable extent and depth; the adjacent lymph glands are inflamed, and there are fever and general constitutional disturbance. The local process sometimes leads to considerable destruction of the throat tissues, and the system may become infected by the pyogenic cocci. The great difficulty at first is the distinction of these cases clinically from diphtheria which they resemble strongly in the throat appearances; when this difficulty is disposed of by the progress of the case the suspicion of scarlet fever begins and is often, indeed, present to the end, so similar are the later lesions of the fauces and palate. The general symptoms, too, are of the sthenic type—delirium, restlessness, and considerable pyrexia—which suggest a much closer relationship to the latter disease than to the adynamic, algid diphtheria.

Bliss believes that an actual coincidence of diphtheria and scarlet fever is very rare. One may overlap the other, that is, the symptoms of one may appear and progress while the symptoms of the other are fading away. He relates several clinical histories illustrative of the various points made in his paper, and while emphatically discountenancing vagueness in diagnosis, recognizes that there may be cases in regard to which equally competent men may differ. The bacteriological test is not absolute, for as diphtheria bacilli are found in the throats of healthy persons, so also they may be found in the throats of scarlet fever patients; and their mere presence does not justify the diagnosis of diphtheria. The fact remains then that the shadings between these two diseases and some of the severe forms of tonsillitis are so gentle that each shades off into the other not at one but at many points, and whilst this continues to be so, with the most consummate skill and the widest experience, the diagnostician can never attain a certainty in his art which its inherent disabilities forbid.

## HISTORY OF MARITIME QUARANTINE IN LOUISIANA AGAINST YELLOW FEVER.

DR. QUITMAN KOHNKE, Chairman of the Board of Health and Health Officer of the City of New Orleans, read a paper on the above subject before the Louisiana State Medical Society, April 28-30, 1903.

Quarantine for New Orleans was first suggested by W. C. C. Clairborne in 1810, but it was not until 1816 and 1817 that the City and State authorities first enacted quarantine laws. In 1819 the Legislature repealed all existing quarantine laws, abolished the Board of Health at New Orleans, and vested in the governor the power to proclaim quarantine. In 1821 quarantine laws were reënacted, and a Board of Health composed of twelve members was appointed; but in 1825 all quarantine laws were repealed. For sixteen years there was no Board of Health, and it was not until 1841 that a Board of Health was reëstablished. In 1853 and 1854, owing to the prevalence of yellow fever, the Legislature reënacted quarantine laws. The measures then enforced were: Detention of ten days in quarantine, during the summer months, of vessels from tropical zones; removal to hospitals on shore of persons found sick on board; and a superficial cleansing of vessels excessively filthy.

In 1867 disinfection of premises by carbolic acid was suggested and practised by Dr. S. E. Smith, President of the Board of Health, and in 1873 Dr. C. B. White, President of the Board of Health, encouraged by the apparent success attending the use of disinfection about premises, recommended

disinfection of ships and cargoes in addition to the prescribed ten days' detention in quarantine.

In 1874 special efforts were made in the direction of disinfection. By the aid of an apparatus designed by Dr. Alfred W. Perry, quarantine physician at the Mississippi Station, sulphurous acid gas in large quantities was forced into the holds of vessels, carbolic acid being still used freely above deck. During the time that Dr. Perry was in charge of the quarantine station—about six months—no yellow fever developed on ships disinfected by him, although several had arrived with yellow fever on board. Two days after the station came under the charge of Dr. Perry's successor a vessel from Cuba was passed without disinfection, and a week after yellow fever broke out on the vessel. In 1876 detention of vessels in quarantine was omitted, and reliance was placed solely on inspection and disinfection.

The epidemic of 1878, thinks Dr. Kohnke, was the last one caused by personally conveyed infection, for the precautions taken against infection since then have been and are such as to exclude with a reasonable certainty infected persons. As regards infected mosquitos, however, the case has been different. The fruit-carrying trade had developed into one of great importance, and vessels carrying fruit, and incidentally infected mosquitos, could not be subjected to sulphur fumigation. In 1886 the privilege of entry without detention was extended to the fruit trade under the following stipulated conditions: The avoidance of infected ports; the employment of acclimated crews; and the non-acceptance of passengers during the summer months. After discharge of the cargo the empty hold of the vessel was fumigated with sulphur. In 1886, also, Dr. Holt had built, for the better disinfection of clothing, a heating chamber. In 1895 the quarantine authorities passed a resolution abolishing the fumigation of the empty holds of fruit vessels maintained in a cleanly and good sanitary condition and running only to known healthy ports. In 1897 and in 1898 yellow fever was introduced by some means into New Orleans, and Dr. Kohnke is of the opinion that it is not illogical to suggest that these means were infected mosquitos brought in by incoming fruit vessels from infected ports.

In April, 1903, an appeal was addressed to the quarantine authorities to restore the sulphur disinfection of the empty holds of all fruiters, instead of limiting this measure to vessels from known infected ports. This appeal was referred to a committee of the State Board of Health, and is now under consideration.

Meanwhile the conditions are these: Vessels (other than fruiters) from tropical ports from which yellow fever may be imported, are disinfected entirely before admission; passengers being detained with the vessel to complete the full period of incubation (five days) after such disinfection. Fruiters from infected ports are disinfected, except the hold and cargo, and admitted without detention, the empty hold being disinfected with sulphur, burned in iron pots after discharge of cargo. Fruiters from ports not considered infected are disinfected partially only, the hold and cargo being not included, and are admitted without detention. Fruiters containing cases of yellow fever are detained for five days after disinfection. Fruiters may send their cargoes to the city on lighters previous to disinfection of the vessels.

Dr. Kohnke deduces from the foregoing facts these conclusions: That even a superficial reading of history compels us to recognize the two cardinal principles of quarantine against yellow fever—destruction of mosquitos and detention for five days of persons exposed to the disease. He likewise holds that if there be a proper field for experimentation it must be somewhere in the uncertain realm of fomites. "There is," he says, "much to discover in this field, for there is little known, perhaps less to be learned, save in a negative way."

## THE OVERLAYING OF INFANTS.

In the last ten years England and Wales were deprived of 15,009 infants through their being suffocated in bed by their parents or nurses. His Majesty's coroner for N. E. London, William Wynn Westcott, states in the *British Medical Journal* of November 7, 1903, that in the year 1900 alone there were 1774 cases, and that in Liverpool during one year more than one in seven of all inquests upon children were shown to have been made necessary by this form of suffocation. Unlike many statistics, it is probable that these show an actual underrating of existing conditions for the simple reason that a diagnosis is in many cases impossible, the parents or nurses being always ready to state that the child had convulsions or some other form of trouble immediately before death.

If the child was very young and feeble, there may be no evidence whatsoever of death, because many of these children, especially if they have drunk the milk from an inebriated mother, succumb to the simple pressure of the bedclothes or to the burying of their faces in a pillow. Three cases are recorded in which such infants have been killed by having been overlain while asleep by the domestic cat. Other cases show undoubted marks of pressure upon the body or face, of which probably that most pronounced is a flattened nose. In the sthenic class of overlain children, there may be some evidences of a struggle, and these cases are more apt to show the characteristic evidences of suffocation than the little feeble asthenic children referred to. The lips are blue, the face livid, the arms and legs flexed, the hands clinched; blood-stained froth in the nostrils and the mouth; the tongue protruded, the nails blue.

In *Casper's Forensic Medicine*, 1862, it is stated that under the old penal code of Prussia, mothers and nurses were forbidden under pain of imprisonment to have children less than two years of age sleep in bed with them. The new penal code does not contain this law, but the public prosecutor is directed to take legal proceedings against persons who suffocate infants in bed with them as "cases of manslaughter by neglect." On conviction, either a fine or imprisonment may be inflicted, and charges of murder are also possible. In France and Germany the mortality of infants, even in the great cities, from this form of suffocation is gratifyingly rare. A very direct relationship seems to exist between the amount of drunkenness in women and

this form of infantile death. A drunken mother on the Continent is almost an unknown sight. Indeed, throughout the wine-producing belt of Europe it is well known that drunkenness is rare —padded cells and delirium tremens wards being almost without exception unnecessary.

No country can afford to lose 15,000 lives in ten years—least of all England. With the increasing density of our population and a corresponding approximation of our conditions to those existing in England, it will be of interest for us to follow closely the course pursued by the British jurists in their efforts to limit this unjustifiable destruction of life.

### The Community and Tuberculosis.

A paper bearing the above title was read by Dr. Beverley Robinson of New York, before the Climatological Association, the meeting of which was held in Washington, on May 14, 1903. So much has been written and spoken concerning tuberculosis within the past few years, that necessarily addresses or papers on the subject are, to a large extent, repetitions of what has been said or penned before. Yet it is well that the matter should be constantly ventilated, in order that the public should not be allowed to subside into a state of lethargy or to relax in efforts to fight the disease.

Dr. Robinson touches upon the various methods of treatment now in vogue, but the most instructive part of his article is that which concerns itself with the home treatment of consumptives. After all, this mode of treatment is, in the nature of things, the one most largely used, and for the vast majority of people the only available treatment. As the writer points out, even if the poor could be persuaded to leave their homes and go elsewhere, there is no institution yet open to receive them. In the City of New York there is now accommodation approximately for 1,000 of her consumptive poor; there is requirement for 10,000 to 20,000 more. In all the large cities of the world the situation as regards the consumptive poor is similar to that of New York. There are thousands of consumptives who are compelled to remain at home, and who are unfortunately a menace to their family and neighbors and in a lesser degree to the community at large.

It may be taken for granted, too, that even when institutions have been built to accommodate a large number of indigent consumptives, that there will not be room for all, and that the majority must rely on home treatment. In the first instance, in this connection, it should be stated most emphatically that unless the poor are housed properly, tuberculosis will never be checked to any appreciable extent. Houses well ventilated, clean and with plenty of air and sunlight are the prime desiderata. Good well-cooked food is also a very important factor in treating the consumptive and in keeping up the resisting powers of the body against the ingress of the tubercle bacilli. The general public is as much interested in this question as the sufferers from tuberculosis and the dwellers in the tenement districts, for although the disease is only contagious under certain conditions, yet it will spread when it finds a suitable soil, and in course of time will be disseminated throughout a city. A community is notoriously selfish, and its well-to-do members are apt to disregard the plight of the poor as not directly affecting themselves.

When, however, persons of this class have been made to understand that the prevalence of tuberculosis in a city is a source of danger to everyone therein, they will begin to view the matter in a different light, and will exert themselves for their own sakes in a way that they would never dream of doing in the cause of humanity. An appeal to self-interest is generally more effectual than to rely upon the milk of human kindness, which is said to be present in all, but which too seldom flows spontaneously.

### Uncinariasis in Soldiers of the United States Army.

Dr. Charles F. Craig, in the *Journal of Medical Sciences*, November, gives the history of twelve cases of this disease which came under his notice at the Army General Hospital at San Francisco. All of the cases observed occurred in soldiers returned from the Philippine Islands, and were infected with the old-world hookworm, *i.e.* ankylostoma duodenale, and not by the new-world hookworm discovered by Stiles, and which has been described in the Medical Record.

Dr. Craig's article, instructive as it is, is too long to discuss at length, so that the methods of infection and the manner of treatment is all that will be touched upon here. As to the methods of infection, the author thinks that probably the most important are by swallowing the worms in infected food or drinking water. One very common method of infection, however, occurs in persons who handle dirt in infected localities, and because of uncleanly habits contaminate their food or convey the infection directly to the mouth with their hands. Dr. Craig makes especial mention of a method of infection which has received much study of late, that through the skin. He says: "This theory, which has now become established, was first announced by Loos. He discovered that if water containing embryos of uncinaria was placed upon the skin an itching sensation was produced, due to the worms entering the hair follicles, from which region they entered the surrounding tissues. This has been absolutely proven."

Bentley, as the result of experiments undertaken upon himself, concludes that the condition known as "ground itch," occurring in some tropical countries, is owing to infection with uncinaria. Although this has not been definitely proven it sounds probable.

The theory propounded by some authorities that the larvæ of uncinaria can reach the human being through the respiratory tract, being present in the air, according to Dr. Craig, has not received definite proof, and, so far as the present status of the case is concerned, he is of the opinion that it is not a likely means of infection.

Diagnosis of uncinaria depends almost wholly upon the finding of the ova of the parasite in the fæces.

With regard to treatment, thymol appears to be the only drug which exerts any beneficial influence on persons suffering from uncinaria. "Preventive methods," says Dr. Craig, "so far as the army is concerned, consist in the proper disposal of the excreta, careful attention to the cleanliness of the person, especially the hands, the wearing of shoes in regions in which the natives are infected, and the boiling of drinking water."

Uncinaria is a troublesome but not a deadly disease, and its course can be checked by following the rules for prevention laid down by Dr. Craig.

**Early Menstruation.**—C. Wischmann, (*Norsk Magasin for Lægeoidenskaben*) relates the case of a child aged eighteen months, in which twelve distinct menstrual periods occurred during sixteen months. Each lasted from five to ten days. The child was neither rickety nor hydrocephalic. The mammæ were large and the mons veneris was well covered with hair.

### Depopulation in France.

The *London Times* of November 5 has a short article by its Paris correspondent on the ever-decreasing birth rate of France. The communication was called forth by the publication of the reports respecting the annual contingent of recruits in France. This document once again draws the attention of the public to the depopulation of the country. Under the Second Empire, remarks the *Times'* writer, the Republicans attributed the stagnation in the birth rate to the Imperial form of government, and declared that it would increase rapidly under a Republic. This led a witty and well-known writer in the boulevard *Press*, M. Albert Wolff, to remark sarcastically that such being the case the Republicans had better change their motto of "Liberté, Egalité, Fraternité," into that of "Liberté, Egalité, Maternité." This year shows a falling off of 34,000 in the number of French recruits in contrast to a German increase of 15,000. The Minister of War, in the endeavor to check the diminishing birth rate, has accorded to married recruits and reservists the privilege of serving their time in the districts where their families reside. It is said that this privilege, which has been freely granted by the military authorities, has this year led to numerous marriages in Paris among young recruits summoned to join the colors. The remedies advocated by the extra-Parliamentary committee included administrative reforms calculated to lighten the burdens of the parents of large families, improved sanitation and hygienic arrangements to reduce the death rate among children, obligatory naturalization and a revision of the law of inheritance, diminishing the portion left to an only child, together with moral suasion and a propaganda among the peasantry against the tendency to seek employment in towns.

It is to be hoped that these measures, at least to some extent, may have the desired effect, but the canker probably lies too deep for partial remedies. The decrease in the birth rate in France has been steadily progressive, and the spirit of its inhabitants, especially of those who dwell in cities, must be radically altered ere children are born in sufficient numbers to keep the country in a foremost position. France is at present the conspicuous example of the evils attending ultra-civilization.

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### The Biological Aspect of Infant Feeding.

The subject of artificial infant feeding has been, up to within a comparatively few years, much neglected, the teaching being confined to the clinical experience of accepted authorities. An attempt was later made to place the preparation of infants' food on a scientific basis by adjusting cow's milk so as to represent the same chemical composition and reaction as human milk. With a wider knowledge of the chemistry of milk, and more thorough comparative examinations of human milk and cows' milk, certain of their supposed differences have disappeared, and, with them, some of the accepted bases of the scientific modification of milk have also disappeared.

This should not cause, however, any reaction against scientific infant feeding. There is a scientific basis to infant feeding, which, in its essentials, is not difficult to grasp. The extended investigations into the problems of animal nutrition at the various State Experiment Stations have shown that, within certain limits, the chemical composition of food is of secondary importance, provided the food be naturally adapted to the species.

It has also been shown that by injudicious feeding the whole character of the animal body may be profoundly altered, with resulting degeneracy of the species. This disastrous effect is produced in the early stages of growth and cannot be corrected later. These discoveries have been thoughtfully considered by animal producers, and are bringing about great improvement in the physique and resisting power of domestic animals.

It is to be feared that those having charge of the feeding of infants have not altogether kept abreast of advances in the knowledge of the principles of animal nutrition, but, in view of the importance of the subject and the simplicity of the principles that have been worked out, a wider knowledge of the subject ought to be realized. In artificial infant feeding there is a biological as well as a chemical side to be considered, and the former has not been sufficiently investigated.

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### Preventive Medicine and Natural Selection.

There are many who believe that the greater part of the philanthropic work of the world is a waste of time, money, and energy. These argue that by such means not only are persons deprived of their self-respect, but that an unhealthy stock is perpetuated, tending to a deterioration of the race. The survival of the fittest and natural selection are the battle-cries of these hardy philosophers who decry the present altruistic methods as grandmotherly in their nature.

Dr. Charles V. Chapin of Providence, R. I., contributed a paper to the Journal of the American Social Science Association of 1903 which dealt with the possible race deterioration resulting from sanitary effort. The practical point considered by the writer, was, whether, on account of the working of the law of natural selection, we are warranted in abandoning precautions against disease and permitting this law to have again a free field. Some of the reasons given by Dr. Chapin why we should not do so are as follows: So long as we are unable to exterminate the infectious diseases, natural selection must, notwithstanding all our efforts, continue to operate, though more slowly because of those efforts. Natural selection is being retarded, not eliminated. Natural selection is now a slow process, and it is difficult to say whether more suffering or death is entailed by such a process than by a more rapid one. The writer is of the opinion that we have no right to sacrifice a marked benefit in the present for the earlier realization of a hypothetical result in what at the best must be a very distant future. Dr. Chapin also thinks that infectious diseases may be completely banished long before natural selection can have established a permanent immunity.

The tendency, too, is for natural selection to lead pathogenic organisms to lose their virulence, thus becoming in the course of time merely harmless parasites. This tendency is shown by evidence both deductive and inductive. That infections are an important factor in eliminating the feeble, the poorly nourished and the constitutionally defective the writer denied, as he held that there is no evidence that they are any more susceptible to most of the communicable diseases than are the most robust. The conclusions reached by Dr. Chapin were that it appears as if natural selection in relation of man to infection is working for the ultimate good of the race; and, while public health measures are in some respects antagonistic to this process, in others they favor it. Furthermore, the immediate results of preventive measures are so marked, and the chance of overcoming these diseases in the future by other means than the immunity due to selection is so great, that we find no warrant in the principles of organic evolution for abandoning our present warfare.

The trend of existing methods of preserving human life is in the direction of prevention. The survival of the fittest by means of natural selection finds no favor in the eyes of sanitarians and physicians. In these days everyone—no matter what his physical condition may be—is to have a fair chance of an extended life. This is but reasonable, for although if natural selection were allowed to work out its ends unchecked, the evolution of a physically sound man might result, yet on the other hand brain power might be lacking. When the fact is recalled that many of the geniuses, and of the most talented and ablest, men of the world have been physically unfit. the significance of the statement will be better appreciated. *Mens sana in corpore sano*, is the ideal state, but as this high plane is beyond the reach of all, it will be better to have the mass of physical excellency leavened with the salt of brains, even though it be accompanied by decrepitude, than that the race should be composed of splendid animals handicapped by mental deficiencies.

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### The Typhoid Epidemic at Butler.

The epidemic at Butler, Pa., is yet another object lesson on the dangers resulting from a contaminated water supply. The evidence of the majority of the physicians and citizens is to the effect that the water supply is to blame for the spread of the disease. Butler is furnished water by the Butler Water Company. Up to a short time ago the supply was taken from Conequenessing Creek, but on August 24, the dam from which the company derived its supply gave way and water was procured from a small tributary of Conequenessing Creek, known as Thorn Run. Cases of typhoid fever then began to appear in Butler, the point in dispute, however, being as to the date when the disease originated, whether before or after water was first taken from Thorn Run. Physicians also are said not to be agreed in regard to the impregnation with typhoid germs of the water of that stream. By those who hold that such was the case the claim is made that several families above Butler, who had typhoid fever, allowed their drainage to run into the river, thus infecting the water which flowed through the city.

Another theory as to the manner in which the water supply of Butler became polluted, is that it was brought about by the gangs of Italians employed in the construction of the new dam and water basin just completed. These laborers were at work on the dam for about a year, and lived as is the custom of such people in huts and dugouts, which were situated on the steep hillsides rising on either side of Thorn Run. There is said to have been no proper system of drainage for the refuse of this temporary colony, and that rain washed it down into the stream from which Butler was obtaining its water supply. Still another theory prevails to the effect that the milk supply must be regarded as the originating cause of the epidemic.

The *New York Tribune*, December 6, in an article dealing with the matter, says: "The fact that Butler's sewage drains into Conequenessing Creek has given rise to a problem which the federal authorities have deemed of sufficient importance to investigate. There are several small towns and boroughs below Butler that take their water from the Creek, and doctors agree that immediate steps must be taken to prevent the spread of the disease to these places. Dr. John F. Anderson, acting director of the hygienic laboratory of the Marine Hospital Service, has been sent to Butler from Washington to investigate the situation there and to judge of the possibility of the disease spreading to other States."

It is to be hoped that the epidemic at Butler will arouse authorities—national, State, and municipal—to the need of improving the water supply in all parts of this country. Europe is far ahead of America in this respect, and enlightened Americans cannot but feel shame that, with all its boasted advance, their country still lags behind the nations of the old world in municipal matters generally, and especially in regard to sanitation. The evidence forthcoming as to the cause of the epidemic at Butler points to the water supply as the *fons et origo* of the disease, and many cities of the United States would do well to take to heart the condition at the Pennsylvania town and resolve to set their own houses in order.

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### The Cause and Treatment of Cancer.

Another alleged discovery of the cause of cancer has been recently added to the already long list of such happenings, and has been as usual widely heralded by the lay press. In addition to this announcement the statement is made that a specific treatment of the disease has followed as a sequence the isolation of the causative parasite. Dr. Otto Schmidt of Cologne is the author of these reputed discoveries. A striking evidence of the intense interest which is taken by the medical profession in any reported new facts concerning malignant disease, has been afforded by the despatch to Cologne of a London specialist with the view of learning all that was to be learned of Dr. Schmidt's theories and methods. On November 5 Dr. Jossé Johnson delivered an address before the Abernethian Society at St. Bartholomew's Hospital, which is reported in full in the *London Lancet*, November 14, in which he presented the result of his observations on Dr. Schmidt's specific treatment of cancer.

So far as the isolation of the parasite is concerned, it would seem that the one found by Dr. Schmidt resembles in its essential details those first described by Russell in 1890 and afterward by several investigators. But the German scientist has not offered sufficient evidence to prove clearly that he can be regarded as the discoverer of the cause of cancer.

After all, however, by far the most important part of Dr. Schmidt's statements is that in which he claims to have discovered a method of treatment which inspires the hope that at length a cure for the malady has been found.

The rationale of treatment, according to Dr. Johnson, is twofold: Firstly, active immunization —that is, by the injection of cultures, fourteen to twenty-one days old, which have been first killed by the application of heat (65°C.); and, secondly, passive immunization, by the injection of the serum of immunized animals—sheep and horses—into the subcutaneous tissues of the patient.

The result of active immunization which follows injections into the body of cancerous patients, is asserted to be a specific reaction in the tumor and affected parts. Injections of the cultures into a healthy subject or into one suffering from any other disease produced no symptoms whatever. If, on the other hand, the cancerous process is in the body, then a specific reaction supervenes, whenever there is any recuperative power in the blood of the patient. The "vaccine," in addition to its curative effects, possesses, so it is claimed, another valuable quality, one of great use in diagnosis. Although cachectic patients hardly react at all to the "vaccine," it is said that innocent growths can be accurately diagnosed from malignant ones and likewise metastatic deposits can be detected.

With regard to the action of the serum upon patients afflicted with malignant disease, the speaker was not so enthusiastic as when referring to the

results produced by the vaccine. He says it has the drawbacks of all serum injections, and that to be effective its unit value will have to be much raised.

In the discussion that followed Dr. Johnson's address the optimistic conclusions reached by the speaker were criticised, and it seemed to be the opinion of the majority of those present that these conclusions were not warranted by the evidence thus far adduced by Dr. Schmidt, and that, indeed, the public announcement of the result of his investigations was, to say the least, premature.

The MEDICAL RECORD on several occasions has deprecated the now prevalent custom of announcing as bona fide original discoveries, theories founded upon researches which have not been so thoroughly carried out as to justify a positive statement. Cancer cures are advertised in the lay press with a frequency that is both astonishing and nauseating, and any announcement such as that just made by Dr. Schmidt is seized upon by the sensational newspapers with avidity and enlarged upon and distorted with the exuberance of imagination characteristic of present-day journalists. With the distressing outcome of the publication in the lay journals of the curative effects of Koch's tuberculin, still green in the memory, no one—with such an example before him—can deny that infinite caution is needed in dealing with these matters.

## News of the Week.

**Tenement-house Conditions in New York.**—"On January 1, 1902, a new department of the city government, known as the Tenement House Department, was created. Since that time all the tenement-houses in New York have been examined and their condition ascertained. Tenement conditions, in many instances, have been found to be so bad as to be indescribable in print; vile privies and privy sinks; foul cellars full of rubbish, in many cases of garbage and decomposing fecal matter; dilapidated and dangerous stairs; plumbing pipes containing large holes emitting sewer gas throughout the houses; rooms so dark that one cannot see the people in them; cellars occupied as sleeping places; dangerous bakeries without proper protection in case of fire; pigs, goats, horses, and other animals kept in cellars; dangerous old fire-traps without fire-escapes; disease-breeding rags and junk stored in tenement-houses; halls kept dark at night, endangering the lives and safety of the occupants, and buildings without adequate water supply.

"As the result of the earnest and systematic work of the department, 40,000 buildings have been inspected, over 80,000 persons have been provided with sanitary, comfortable, and decent houses, each one of which has been built according to law; notorious evasion of, and non-compliance with, the laws has given place to their complete, uniform, and impartial enforcement; the evil of prostitution has been practically abolished in the tenement-houses; 337,246 inspections have been made; 55,055 violations filed; 21,584 repairs made to plumbing; 13,617 water-closets cleaned; 11,611 accumulations of filth removed from cellars and other parts of such buildings; 13,732 ceilings cleaned; 15,364 walls cleaned; 10,060 unsafe wooden floors removed from iron fire-escapes and new iron floors substituted; 1,701 fire-escapes erected on buildings that before were without this protection.

"The results of this work," according to the report of the commission, "are clearly reflected in the reduced death rate, which in 1902 was 18.7 as compared with 20.0 in 1901, and in the first eight months of 1903 was reduced to 18.0."

**New York Skin and Cancer Hospital.**—At the annual meeting of the Board of Governors of the New York Skin and Cancer Hospital, the following appointments were made: Dr. Willy Meyer, Consulting Surgeon; Dr. Franz J. A. Torek and Dr Wm. Seaman Bainbridge, Attending Surgeons.

**Philadelphia Hospital.**—The Association of Ex-Resident and Resident Physicians of the Philadelphia Hospital (Blockley), held their seventeenth annual banquet on December 1. Mayor Weaver; Dr. Edward Martin, Director of Public Health and Charities; Dr. G. E. de Schweinitz, and Dr. F. X. Dercum were guests of the association. Dr. J. Chalmers DaCosta acted as toastmaster, and responses were made by the Mayor, Dr. Martin, Dr. Francis J. Dever, Capt. Chas. F. Kieffer, Surgeon U. S. A., Dr. Dercum, and Dr. de Schweinitz.

**Doctor on Trial for Spreading Disease.**—Dr. D. L. Peet of Proctor, Pa., was recently placed on trial for spreading contagious disease, it being alleged that he visited patients ill of smallpox and then mingled with healthy persons, and that he also destroyed a red lamp used as a danger signal. The defence was that the disease was chickenpox and the breaking of the lamp was accidental.

**Killed on the Rail.**—Dr. Albert Blumberg of Pittsburg was killed at Braddock, Pa., on December 1, and Dr. C. Emmerling, also of Pittsburg, was injured by being struck by a train.

**Prevalence of Typhoid Fever.**—More than 1500 persons in the city of Butler, Pa., have been attacked by typhoid fever, and the State Board of Health has, after investigation, traced the source of the disease to water furnished by a local water company. During the summer, while a new dam was being constructed, it is alleged, the company pumped water from a creek near the town, in proximity to which there were a number of cases of typhoid fever.

**Typhoid Fever Prevalent in Philadelphia.**—For the week ended November 28 there were reported to the Philadelphia Bureau of Health eighty-four cases of typhoid fever from twenty-eight wards. The disease is quite evenly distributed over the city, and is generally of a mild type.

**The Home in Relation to the Tuberculosis Problem.**—The second address in the series arranged by the Henry Phipps Institute for the Study, Treatment, and Prevention of Tuberculosis was delivered on December 3 by Dr. Wm. Osler in Philadelphia. He pointed out the importance of the home with relation to the etiology, as well as the prevention and treatment of the disease. The rarity of primary intestinal involvement and the great preponderance of bronchial and pulmonary involvement would seem to support the view of aërial infection rather than that from any other source, including milk. The ubiquity of the bacillus accounts for the prevalence of the disease, but of the large number of individuals exposed to the infection all do not suffer, and of those infected the majority recover. Not less important than the microorganism, or the seed, therefore, is the resistance or the susceptibility of the individual, or the soil. Drugs are least important in the management of the disease; fresh air and sunshine, good food and rest in the febrile cases and exercise in the non-febrile cases, are the essentials. Registration of cases is necessary for the institution of proper hygienic and prophylactic measures. Actual cure is rare; arrest of the disease is common.

**For the Extermination of Mosquitos.**—A meeting will be held in the rooms of the Board of Trade and Transportation, at Broadway and Fulton Street, New York City, on December 16, at 2.30 P.M., to consider the questions involved in mosquito extermination. The promoters of the meeting have requested all departments of health, boards of trade, village and town improvement associations, medical, entomological, engineering, and agricultural societies to send representatives, and it is hoped that a national association for mutual aid in the work of suppressing the mosquito plague may be formed. Governor Murphy of New Jersey has been invited to preside, and a number of sanitarians and other prominent men have been appointed vice-presidents. It is purposed to publish and distribute widely a full report of the papers and discussions as a means of arousing and maintaining interest in this subject. Further information relating to this meeting may be obtained by addressing Henry Clay Weeks, Esq., Bayside, L. I., N Y.

**College of Physicians of Philadelphia.**—At a stated meeting, held December 2, Dr. George Erety Shoemaker reported a case of fibrosarcoma of the abdominal wall and probably also of the pelvic organs, which has disappeared under the use of the *x*-rays. The patient was a woman, thirty-six years old, who presented a mass in the pelvis, and also involving the contiguous abdominal wall, and which, on opening the abdomen, it was found could not be entirely removed. Accordingly, treatment with the *x*-rays was instituted, with the result that the new formation was entirely dissipated. Histologic examination of a bit of removed tissue disclosed the structure of a fibrosarcoma. Dr. Arthur Van Harlingen reported a case of seborrhœa nigricans (black mask of the face). The patient was a young woman, with hysterical stigmata, who presented, on the forehead and bridge of the nose, an accumulation of sebaceous secretion, dust-pigment, and other matters out of the atmosphere, which had not been removed in several years, and gave rise to a condition rarely observed in so aggravated a form. Dr. Wm. G. Spiller and Dr. Chas. H. Frazier reported five cases of tumor of the brain with operation. They illustrated, among other things, the difficulties attending removal of infiltrating growths, and the hopelessness of permanent relief, the association of stereognostic perception with the parietal cortex, although not exclusively, and the simulation of cerebral neoplasm by tuberculosis in plaques. The surgical considerations have to do with the preparation of a suitable flap by means of chisel and mallet, trephine, electrical engine, the control of bulging of the brain at the time of operation and subsequently, and the control of hemorrhage. Dr. John K. Mitchell exhibited a specimen of intestinal sand, obtained from a neurotic male of mature years, suffering from symptoms of mucous colitis, and with a history suggestive of past appendicitis and possibly also peritonitis. A distinction must be made between true sand and false sand, the former consisting principally of calcium-salts, especially phosphate and carbonate, and the latter of elements of the food or perhaps fragments of biliary calculi or even matters introduced into the bowel for purpose of deception by hysterical or malingering patients.

**For the Daily Medical Inspection of the Public Schools.**—At a public meeting of the Public Education Association of Philadelphia, held December 3, the subject of the Medical Inspection of Schools was discussed by a number of representative speakers. His Honor, Mayor Weaver, who presided, pointed out the necessity of maintaining the health of the children in the public shools and keeping the schoolhouses in sanitary condition. Mr. Henry R. Edmunds, President of the Board of Public Education, stated that the whole body of school controllers is heartily in favor of the project. Dr. Ernst J. Lederle, Commissioner of Health of New York City, related the success of the system of medical inspection of public schools in Greater New York, and he illustrated his remarks with views of class-rooms showing the medical inspectors and school-nurses at work, as well of the city's hospitals, both established and projected, for the care of cases of contagious disease. He discussed other health measures, including open-air markets, milk inspection, meat inspection, etc., recently instituted for the better safeguarding of the entire community. He pointed out that, as the result of medical inspection in the schools, 71,229 children were excluded last year, because of various diseases. On account of overcrowding in the hospitals, additional city hospitals for the treatment of contagious diseases of the eyes, of scarlet fever, measles and smallpox, were established. Miss Lina L. Rogers, Supervising School-Nurse of New York City, spoke of the work of the corps of nurses in the public shools, and pointed out that 106 of the public schools are supplied with nurses. During the last school term of 120 days in the borough of Manhattan, 16 nurses treated 23,191 children in the school instead of sending them home. These children received 135,854 different treatments, of which 65,987 were for diseases of the eye alone; and in addition, the nurses made 7,986 visits to the homes of the school-children. Dr. Edward Martin, Director of Public Health and Charities, said it seemed the irony of fate that on the same day as the representatives of another city came to Philadelphia to recite the benefits of medical inspection in their city, the Finance Committee of Councils has reported against a similar project for the city of Philadelphia. He expressed the hope that the system would yet be established in Philadelphia, to its great advantage and benefit.

**College of Physicians of Philadelphia; Mutter Lecture on Surgical Pathology.**—Dr. C. N. B. Camac of Cornell University, College of Medicine in New York City, delivered the Mütter Lecture for 1903, December 1, his subject being, "Some Observations on Aneurysm and Arteriosclerosis." After discussing briefly the histology of the arteries, he considered the several theories that have been put forward to explain the occurrence of endarteritis, arteriosclerosis, and aneurysm. Particular importance was attached to the middle coat and its nutrient vessels in this connection, although the operation of influences acting from within the blood-stream was not ignored. As is well known, arteriosclerosis is rare in early life, first appearing, on any considerable scale, between twenty-five and thirty-five, and increasing in frequency with advancing years. Aneurysm is associated rather with circumscribed than with diffuse and disseminated arterial disease. Aneurysm is more common in the colored than in the white race. It is rare in animals, even in those subjected to severe physical strain. Syphilis plays an important part in the etiology. From comparative observations with digestants and with stains, the conclusion was reached that the changes in the arteriosclerotic vessel are primarily molecular rather than histologic.

**Nurses' School Opened on Blackwell's Island.**—The new buildings of the New York City Training School for Nurses, on Blackwell's Island, were formally opened on Wednesday afternoon, December 2. Mayor Low should have made the introductory address, but was unable to attend. President Roosevelt sent a letter in which he regretted being unable

to be present at the opening services, and warmly commended the work. One building, named "Jones Hall," in honor of Mrs. Cadwalader Jones, to whom is due much of the credit of establishing the training school, is already completed. This building is a four-story structure, of which the first story contains a classroom, drawing room, and two rooms for the isolation of contagious cases of sickness, or the cure of nurses. The other stories contain rooms for the accommodation of nurses. The second building, in course of construction, has been named "Rice Hall," in honor of Mrs. William B. Rice. This building, when completed, will contain on the first floor the offices of the school, the chemical and bacteriological laboratories, and a room for the classes in dietetics. The other three stories will contain quarters for nurses. The central building, the present Nurses' Home, has been rechristened "Schuyler Hall" in honor of Miss Louisa Lee Schuyler, the founder of the State Charities Aid Association. Commissioner Folks presided at the dedication ceremonies, while Bishop Potter, Mrs. C. Jones, and Dr. Edward S. Peck gave addresses.

**Woman Dies of Glanders.**—A Mrs. Richard T. Mueller of Bridgeport, Conn., who had been married just a week, died recently of glanders, which she is said to have contracted from a horse belonging to her father. It is believed that she became infected through an abrasion on her right hand.

**A $250,000 Donation.**—The *London Times* stated in a recent issue that a gentleman, who wishes to remain anonymous, has given, through Professor Starling, £50,000 ($250,000) to University College, London, to be used for the promotion of higher scientific education and research.

**Fatal Football Injuries.**—Hugh Schofield, a school boy, twelve years of age, died on December 3, at Fishkill Landing, N. Y., from injuries received in a football game.

**State Board Urges Vaccination.**—The New York State Health Department has just issued its monthly bulletin. It draws attention to the possible increased prevalence of smallpox during the cold months, and dwells upon the necessity of vaccination. It recommends the enforcement of the law excluding unv accinated persons from the public schools.

**Anti-mosquito Convention.**—The first anti-mosquito convention to be held anywhere will meet in the rooms of the Board of Trade and Transportation, 203 Broadway, on Wednesday, December 16. Governor Franklin J. Murphy of New Jersey has been invited to preside. Addresses are expected, among others, from these: Dr. L. O. Howard, Washington; President Lederle of the Board of Health, John Clafflin, Street Cleaning Commissioner Woodbury, and Paul D. Cravath.

**The Health of the Kaiser.**—The reports received as to the health of the Kaiser are of so conflicting a character that but little reliance can be placed in them. One thing, however, is certain, and that is the marked apprehension of the German people in regard to their Emperor's condition. According to the New York *Sun*, December 6, those who have seen the Emperor since the operation on his vocal cords speak sympathetically of the sudden appearance of signs of age beyond his years, and his somewhat haggard expression. The fact is, that the Kaiser has overworked himself in every way, and in addition to his throat trouble is suffering from physical exhaustion. He needs a complete rest.

**A Kansas County's Curious Birth-Rate.**—More than two-thirds of the births reported to the Secretary of the Board of Health in Leavenworth County, Kan., have been boys.

**Harvard Medical School.**—The foundations are being laid for the new Medical School, and it is expected that by the fall of 1905 the school will be moved from its present quarters behind the Boston Public Library to the new buildings near the Fenway in Boston. The fund was started at commencement in 1902, when a gift of $2,000,000 from J. P. Morgan was announced. Subsequently donations were received from J. D. Rockefeller and Mrs. Collis P. Huntington, together with smaller contributions from friends of the university. Altogether a fund of $5,000,000 has been secured. There will be six large structures, five of which will be grouped about three sides of a court 520 feet long and 215 feet wide. The sixth building, to be used as a power house, will stand apart from the main group. It has been decided to give up at present the contemplated new building for the Dental School. The buildings alone will cost over $2,000,000, and it is believed they will be the finest of their kind in the world. They are to be constructed entirely of white Vermont marble, with the exception of their bases, which will be of pink Milford granite. The Medical School faculty are planning to have many affiliated hospitals near by. Among the several institutions to which the corporation has already made offers, and which have signified a desire to take advantage of the offer, are the Brigham Hospital, the Children's Hospital, the Samaritan Hospital, and the Infants' Hospital. The last mentioned, which is to be built in memory of Thomas Morgan Rotch, '01, will be smaller than was at first planned, as it has been decided to go ahead on the already existing gift of $76,000.—*New York Evening Post.*

**A New Laboratory for Harvard University.**—The Bussey Institution of Harvard University, situated in Jamaica Plain, is to have a new laboratory where vaccine and antitoxin will be manufactured for the State Board of Health, under the direction of Professor Theobald Smith of the Medical School. The estimated cost is $20,000, and it is expected the building will be ready for use by next April.

**Sickness at Annapolis.**—The exposure to which the midshipmen were subjected at the Army and Navy game in Philadelphia on November 28 is supposed to account for the large number of cases of tonsillitis recently reported. There are a large number on the sick list, some of whom are in the hospital, some confined to their rooms, while others are so slightly affected as to be able to keep at their work. Mumps, in epidemic form, also is present at the Academy, and about twenty cadets are ill with the affection.

**Mosquitos in New Jersey.**—According to the New *York Tribune*, December 6, Professor John B. Smith, New Jersey's State entomologist, in an address delivered before the New Jersey Sanitary Association's convention, declared that the complete extermination of the mosquito from New Jersey was possible. Dr. Charles Wardell Stiles also spoke at some length of the parasites which help to destroy the mosquito.

**Not to Unite with Brown University.**—President W. H. P. Faunce of Brown University writes: "My attention has been called to a statement in the MEDICAL RECORD of November 28 that a certain medical school in Boston is to unite with Brown University. Knowing how much you value accuracy in such matters, I ask you kindly to deny this groundless rumor. No officer of Brown University has ever dreamed of such a movement. Where the report originated I cannot imagine—certainly not at the University."

**Smallpox in Philadelphia** is at present more prevalent than it has been in many years, and the disease continues to spread, despite the most strenuous efforts of the health authorities. Unfortunately, many persons decline to be vaccinated, and thus become media for the extension of the epidemic. The most urgent need of the hour seems to be a statute making vaccination and revaccination universally obligatory. Ninety-nine new cases were reported for five days ending December 4, and 1579 more cases were reported since January 1, than during a corresponding period two years ago. The disease is not confined to any particular locality, but is pretty evenly distributed throughout the city. It is rather more prevalent in the congested sections, and negroes are the victims in large proportion. Foreigners, on the other hand, almost wholly escape, because they have been repeatedly vaccinated, both in their native land and on arrival in this country.

**The William Pearson Medical Association.**—The following have been reëlected officers of the William Pearson Medical Association of Essex County, N. J., for the ensuing year: *President*, Dr. Thomas W. Harvey of Orange; *First Vice-President*, Dr. Richard C. Newton of Montclair; *Second Vice-President*, Dr. Joseph C. Young of Newark; *Treasurer*, Dr. J. Hammond Bradshaw of Orange; *Secretary*, Dr. Richard D. Freeman of South Orange; *Librarian*, Henry A. Pulsford of South Orange; *Council*,—The above and Drs. Theron Y. Sutphen of Newark, William B. Graves of East Orange, and Mefford Runyon of South Orange.

**Gift to the Stamford, Conn., Hospital.**—It was announced recently at the commencement exercises of the hospital training school for nurses that Robert M. Bruce of Greenwich had given $10,000 to the Stamford Hospital. This is the first public announcement of the gift which was made over a year ago, but Mr. Bruce requested that no public announcement be made at the time. Mr. Bruce has recently founded an isolation hospital in Greenwich.

**The International Electrical Congress in 1904.**—Dr. William J. Morton of this city, in accordance with a resolution of the committee of Organization of the International Electrical Congress of 1904 at St. Louis, has been appointed chairman of the Section on Electrotherapeutics. This section is one of seven into which the work of the Electrical Congress has been divided. Mr. William J. Jenks, electrical engineer, has been appointed secretary of the same section. Dr. Morton also has been appointed one of the Committee of Organization of the Congress, a committee consisting of twenty-five members whose president is Prof. Elihu Thomson. It is the desire of the committee and of the chairman and secretary to secure foreign, as well as home, contributions of papers representing the present status of Electrotherapeutics; while certain authors will be invited to participate, voluntary contributions are also desired.

**Disinfection of Slate Pencils.**—The School Board of Springfield, Ohio, at the suggestion of Dr. Seys, the Health Officer, has decided to disinfect the slate pencils used by the children in the public schools. The custom has been to gather up in the evening all slate pencils used during the day, have them sharpened, and distributed again in the morning. Hereafter, if Dr. Seys' suggestion is acted upon, the slate pencils will be kept in formalin over night, then washed off and sharpened in the morning before being given out for use by the pupils during the day.

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

THE GREAT VIVISECTION LIBEL TRIAL—REPORT OF THE L. G. B. HOSPITALS; THE BANTS' SCHEME, HOME HOSPITAL, WATERLOO AND ITALIAN HOSPITALS—SHOPPING DAY—DEATHS OF DR. RUSSELL AND SIR R. M. CRAVEN.

LONDON, November 20, 1903.

THE vivisection libel case has terminated in the complete vindication of the assailed professor. You will not have forgotten that it arose from an attack by Mr. Stephen Coleridge at a meeting of the Antivivisection Society, when he read out a deliberately worded charge of torturing a dog by Dr. Bayliss, at University College. In his statement the alleged fact was dressed up with much clap-trap about the "never-ending procession of helpless dumb creatures" toward the college, the disturbance of students by the "whining and howling," "shrieks of agony," and so forth. But leaving the garnishing, the one definite charge of illegal torture of a dog on a certain date by certain operations he declared he was ready to establish by eye-witnesses of the cruelty. The challenge was taken up by Dr. Bayliss, who sued Mr. Coleridge in the High Court for his slander and libel. The trial extended over three days, before the Lord Chief Justice and a special jury, and ended on Wednesday in a verdict for Dr. Bayliss with £2000 damages and costs.

The trial lets a little light on some of the sinister proceedings of the antivivisectionists, and can scarcely fail to convince the public of the unreliability of their statements. The two witnesses promised were produced at the trial, and proved to be two Swedish ladies who were secretaries of an antivivisection society in their own country, who came here, according to counsel's statement, "with a view of studying fully and clearly seeing the working of the system among the most humane people in the world."

In their evidence it came out that they had written a book entitled "The Shambles of Science," which they began to write on April the first —a confession which elicited laughter in court; also "it was a very small book," on which the judge said "I am glad to hear it." In this book, the chapter describing the incident which led to the trial is headed "Fun." Miss Hageby, one of the Swedish writers, told counsel she thought that quite fair, and that in her book she had said the noises of the dogs seemed to have "an exhilarating effect on those present." Further, she never called attention to the state of the animal or complained that it was not under anæsthesia, although she intended to publish such a statement. She was there, she said, to see what was going on, to study the system, not one particular animal, and did not remonstrate, although, in her view, it was being tortured. The evidence of these boasted witnesses as to anæsthetics dwindled down under examination to the admission that they did not see the administration, just as the statement that it had not been tracheotomized turned out to be an absolute misstatement; that they did not see the tube which was proved by several witnesses to be in the throat all the time. But the breakdown of the ladies was less remarkable than the shuffling of Mr. Coleridge himself in the box. Asked if it would not have been fair to inquire if Dr. Bayliss denied the charge, he said he did not think what the ladies told him was unlikely; if he had asked he would not have had a civil answer, and he did not think he should have believed Dr. Bayliss if he denied what the ladies reported. In reply to the judge he said, "I believed the ladies and I believe them now." This, of course, was after the denials on oath of Professor Starling, Sir V. Horsley, Dr. Bayliss and several others.

The Lord Chief Justice, in the course of a luminous summing up, instructed the jury to dismiss from their minds any prejudice they might have on either side, to exclude all the extraneous questions that had been raised. They had not to consider whether the existing law should be changed or whether such operations should be permitted, nor yet the methods of controversy which had been referred to. He read some extracts from the "hysterical book" of the ladies, and said that if the statement they had made was true it was astonishing that they did not communicate it to anyone for two months. The defendant asked them to believe these ladies saw what they said they saw, and he had made no investigation further. It was for the jury to say whether the allegations made were true in substance and fact. If so, they would give the verdict to defendant; if not, they would give the plaintiff such damages as they thought proper, for no one had a right to import into public discussion slanderous defamation of another man unless prepared to prove his charges in a court of justice.

The annual report of the Local Government Board has

just been issued for the year ending March 31. It is a heavy Blue Book of over 1000 pages, and divided into five departments of local government and taxation, one of which is public health and administration. A great mass of details is dealt with, and many interesting points may be culled by anyone who has the time and courage to attack the bulky volume. Food adulteration, water supply, vaccination, infectious diseases, pauperism, medical relief and other matters of public health receive consideration; besides which, so many other subjects are handled that one can hardly wonder that the volume takes so many months to prepare.

An increase of pauperism, noted last year as having occurred in 1901 in comparison with 1900, appears to have continued in 1902. This rise commenced in the first six months of 1901. The number receiving relief on January 1, 1903, namely 847,480, was higher than on the same date in any year since 1873, when the number was 890,372. But compared with earlier years there is a decrease, and this is more apparent when considered in relation to the population. The ratio on January 1 last was 25.7 per 1000, while from 1863 to 1883 it ranged from 30.1 to 56.1 per 1000.

The statistics of vaccination seem to show 68.7 per cent. of the births as successfully vaccinated, while 11.2 died unvaccinated, 0.2 were insusceptible, and 4.3 were exempted on "conscientious objections."

A table gives details of infectious diseases notified in 1902, showing the percentage of deaths to cases notified was, for smallpox and diphtheria, 14.8; scarlet fever, 3.7; typhus, 22.4, and typhoid, 16.6. Notifications incur some expense, but not nearly so much as vaccination, against the cost of which some papers are protesting; they seem to think that doctors should work for nothing.

As to our water supply, Dr. Thorpe, the Board's analyst, examined 1223 samples; but there does not appear any striking variation in the quality. Adulteration of food still seems rampant. Penalties were imposed in 2928 cases, amounting in the aggregate to over £7000. Preservatives added comprised boric and salicylic acids and even formic aldehyde. The establishment of a standard for milk has led to the general reduction of good milk to that standard, just as was anticipated it would do; for of course the standard had to be so low as not to exclude poor, but genuine milk.

On Tuesday the deputation of the Governors of St. Bartholomew's Hospital waited on the Lord Mayor. The treasurer, Sir Trevor Lawrence, recapitulated the proceedings already taken, and pleaded with no little skill the claims of the hospital to assistance in obtaining £300,000 required to carry out the scheme which has been adopted. The Lord Mayor said he should have much satisfaction in identifying himself with the appeal, and granted the use of the Mansion House for a meeting to promote the cause. It was arranged that such meeting should be held on January 26.

The opposition to the scheme which the Governors have adopted has, however, by no means ceased. Indeed, in some quarters it has increased. One Governor has announced in the newspapers that he is organizing a definite opposition to the plan, which he thinks a step toward the ruin of the hospital, and for which he would substitute a much more radical one, to cost twice as much.

Sir H. Burdett, who looks upon himself as an authority on all hospital matters, is also in the field as an opponent of what he calls the "patchwork scheme," which he declares must mean that the hospital will ultimately fall into the second rank, if it does not lose its present usefulness in the metropolis and the empire. He therefore rejoices that opposition to the scheme is every day growing in volume and influence.

The Home Hospital Association is appealing for funds for rebuilding and refurnishing its pay-hospital. This is the only hospital for well-to-do patients, and is still in want of some £7000, although the terms of admission are such that it ought to be at least self-supporting. The managers say it will be after the above sum has been obtained.

The Royal Waterloo Hospital, for children and women, proposes to establish a military ward with the aid of the various London corps, the name and crest of a regiment to be fixed to each cot. The ward will be devoted to the children and wives of the rank and file. One donation of a thousand guineas, to endow a cot, has been offered on condition that five other similar sums are contributed.

King Edward Hospital Fund has already received above £1000 as the result of the Hospital Shopping-day. The committee anticipate further remittances from the firms which observed the day.

The Italian Hospital is taking the occasion of the visit of the King and Queen of Italy to plead for contributions, of which it is in sore need, as a mode of expressing our good will to Italy. The hospital admits patients of all nations, and I hear that about half of those received are British subjects.

Dr. Charles H. Russell, M.O.H., of Great Yarmouth, has fallen a victim to the risks of professional duty. During the visit of the Channel fleet, in October, he was called to one of the ships where typhoid fever had broken out, and superintended the removal of two cases to the isolation hospital, of which he was also the medical officer. He then became ill, and has not been able to leave his home since. A scratch on the foot from a hot-water bottle was followed by septicæmia, and he died on Wednesday.

He took the double qualification in 1874, the Public Health diploma of the R.C.P. in 1897. He served for a time as assistant M.O.H. at Southampton and as Port Medical Officer.

Sir Robert Martin Craven, F.R.C.S., J.P., consulting surgeon to the Royal Infirmary of Hull, died in that town in his eightieth year. He took his M.R.C.S in 1846, the L.S.A. in 1847, and began practice in 1848 in Hull, where he has resided ever since. He lectured on anatomy and physiology at the Hull Medical School for some years, and became a Fellow of both the Edinburgh and London Colleges of Surgeons. He was a magistrate for the East Riding of Yorkshire as well as for Hull, to which he had served the office of Sheriff. He was knighted in 1896.

## OUR PARIS LETTER.

(From Our Special Correspondent.)

MARMOREK'S NEW ANTITUBERCULOSIS SERUM—CONGRESS OF SCHOOL HYGIENE—CAFFEINE BEFORE VENESECTION—THE NEW FRENCH MILITARY LAW AND MEDICAL STUDENTS—SUPPRESSION OF SALT IN CIRRHOSIS AND HEART TROUBLE—DEATH OF DR. BRUN—FREQUENCY OF APPENDICITIS IN FRENCH ARMY—PREVENTION OF TUBERCULOSIS AMONG CHILDREN.

PARIS, November, 1903.

DURING the last week the subject which has attracted the most attention is the new antituberculosis serum of Marmorek, who made a communication to the Academy of Medicine, on this subject on the 17th of November. Dr. Marmorek was to have made his report a week before, but time was not found for it. It should be noted that Dr. Marmorek no longer belongs to the Pasteur Institute. Drs. Roux and Metchnikoff were opposed to his publishing his results so soon, before severe control over his experiments had been carried out, and Dr. Marmorek sent in his resignation. Dr. Roux wrote a letter to the *Temps* in which he indicated the reasons why the Pasteur Institute had felt it best that Dr. Marmorek should publish his results on his own responsibility.

There was a large gathering at the Academy of Medicine, numerous photographers being noticed among the audience. At the beginning of his report, Dr. Marmorek stated his reasons for sending in his resignation as chief of laboratory at the Pasteur Institute. He then described the method used to obtain his antitoxin. Young "primitive" bacilli are cultivated in a medium composed of leucotoxic serum of calf and bouillon of liver with glycerin. After having been cultivated a certain number of times in this medium, which is destined to resemble that furnished by the human body, there is no longer found any tuberculin, but on the other hand there is another toxic substance which kills small animals, and to which tuberculous animals do not react any more than those that are sound. These cultures are filtrated, injected into horses, and the serum obtained thus, is employed. This serum injected in doses of fifteen or twenty c.c., three days before the intravenous inoculation, prevents tuberculous infection in rabbits. To obtain a cure, however, larger doses are necessary. These experiments have been carried out for more than a year on human subjects. From the beginning Dr. Marmorek found his serum had no deleterious effect. Its curative effect varies very much. In meningitis the result was nil. For tuberculosis of the lungs, there was no effect in most cases. In some, however, there was a distinct amelioration. In pleurisy the result was quite noticeable in six cases out of seven. The effusion diminished rapidly, there being at the same time abundant enuresis. Professor Dieulafoy, who had tried the serum in his clinic at the Hotel Dieu, reported poor results. Dr. Hallopeau, declared after the meeting was over that in the treatment of lupus at St. Louis he had obtained no result. Dr. Lucas-Championiere had tried it on five patients suffering from bony tuberculosis, without other results than those seen when serum is injected. Lastly, experiments carried out on guinea-pigs had given unsatisfactory results. The medical editor of the *Matin* has written an editorial on the serum of Marmorek in which he does not seem to be very partial to

him, Koch's fiasco, fifteen years ago, being brought up as a warning.

On the 1st of November a congress was held in Paris in which the question of school hygiene was discussed. This meeting was brought about by the efforts of the league of physicians and families in the interests of school hygiene, Dr. Legendre, who is deeply interested in all such questions, described the qualifications that the school physician should possess. (It should be noted here that every large school in France has a physician attached to it.) The general construction of the building should not be undertaken until he has been consulted. Special rooms for contagious diseases ought to be set aside. All such diseases as parasitic diseases, adenoids, eye or ear troubles, scoliosis, dental decay, neuroses, must be looked for by the physician. A great number of cases of lack of intellectual development are due to ill health. The hours of study and recreation should also be inquired into. In a recent number of the *Presse Médicale*, Dr. Legendre recommends the use of caffeine in some cases of venesection. When this treatment is carried out, it may happen that the contractions of the heart are already weak, and that therefore not much blood can be drawn. In such cases, the caffeine injected will strengthen the heart, and one will be able to draw off much more blood.

The new French military law, which requires two years of military service irrespective of the profession, will be specially hard for medical students, who have so far only been obliged to pass one year in the army. It would, however, be better if in France they did as in Germany, where the students are called at the end of their studies. In this manner the army is furnished with a sufficient number of medical men. At present the medical students serve in the hospitals as aids, or orderlies, and in case of war they would be unable to fill their new rôle in a satisfactory manner.

The new treatment of œdema in acute nephritis, by the suppression of salt, has been applied by Dr. Achard to the treatment of ascites caused by cirrhosis or heart trouble. In one case of a woman, suffering from alcholic cirrhosis, the milk regimen had not been able to check the ascites. After eight days of milk the weight was stationary. A regimen containing very little salt and fairly abundant in sugar and amylaceous food was then tried, and the weight decreased immediately. In twenty-five days the loss was twenty pounds. No drugs were given in this case. In another case the weight increased steadily, and only remained stationary when this peculiar diet was given. The patient in this case was suffering from heart disease, enlarged liver and ascites.

Dr. Brun, surgeon of the Enfants Malades Hospital, has just died. He was considered a very reliable surgeon, and had worked extremely hard to obtain the position which he occupied. He was one of the candidates for the professorship of infantile surgery which, however, was given to Kinnisson.

At a recent meeting of the Académie de Médecine, Dr. Chauvel, an army medical inspector, described the statistics obtained on the frequency of appendicitis, in the French army. In 1901 there were 461 cases of appendicitis, or about one in every thousand. In 1902 there were 619, or 1.27 per thousand. A strange fact is, that in Algeria and Tunisia, the number of cases is half as small, there being only 0.44 and 0.67 per thousand. Dr. Chauvel has examined this question still further, and has found that, whereas this disease was relatively frequent among European soldiers, it was much less so among the native troops, there being only thirteen cases of appendicitis in four years among a body of 17,000 soldiers. This might be due to the fact that the Arabs are very abstemious, only eating a small amount of very well cooked meat. The same holds true in Persia, where Dr. Schneider, physician of the Shah of Persia, has only seen five cases of appendicitis in ten years. At Teheran, no pork or beef are eaten, and chicken and mutton are very well cooked. Matignon, who was for five years physician at the French embassy at Pekin, never saw a single case of appendicitis at the French missions, nor at the Nan-Tang Hospital. In Brittany very few cases of appendicitis are seen, and in that part of France the peasants do not eat much meat.

Professor Granscher does not consider that sanatoria are the most important means of stamping out tuberculosis. Prevention is much better, and he advocates using all methods which tend to protect children from this disease. He upholds the English method, which consists in ameliorating the hygienic conditions of workmen, in furnishing more light and air, and better food. Under the direction and inspiration of Professor Grancher, a society has been formed which aims to protect children from tuberculosis. The children of poor parents, who are affected with consumption, will be sent into the country, after having been examined, to note if there is any apparent trace of consumption. It is considered best not to send tuberculous children among families residing in the country, who would not know how to protect themselves. The family of the child will be asked to contribute, in some slight degree, to the maintenance of the child. The sum may be only two or five francs a month, but it will prevent pauperizing the family. Only children from five to thirteen years old will be chosen.

## Progress of Medical Science.

*The Boston Medical and Surgical Journal, December 3, 1903.*

**Hypernephroma.**—Paul Thorndike and John H. Cunningham, Jr., present the following summary of their paper: An affected kidney may not be much increased in size, but is generally very large. The general outline of the organ is usually retained, and the surface is almost always nodular, although occasionally there is no external evidence of the growth. The new growth is either encapsulated within the kidney substance or just below the kidney capsule. On section the tumor tissue is generally yellowish, with a firm and distinct stroma, which gives the growth a nodular appearance. Some of these nodules usually show areas of hemorrhage and degeneration. The kidney tissue is either destroyed or pressed upon and distorted by the new growth.

**Intestinal Parasites in Appendicitis.**—J. C. Hubbard concludes that: An intestinal parasite causes appendicitis through its presence as a foreign body; and by its struggles may bring about a perforation and peritonitis where otherwise none would have occurred. Trichocephalus dispar has been proved to cause an inflammation of the appendix by injuring the mucous membrane while sucking the blood of the host. Ascaris lumbricoides has been found with a material similar to that in trichocephalus in its intestinal epithelium, and therefore is supposed to attach itself to the mucosa of the host and thus start the processes which result in appendicitis. No proof has been found that oxyuris vermicularis causes appendicitis except in its rôle of foreign body.

**A Case of Sarcoma of the Lower Jaw.**—F. B. Lund reports this case: The patient was a girl of thirteen years, suffering from sarcoma of the lower jaw. This tumor originated in the medulla. It resulted in a fusiform swelling of the lower jaw. At operation an external incision was made along the body and angle of the jaw, the facial artery divided, and the periosteum peeled from the entire body of the jaw. The jaw was divided by a saw and cutting forceps just anterior to the socket of the canine tooth in front and at a point on the ramus of the jaw level with the alveolar process behind; all suspicious tissue was removed, including the submaxillary gland. The patient made an excellent recovery. The periosteum has evidently replaced the lost bone to a considerable extent, as a firm, bony bar can be felt in the place of the bone which was removed.

*Journal of the American Medical Association, Dec. 5, 1903.*

**The Legitimate Therapeutic Uses of Alcohol.**—In a discussion of this subject, O. T. Osborne states his belief that alcohol as a nutriment is uneconomical to the system, and if long used is a positive disadvantage, probably even sugar being better when the amount of food obtainable is too small for the needs of the body. During feverish processes, however, as a nutriment to furnish material for the production of heat to save the tissues, fat, and muscles, it is of decided advantage and probably has no equal, if in such fevers not enough nutrition is taken. Undoubtedly at the present time many cases of fever are overfed. Whether whiskey or brandy should be given in every case of typhoid fever or diphtheria, or in the feverish debility of tuberculosis, or in other acute infections, is a question that each practitioner must decide for each individual case. Many such cases do well without it; many cases recover only by the use of it.

**Vaginal Exploratory Puncture and Cœliotomy.**—C. O. Thienhaus extols the advisability of these procedures in doubtful diagnosis in diseases of the pelvic organs, and says that there is no longer any question that vaginal incision and drainage in cases of abscesses of the pouch of Douglas, whether they originate from an infectious process in the uterus following abortion or birth or from a pyosalpinx or an appendicits, is the method *par excellence*. Nobody questions, furthermore, the advisability of the vaginal route for retro-uterine hæmatocele when infected either by way of the uterus or by way of adherent bowels. So long as we do not know whether or not the pus in an abdominal abscess is *pus bonun et laudabile*, so long as we are not in the possession of measures to determine the virulence of the bacteria and of the toxins present in the pus focus before operation, so long it must be our duty to open abdominal abscesses—when there exists a pos-

sibility—by an extraperitoneal route—that is, in women the Douglas abscesses by posterior vaginal cœliotomy.

**Carcinoma and Tuberculosis Treated by the Röntgen Rays.**—G. E. Pfahler reports several cases and presents photographs. His conclusions as to the efficacy of the treatment are expressed as follows: (1) The *x*-rays are of undoubted value in the treatment of certain cases of both superficial and deep-seated carcinoma and tuberculosis. (2) The more a case has been tampered with, the less likely it is to yield to the influence of the *x*-rays. (3) Daily treatments, carefully and properly given, will produce the best results. (4) We should try never to produce a dermatitis beyond a simple erythema. (5) There are idiosyncrasies in certain people which render them most susceptible to the *x*-rays, and in these people deeper burns may occur in spite of the most careful treatment. (6) Epithelioma, involving the mucous membrane, is much less likely to yield to the effect of the *x*-rays than when it simply involves the skin. (7) There is not likely to be any interference with the sense of sight, even though the *x*-rays are used directly over the eye. (8) Tuberculosis, whether of the skin or of the glands, will yield at least in certain cases to the effects of the *x*-rays. (9) The *x*-rays may be of value in certain cases of deafness. (10) The *x*-rays will give better cosmetic results than any other form of treatment in simple epithelioma of the face. (11) Epithelioma of the mucous membrane should be removed as early as possible by the knife, and this followed by *x*-ray treatment. (12) Operable cases should be operated on and in each instance followed by a course of *x*-ray treatment, and *x*-ray treatment should be given at the first sign of a recurrence. (13) Inoperable cases should be given a trial with the *x*-rays, since even hopeless cases sometimes yield to this form of treatment. (14) It is desirable to produce a distinct reaction in the treatment of lupus.

*Medical News, December* 5, 1903.

**The Degree to Which Substances Agglutinating the Dysentery Bacilli Are Present in the Blood of Non-infected Persons.**—Lawrence B. Pilsbury concludes: That the serum of non-dysenteric adult patients does agglutinate the shiga and acid type (Flexner) bacilli frequently in a 1 to 20 dilution and occasionally in a dilution as high as 1 to 100. That this agglutinating power is wanting in the blood of non-dysenteric young infants (under one year), rarely being present even in a 1 to 10 dilution. That there are certain differences in agglutinating capability between the Shiga and acid type (Flexner) bacilli, the former in these tests clumping somewhat more readily than the latter. That a decided and prompt reaction, under two hours, with the bacillus dysenteriæ in dilutions of 1 to 20 or higher in young subjects (under one year) and in 1 to 50 or higher in older persons who have not recently suffered from chronic or subacute intestinal disease, is probably pathognomonic of acute epidemic dysentery.

**Report upon the Results with Different Kinds of Pure and Impure Milk in Infant Feeding in Tenement-houses and Institutions of New York City: A Clinical and Bacteriological Study.**—Wm. H. Park and L. Emmett Holt present a summary of their paper. The observations were made upon infants for periods of about three months only, and the conclusions relate especially to the more immediate effects of the milk. (1) During cool weather neither the mortality nor the health of the infants observed in the investigation, was appreciably affected by the kind of milk or by the number of bacteria which it contained. The different grades of milk varied much less in the amount of bacterial contamination in winter than in summer, the store milk averaging only about 750,000 bacteria per c.c. (2) During hot weather, when the resistance of the children was lowered, the kind of milk taken influenced both the amount of illness and the mortality; those who took condensed milk and cheap store milk did the worst, and those who received breast milk, pure bottled milk, and modified milk, did the best. The effect of bacterial contamination was very marked when the milk was taken without previous heating; but, unless the contamination was very excessive, only slight when heating was employed shortly before feeding. (3) The number of bacteria which may accumulate before milk becomes noticeably harmful to the average infant in summer, differs with the nature of the bacteria present, the age of the milk, and the temperature at which it has been kept. When milk is taken raw, the fewer the bacteria present the better are the results. (4) When milk of average quality was fed sterilized and raw, those infants who received milk previously heated, did, on the average, much better in warm weather than those who received it raw. (5) No especial varieties of bacteria were found in unheated milk which seemed to have any special importance in relation to the summer diarrhœas of children. The number of varieties was very great, and the kinds of bacteria differed according to the locality from which the milk came. (6) After the first twelve months of life, infants are less and less affected by the bacteria in milk derived from healthy cattle. When the milk had been kept cool the bacteria did not appear to injure the children over three years of age, at any season of the year, unless in very great excess. (7) The use, for infants, of milk delivered in sealed bottles, should be encouraged whenever this is possible, and its advantages duly explained. Only the purest milk should be taken raw, especially in summer. (8) Since what is needed most is intelligent care, all possible means should be employed to educate mothers and those caring for infants in proper methods of doing this. (9) Bad surroundings, though contributing to bad results in feeding are not the chief factor. It is not, therefore, merely by better housing of the poor in large cities that we will see a great reduction in infant mortality. (10) Close percentage modification of milk, although desirable in difficult cases, is not necessary to obtain excellent results with the great majority of infants, and a certain adjustment of a healthy infant to its food is usually soon secured. (11) The injurious effects of table food to infants under a year old, and of fruits to all infants and young children in cities, in hot weather, should be much more generally appreciated.

*New York Medical Journal, December* 5, 1903.

**Twists in Normal and in Congenitally Dislocated Femora.**—R. Soutter and E. H. Bradford give the rules they have followed in determining femoral twists, illustrating their statements by a series of diagrams which must be consulted by those interested. One hundred and fifty-four measurements have been made and are recorded in tabular form. Concerning the practical bearing of the twist on manipulations for reducing dislocations, the authors note that where much twist exists, the manipulation is different from what is needed where the amount of twist is small. There is also a greater danger of transposition, *i.e.* a forward dislocation, as the ultimate result following reduction, if an amount of twist in the femur exists to a degree beyond the limit compatible with normal function. The degree of rotation in a case of congenital hip can be estimated by palpation in children with hips not well padded with fat or muscle, but where the head of the femur cannot be well felt no estimate of the amount of twist can be made except by *x*-ray pictures.

**Carcinoma of the Breast Treated by Massive Mercuric Cataphoresis.**—The patient of G. Betton Massey was a woman of fifty-seven years with breast involvement dating back seven months. The mass in the outer half of the right breast measured about two inches and a half in diameter, and was movable on the chest wall. The skin overlying the growth had been invaded by the cancerous process, and presented an area of ulceration about the size of a dollar. In the axilla there was a movable enlarged gland, the size of a peach stone, showing that the disease had advanced to the stage of regional infection. Electrodes of zinc, coated with mercury, were inserted one at a time into the growth near its periphery, and the current turned on. From time to time one of the points was removed, when sufficient necrosis had appeared at its situation, was recoated with mercury and inserted in a new place. In this way a large mass was removed by marginal sloughing and came away in six weeks, leaving a granulating wound. Four months later the patient was doing well in every way.

*American Medicine, December* 5, 1903.

**Mycotic Disease of the Ear Canal; with Report of a New Fungus.**—S. E. Cook reports the case of a patient suffering from an obstinate parasitic otitis. Examination of material removed from the ear showed the specimen to be sterigmatocystis candida, of Saccardo, a species hitherto unknown, or unreported as existing, in the human ear canal. Parasitic otitis may be noted at any season of the year and in almost any locality. Purulent disease of the middle ear is very rarely associated with fungous otitis, unless there be coincident inflammation of the ear canal. The prognosis is good in relation to the destruction of the fungus. Under proper treatment most patients recover promptly.

**A Logical Definition of Typhoid Fever.**—Henry A. Fairbairn gives the following definition: Typhoid fever belongs to the genus disease, to the species acute infection having the property of toxæmia and as accidents focal lesions. The essential characteristic is that it has as the associate with its lesions and as a determinate cause the Eberth-Gaffiky bacillus. While it presents, pathologically and clinically, a fairly constant picture when the bacillus is localized and develops in the lymphatic structure of intestine and mesentery, yet all this may be changed by its development in other quarters. Animals have repeatedly

exhibited the essential characteristics of the disease. The writer insists on the more frequent employment of chemic and bacteriologic tests for the presence of the bacillus.

**Treatment in 442 Cases of Movable Kidney without Surgical Intervention.**—Charles D. Aaron declares that it is not an easy matter to fit a band to patients having ptosis of the abdominal viscera. Every case is one unto itself, and demands the most careful study and consideration. The writer maps out in each case the position of the kidney, liver, spleen, and stomach, besides inflating the colon with air in order to be sure that there is not a coloptosis. When a band is fitted, care must be taken to so arrange the pads that all of the displaced organs may be held up, and that at the same time, equal pressure may be exercised over the entire abdomen. The writer does not think that operations for movable kidney have given good results. He believes that the wearing of properly fitted bands gives the best results. After a band that immobilizes the kidney, and supports the other displaced organs has been applied, the beneficial effects are felt immediately. The patients feel relieved, are much stronger, and are able to breathe better. Those who have had distress after meals, are able to eat without discomfort. Weakness, constipation, insomnia, and distress begin to subside. On the whole, improvement is very rapid. The band is necessary only until all these symptoms subside. The writer's custom is to have his patients wear the band a year. Besides the benefit which comes from a properly fitted band, diet, tonics, electricity, and massage all hasten the result of the treatment.

*The Lancet, November* 28, 1903.

**Patent Medicines.**—In a lecture, by R. Hutchinson, on patent medicines, in which he gives the results of analysis of many of the nostrums before the public, he says that the medical profession must counteract the prevalent tendency of the laity to use such remedies by doing two things: First, we must educate the public in the elements of physiology, so that they will realize that the same set of symptoms may be produced by many totally different diseases, and will distrust anyone who claims to have a panacea which will immediately effect a cure, no matter what may be the cause. Second, it ought never to be possible for a patent medicine-seller to truly say that he has cured a patient after a physician had failed so to do, and this means that we must give more attention to the treatment of disease, and especially of minor ailments than we do at the present time.

**Albuminuria as an Accompaniment of Diabetes Mellitis.**—In the opening portion of a lecture on this topic, F. W. Pavy cites the notable frequency of the association of these two affections. From this association he argues that it may be assumed that some condition or other connected with diabetes tends to affect the kidney, and to lead to the production of albuminuria, but the latter may also be developed in the diabetic patient, from the causes that lead to its development in the non-diabetic, and thus constitute a purely independent affection. Hence, we may have albuminuria as either concurrent with, or consecutive to, the diabetes. As a rule, the distinction can be drawn between the two from the features observable in connection with the case. In the former of the two instances the albuminuria presents itself as a concomitant of Bright's disease which may happen to become independently developed during the existence of a diabetic state. When such an event occurs, a different train of phenomena is met with from that following the advent of albuminuria as a consecutive condition upon diabetes. Springing from an outside source, the albuminuria is associated with the classical phenomena of Bright's disease. The case virtually falls in the category of Bright's disease, and apart from the condition of the urine is easily recognizable as such by the characteristic symptoms presented. With Bright's disease developing in this way, the diabetes may be found to decrease and even to disappear.

**Fracture of the Fifth Cervical Vertebra; Recovery.**—The patient of W. E. F. Tinley and A. R. Jones was a man who had fallen a distance of forty feet on to a slope, and had rolled down the latter for some distance. Some hours later he presented the following condition: Semi-consciousness with almost complete loss of power in the legs, some loss of power in the arms, complaint of pain in the back of the neck, contracted pupils, no hemorrhages. The next morning he had recovered consciousness. Catheterization was necessary. There was complete paralysis of the lower limbs and absence of patellar, epigastric, cremasteric, and other superficial reflexes. Bed-sores soon began to develop. Examination of the cervical spine located a tender spot over the fifth cervical vertebra. He remained in this condition for several months, and then, about seven months after the injury, began to improve. One year after the injury he was discharged from the hospital. He then walked with a distinctly spastic gait. He had good movement at the ankles, the knees, and the hips, and greatly increased knee-jerks; the superficial reflexes were normal; the intercostal muscles still lacked power. He had control over his urine, but occasional want of control over his motions. He was able to flex and to extend his fingers to some extent, but some of the joints were quite ankylosed. The left shoulder and the elbow were capable of movement to almost the normal extent, but his right elbow was nearly fixed at a right angle. He could feed himself and hold a paper to read. The nutrition of the body was fair; that of the skin was good. Over the fifth cervical vertebra was a distinct boss of bone as large as a walnut, and he carried his head bent forward and stiff.

*British Medical Journal, November* 28, 1903.

**Diabetes Mellitus with Rapidly Fatal Termination Following Typhoid Fever.**—J. F. C. Meyler reports this case. The patient was a man aged twenty-four years. He passed through a severe attack of typhoid fever with recrudescences. During the course of the fever jaundice developed, but passed off. Sugar was absent from the urine during the entire time that the patient was in the hospital. About a week after his return home he began to complain of intense thirst. He was passing large quantities of urine and was suffering from great weakness. He grew gradually worse, and finally died in coma. The course of the diabetes was very rapid—thirty-five days. There was no family history to suggest diabetes.

**The Etiology of One of the Heterogeneous Fevers of India.**—C. Donovan has found, in the blood from the spleen of a native boy, bodies belonging to the genus Piroplasma. He has found these parasites in sixteen cases among patients in his hospital. These have all been from punctures of the spleen and liver during life. The symptoms of this fever are enlarged spleen and liver, irregular pyrexia, paroxysmal œdema of the feet, congestion of the lungs, occasional subcutaneous hemorrhages, and cancrum oris. The medication—quinine, arsenic, and sodium salicylate—has proved ineffectual. The writer has found Piroplasma in the blood of two calves.

**Case of External Urethrotomy Treated by Continuous Retention of a Rubber Catheter Held in Position by a "Perineal Stop."**—C. Hamilton Whiteford sums up the advantages of a rubber catheter securely fixed. The patient is free from pain, and can turn freely in bed without risk of the catheter slipping out. The catheter can be retained continuously for several weeks, being removed every few days for cleansing—in fact, until the perineal wound is nearly closed. Retention of the catheter being continuous instead of intermittent, as is the case with a metal instrument, the wound heals round the catheter, and consequently the lumen of the strictured urethra is larger and requires less subsequent dilatation. Rigors are avoided, since the urine does not come in contact with the raw surface. The catheter, "stop," and clip, are easily sterilized by boiling. Tapes, plaster, rings, etc., are dispensed with.

**The Treatment of Vesical Papilloma by Injections.**—Herbert T. Herring believes that recurrence of papilloma after removal by suprapubic cystotomy, which unfortunately very frequently occurs, may be effectually held in check by injections of silver nitrate. If injections are made when it has been found impossible to remove the growth entirely by operation, the recurrence of the symptoms is retarded longer than could be expected without the treatment. Much of a tumor may be removed by the urethra without serious hemorrhage, and with a result gained equal in some cases to that of a suprapubic operation. There is reason to hope that papillomatous growths may be entirely destroyed by long-continued applications of silver nitrate. Injections should be made after operations for the removal of the growth, whether the operator is satisfied that he has done so efficiently or not. The urethral route should be tried, when removal of the papilloma is contemplated, before a more serious operation is undertaken.

*Deutsche medicinische Wochenschrift, November* 19, 1903.

**The Prophylaxis of Gastric Carcinoma.**—Alexander Katz cites various facts to prove that gastric carcinoma is, in part at least, the result of long-continued mechanical irritation of the gastric mucosa, due to the more or less solid nature of its contents. The stomach and the rectum—that is, the two parts of the alimentary tract whose contents are solid—are those most frequently the seat of malignant growths, while the small intestine which transmits only fluids is never attacked. The author therefore suggests as prophylactic measures extremely thorough mastication and the avoidance of uncooked foods in order

to have the stomach contents as free from undigestible matter as possible. A diet composed to a greater degree of semi-liquid constituents and the habit of drinking freely at meals are also to be encouraged.

**A Contribution to Mobility of the Heart.**— Silbergleit describes a case in which the entire heart was capable of a lateral displacement of several inches by a change from the left lateral to the right lateral position. The patient was a man of twenty-four years who came under observation for gastroenteritis, and was found in addition to be suffering from a moderate degree of chlorosis. He had no subjective symptoms referable to the heart, and in the standing position or when lying on the back, physical examination of the organ also was negative. When lying on the left side, however, the apex beat was three centimeters outside of the mammary line and the right border one centimeter to the left of the left sternal margin. When on the right side the apex beat appeared close to the left sternal margin and the right border was correspondingly displaced. Together with the cardiac displacements to the right or left, slight irregularity of action was observed. The author cites the case as a proof of Braun's statement that abnormal mobility of the heart does not of itself produce symptoms, and that when such are present their cause must be sought in organic disease.

**The Diagnosis of Gastric Ulcer Concealed by Hemorrhage Detected in the Fæces.**—Boas calls attention to the frequency with which a doubtful diagnosis of gastric or duodenal ulcer may be made positive by the demonstration of minimal quantities of blood in the gastric contents or fæces. Gastritis of the antacid, subacid or acid type, cases of hyperacidity, and of hypersecretion never give rise to concealed hemorrhage, according to the author's observations. The demonstration of blood in the gastric contents is liable to error owing to the probability of mucous abrasions occurring in the act of procuring the material, and before an analysis of the stools, hemorrhoids, colitis, etc., as possible sources of bleeding must be excluded, and underdone meat must not be eaten for two days previously. Even when ulceration is present blood is not constantly found in the stools, and repeated examination must be made before the result can be considered reliable. Even at best a negative result has less diagnostic value than a positive one, to which the same significanec attaches as to the gross hemorrhages constituting hæmatemesis or melæna. The author employs the following modification of Weber reaction: Five to ten grams of fæces are brought to a mushy consistency with water and the fat extracted with about twenty c.c. of ether. Three to five c.c. of glacial acetic acid are added to the residue and a second extraction made with ether. No alcohol must be added, as it gives rise to fallacies. Several grains of gum guaiac are added to the ether extract, and when dissolved twenty to thirty drops of resinified oil of turpentine are added. If blood is present a violet color gradually appears, which is increased by the addition of chloroform. A useful control is the use of a fresh solution of aloin in 60 to 70 per cent. alcohol in place of the guaiac. The aloin is to be added after the turpentine, and the presence of blood causes the prompt appearance of a light red color. Peroxide of hydrogen may be used advantageously in place of the oil of turpentine in both tests.

*Berliner klinische Wochenschrift, November* 6, 1903.

**Urticarial Œdema.**—Löwenheim describes a form of angioneurotic œdema, common in Silesia, and evidently of an infectious nature. The region where the disease is encountered is low-lying and swampy, and the persons attacked have usually been exposed to the night air. The prominent symptoms are chills, fever, œdema of the face, eyelids, nasal, and buccal mucous membranes, and a tendency to sciatica. Other parts of the body, as the hands and arms, sometimes show the œdema. No malarial organisms or other direct means of conveying the infection could be discovered.

**The Preventive Treatment of the Syphilitic Primary Lesion.**—Holländer reports his results in the treatment of syphilitic chancres by cauterization. This is done, not by the ordinary method, but by what the author terms cauterization without contact, accomplished by directing a stream of air at a temperature of 400°C. upon the affected part. Contact with the hot iron of the actual cautery produces local destruction of tissue unaccompanied by more diffuse action, as may be demonstrated by microscopical sections, while the author's method causes mummification of a wide zone, surrounding the region operated on and including both the superficial and deep parts. The procedure further offers a positive diagnostic test as to the nature of the ulcer; after such cauterization a syphilitic lesion presents a tough leathery surface from which no débris can be scraped with the sharp spoon, while indurated nonspecific ulcerations are soft and friable, and may be completely excavated by curetting. Fifty-nine cases in which the diagnosis of syphilis had been made with certainty were treated by this method, with the following results: Twelve suffered a general infection, in three the result was doubtful, while of the remainder twenty-two have remained free from all secondary symptoms for from one to two and a half years. In a number the completeness of the cure was corroborated by such facts as prompt marriage with non-infection of the wife, the birth of healthy children, a second syphilitic infection, etc. Even lesions of fairly long duration and with inguinal glandular enlargement were treated with happy results, the glands being in some instances extirpated. A point of importance is that even when secondary manifestations did appear after the cauterization, they were late in showing themselves, were few in number, and unusually mild in nature. The author, therefore, recommends the treatment for all forms of hard chancre, including extragenital lesions, as affording the best means of diagnosis and cure at our disposal.

*Münchener medicinische Wochenschrift, November* 17, 1903.

**Transitory Psychical Aberration Following Exposure to Cold.**—Vogt describes the case of a locomotive fireman who was forced to travel twelve miles against the wind on a reversed engine, so that he was unsheltered, on a night when the thermometer was 16° F. The effect of the cold was increased by the fact that he had lost his cap early in the trip. The next day he showed complete amnesia and soon lapsed into a semi-stupor, which persisted three days and then gradually subsided, leaving no traces. There was no hereditary or other taint, epilepsy is excluded, there were no physical signs of any nervous lesion during the attack, and there have been no symptoms since. The author, therefore, concludes that the condition was allied to that produced in cases of insulation, the exposure of the cranium in this instance making the brain the special seat of the thermal insult, as in sunstroke, the supposition being that extremes of heat and cold can produce analogous effects.

**Morphine Scopolamin Narcosis.**—Korff details the disadvantages inherent to the customary methods of anæsthetization which make an absolutely safe, uncomplicated, universally applicable system of narcosis an urgent desideratum. While he was an ardent advocate of the morphine scopolamin injections as first practised, and himself saw no bad results, still the experiences of others has shown that the plan is unsafe and must be abandoned. He has, therefore, modified it by markedly cutting down the amounts of the alkaloids until the doses are well within the limits of safety. Given in the prescribed manner, satisfactory anæsthesia is still obtained, though, in isolated cases, the inhalation of a few drops of ether or chloroform may be necessary during especially painful steps of the operation. Sixty cases are reported, all uncomplicated. One milligram of scopolamin hydrobromate and 25 mg. of morphine hydrochlorate are given subcutaneously in three portions: the first two and one-half hours, the second one and one-half hours, and the third one-half hour before the operation.

**Ether Narcosia Combined with Morphine and Scopolamin Injections.**—Hartoz says that ether is gaining ground rapidly in Germany a asroutine anæsthetic, and that its tendency to produce post-anæsthetic nausea and aspiration pneumonia is practically its only drawback. The latter complication is due to the inhalation either of the saliva, which is always secreted in large quantities, or of vomitus. Various attempts have been made to modify this tendency of the anæsthetic, and of these the most promising is the injection of scopolamin and morphine. As first used, this combination was intended to supplant other anæsthetics completely, and the alkaloids were given in doses sufficient to paralyze the faculties without the assistance of any other agent. The high mortality which speedily followed, however, proved the method too dangerous to be persisted in, but the author has found that, given in amounts too small to be hazardous, scopolamin and morphine react most favorably on ether anæsthesia, producing a narcosis agreeable to the patient and free from vomiting or salivation and their attending dangers. The routine is as follows: First the usual preparation, catharsis, fasting, etc.; then one-half to one hour before the operation the infection of one-half milligram of scopolamin in freshly prepared solution, and one centigram of morphine. The anæsthesia is begun one-half to one hour later with ether, on Wanscher's mask, administered very gradually, so that the surgical degree is not produced till ten minutes or more have elapsed. No danger need be apprehended from this dosage, and the patients are not salivated or nauseated and recover from the anæsthetic without the usual prostration. Ninety-three cases treated in this way gave excellent results, but on several subsequent occasions a protracted tachycardia was observed.

*French and Italian Journals.*

**Operative Interference in Infective Wounds of the Kidneys.**—Francesco Sorrentino reports a case in full, and concludes that a renal wound of a certain extent, if left to itself, almost invariably leads to infection of the renal region. The surgeon's duty is then to perform nephrectomy, no matter how grave the condition of the patient. After the operation the condition of the bladder must be carefully watched. If for several days it harbors blood-clots, it may easily become the seat of sepsis, and epicystotomy performed in time may save the patient.—*La Riforma Medica*, October 28, 1903.

**The Antistreptococcius Serum in Puerperal Infection and in Erysipelas.**—Pietro Guizzetti concludes from his experimentation that this serum is of benefit in puerperal septicemia. The fever falls, the pulse improves, there is absence of albuminuria, diminution in the size of the spleen, etc. It also prevents streptococcic infection. The effect on the uterus itself is beneficial, but slow. In erysipelas it brings about improved conditions after about twenty-four hours.—*La Riforma Medica*, November 11, 1903.

**The Subcutaneous Injection of Caffeine.**—H. Huchard and Ch. Fiessinger hold that practitioners have made a mistake in giving up the use of this remedy. It is of the greatest use in syncope and adynamic conditions, given in small doses of about four to eight grains. In infectious diseases it may give place to camphorated oil especially in nervous cases. In cardiac affections the doses may range from eight to twelve grains, but should not go above fifteen grains. As a rule, it is prescribed after digitalis has failed to give relief. In some rare cases it may be given first—*Journal des Praticiens*, October 31, 1903.

**The Tuberculous Serum Reaction.**—Guido Marchetti and Paolo Stefanelli conclude from their researches that in grave cases of tuberculosis, the serum reaction, applied according to the method of Arloing and Courmont is positive within the first six hours in 43 per cent. of the cases. In incipient or light cases, it gives positive results in 88 per cent, of the cases. In three cases of lupus the reaction was negative, as it was in nine cases out of ten in which the clinical symptoms did not indicate tuberculosis. After the first six hours the reaction occurs in cases which are not tuberculous, for which reason it can be used as a means of diagnosis only during the first six hours.—*Rivista Critica di Clinica Medica*, October 31, 1903.

**Appendicitis in the French Army During the Past Few Years.**—M. Chauvel states that the general impression among army surgeons in Algeria and Tunis, is that Mussulmans are rarely affected by appendicitis. Europeans living in warm climates also possess a relative immunity. As to the cause for this exemption M. Robert holds that it is because grippe is so rare in Algeria, while Schneider and Kelsch also appear to consider that influenza and appendicitis are in some way connected. The author believes, however, that the vegetarianism of the people, their sobriety, and their natve resistance to infections play the chief part, while a warm, dry climate certainly has some influence. The influence would seem to be that excessive meat eating predisposes to appendicitis.—*Le Bulletin Médical*, November 4, 1903.

**Iboga and Its Active Principle.**—Dibowski and Fandrin, Phisalix, Lambert and other scientists have studied the properties of this plant which comes from the Congo, and of its active principle, ibogaine. Medicinally, the latter is a powerful tonic, small doses of which can be given without danger, and will be found useful in cases of muscular or nervous atony during convalescence. It is also valuable in neurasthenia and other nervous diseases. Under its influence intellectual activities are strengthened, the will is developed, and sleep becomes normal and refreshing. A moral and physical regeneration occurs. In health, this alkaloid increases rigor and prevents fatigue from muscular exercises.—*Gazette des Hôpitaux*, November 14, 1903.

**Phototherapy as Used by the Chinese in the Treatment of Variola.**—Jules Regnault says that since 1893 we in Europe, thanks to Finsen, have known the value of the red light in the treatment of the eruption of smallpox. The Chinese, who have studied this affection for three thousand years, also know the valuc of red light and apply it in a somewhat original fashion. As soon as the eruption appears, the physician sprays the bed and the patient with arrack, gives various potions as indicated, and then touches the eruptive spots as they appear with a lotion obtained by boiling red pigamon. (Thalictrum rubellum) in water, and throwing into the infusion a handful of cotton impregnated with a red coloring matter extracted from the Carthamus tinctorius. The process is recommended to European physicians in the cases in which it is difficult to obtain the Finsen red room.—*Bulletin Général de Thérapeutique*, October 15, 1903.

**Experimental Atheroma of the Aorta from the Intravenous Injection of Adrenalin.**—O. Josué produced atheroma of the aorta in rabbits by numerous (sixteen to twenty) injections of three drops of a 1 to 1000 solution of adrenalin into the veins. Five or six injections only produced no effect. Nor was there any result from subcutaneous injections. The experiments prove that adrenalin possesses a special toxic power on the arteries, capable of producing atheroma. It may be due to the arterial hypertension induced by each injection, but this the author does not pretend to decide. He calls attention to the fact that adrenalin is a secretion of the suprarenal glands, and that therefore it is within the range of possibility that these organs may play an important rôle in the production of atheroma. The subject deserves further study.—*La Presse Medicale*, November 18, 1903.

**Eberth's Bacillus in the Circulating Blood of Typhoid-Fever Patients.**—Guido Q. Ruata holds that typhoid fever has been proved to be among the general infective diseases, and that it belongs to the lymphatic type; the localization in the intestines being only secondary. The lymphatics nearest to the intestinal ulcers are those presenting the most severe lesions. The mesenteric glands are also swollen. Sanarelli says: "We are now in possession of many facts which show that the Eberth bacillus penetrates into the organism—no matter by what path—and may be carried in the blood or lymph stream, or by the leucocytes, into the spleen and other organs of the lymphatic system, there to gradually produce its poison and initiate that period of propagation and slow general intoxication characteristic of the disease. The intestinal theory of the disease has no longer any reason for existence, and the terms abdominal typhoid, enteric fever, dothi-enteric fever, and ileotyphoid should be abolished.—*Il Policlinico*, November, 1903.

**Abortive Forms of Chronic Appendicitis.**—A. Siredey calls attention to certain symptoms of chronic appendicitis which in themselves do not appear to be very important, but which later may culminate in an acute and severe attack. In children especially should one be extremely watchful and on one's guard. Dyspepsia holds the first place among the symptoms, and may range from simple gastrointestinal atony to the most acute and intense suffering. In women, the symptoms of appendicitis may easily be confounded with those of inflammation of the adnexa. Most persons suffering from chronic appendicitis are thin because of difficulty of assimilation; nearly all have a yellow or earthy coloring. Children sometimes have no symptoms of appendicular trouble, but if observed are seen to become pale at certain times without apparent cause, express a desire to defecate, or have slight vomiting attacks. Especial watchfulness should be exercised when children vomit easily, more particularly when the vomiting occurs after walking, driving, or other forms of exercise.—*Le Bulletin Médical*, November 21, 1903.

**Certain Abuses of Sea-bathing and Sea-air Treatment.**—Henri Lamarque protests against the carelessness shown by many patients who go to the seaside for treatment, plunge into the water without observing the slightest precautions, suffer chills and have no reaction, and perhaps take two baths a day. Moreover, cold bathing is contraindicated in many cases, but no attention is paid to these contraindications. In rheumatism, gout, herpes, cold bathing can only be harmful. Young girls and women often suffer from a form of arthritic trouble which simulates anæmia. There may be amenorrhœa, or dysmenorrhœa, accompanied by nervous conditions, dyspepsia, neuralgia, etc. The cellular tissue is overdeveloped, the venous system is affected, as shown by the appearance of reddish or purple lines on the skin in various situations, and the ready formation of ecchymoses. The uterus will be found to be congested. In these cases sea-baths should be absolutely forbidden.—*Revue Internationale de Thérapie Physique*, October 15, 1903.

**The Nature of Some Forms of Protracted Fever in Childhood.**—G. Myà says that we must always take into account the tendency to high temperatures found in early life, especially in those with a neuroarthritic, syphilitic or tuberculous taint. We must also bear in mind several latent causes of fever, such as coli bacilli in the bladder, and infection of the pharyngeal lymphatics. We should avoid jumping to the conclusion that fevers of unknown nature are of gastroenteric origin, for in childhood the symptomatology of infections and intoxications of alimentary nature are usually very evident. The most frequent cause of fevers without adequate symptomatology is latent tuberculosis, which occurs often in children, and is often arrested if suspected and treated in time. In the face of a persistent and unaccountable fever, after having excluded gastroenteric toxi-infections, from alimentary gastroenteritis to typhoid, dysentery, pyogenous gastritis and enteritis, we should put the child on a nourishing diet and so avert the perils of tuberculosis.—*Revista di Clinica Pediatrica*, November, 1903

# Book Reviews.

A Textbook of Operative Surgery: Covering the Surgical Anatomy and Operative Technique Involved in the Operations of General Surgery. Written for Students and Practitioners by Warren Stone Bickham, Phar. M.D., Assistant Instructor in Operative Surgery, College of Physicians and Surgeons, New York; late Visiting Surgeon to Charity Hospital, New Orleans; late Demonstrator of Operative Surgery, Tulane University, New Orleans. New York, Philadelphia, London: W. B. Saunders & Co., 1903.

This is a comprehensive contribution to the literature of operative surgery, which is welcome, as being most full and precise in the matter of surgical anatomy and of operative technique. The operations of both general and special surgery are considered under the heads of surgical anatomy, landmarks, general considerations, and instruments. In the discussion of the arteries, the first impression obtained is the excellence of the illustrations. The subject of arteriorrhaphy is well discussed and illustrated, but, under the treatment of aneurysm by ligation, one misses any illustration to show the various methods. We note, also, the omission of angiotripsy, or arteriotripsy, no attention having been granted the angiotribe which, in the hands of many operators, now does away with the, older method of vaginal hysterectomy by the clamp described by the author.

In the discussions of the operations upon the Gasserian ganglion, it may be considered by some unfortunate that the technique of Cushing should be omitted. On page 202, in detailing the methods sequestrectomy, Neuber's method of infolding the skin is quoted, but Stimson's well-known views are not cited. On page 391 an opportunity to make clear to the student the exact method of inserting the pins in Wyeth's hip operation is lost. Occasionally throughout the book the lettering on some of the illustrations is not quite heavy enough to be distinct. The discussion of the operation upon the tongue might be open to the criticism that too much consideration is given to the technique of Whitehead's intrabuccal excision, which, in this country at least, is very rarely practised. One apparent omission in this book is that of descriptions of staphylorrhaphy and uranoplasty; they are, at least, not to be found in the index. A good feature of the book is the excellence and accuracy of the cross references.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital; one-time Clinical Professor of Diseases of Children in the University of Pennsylvania; Member of the Association of American Physicians, etc. Assisted by H. R. M. Landis, M.D., Assistant Physician to the Out-Patient Medical Department of the Jefferson Medical College Hospital. Volume III. September, 1903. Diseases of the Thorax and its Viscera, including the Heart, Lungs. and Blood Vessels; Dermatology and Syphilis, Diseases of the Nervous System, Obstetrics. Philadelphia and New York: Lea Brothers & Co., 1903

This issue contains four excellent monographs: that of William Ewart, on thoracic affections; of Gottheil, on dermatology and syphilis; of William G. Spiller, on diseases of the nervous system, and of Richard C. Norris on obstetrics. That of Gottheil is well illustrated and is most instructive, going over the literature of his department in a very painstaking manner. The publishers are to be congratulated on the fruition of their manifest efforts to give their subscribers a year book which reflects the greater portion of the real advances.

L'Ematologia nella Febbre Tipoide. Pel Dott. V. Guidiceandrea, Professore di Patologia Medica dimostrativa nella R. Università di Roma. Roma: Libreria Internazionale Del Policlinico, 1903.

In this volume of over 300 pages many of the most interesting questions connected with the subject of typhoid fever are entered into, especially the conditions of blood and fluids, bacteriology, and the modifications and chemical changes undergone by the blood, under varying conditions, cold baths, etc. The work shows wide personal research on the part of the author and reflects much credit.

Starvation Treatment of Certain Malignant Growths. Samuel D. Gross Prize Essay. By R. H. M. Dawbarn, M.D. Philadelphia: F. A. Davis Company, 1903.

Congratulations are due to Dr. Dawbarn on his excellent contribution to the surgery of malignant disease. The clinical histories recounted by the author easily convince one of the value of complete external carotid excision in inoperable malignant disease of the parts supplied by this vessel and its branches.

We have in these reports another proof of the fact that sarcomata and carcinomata are in their beginnings strictly local diseases; and that they may remain local in character even in their advanced stages. This should stimulate us to continue our teachings that malignant neoplasms in their early stages can be cured, and should encourage us to spread this doctrine amongst the laity.

The final portion of the author's essay is devoted to a study of the plugging of the terminal and occipital branches of the external carotid, with the idea of still further preventing anastomotic circulation. To inject into these arteries a plastic material, over the ultimate destination of which in the circulatory system we have absolutely no control is unsurgical and unsafe. The existence of an anomalous anastomosis between the occipital or terminal external carotid branches and the internal carotid system, and which is not in our power to ascertain, exposes the patient to cerebral embolism and death from such an injection.

External carotid excision is an excellent procedure, and one of value; the supplementing it with plugging of the occipital, temporal and internal maxillary arteries is unsurgical, because we cannot control it, and consequently dangerous, as the author's cases amply testify.

A System of Physiologic Therapeutics. A Practical Exposition of the Methods, other than Drug Giving, Useful for the Prevention of Disease, and in the Treatment of the Sick. Edited by Solomon Solis Cohen, A.M., M.D., Senior Assistant Professor of Clinical Medicine in Jefferson Medical College; Physician to the Jefferson Medical College Hospital, and to the Philadelphia. Jewish and Rush Hospitals, etc. Volume VIII, Rest, Mental Therapeutics, Suggestion, by Francis X. Dercum, M.D., Ph.D., Professor of Nervous and Mental Diseases in the Jefferson Medical College of Philadelphia, Neurologist to the Philadelphia Hospital, Consulting Physician to the Asylum for the Chronic Insane at Wernersville, Consulting Neurologist to the St. Agnes Hospital, Consulting Neurologist to the Jewish Hospital, etc. Philadelphia: P. Blakiston's Son & Co., 1903.

The subject of this volume is one of great importance to physicians practising in busy centers. Rest is an agent often neglected in modern therapy, though understood better than formerly. Systematic rest cure is here systematically considered. While not neglected, medicines have been given only secondary importance. Chronic neuroses, neurasthenia, hysteria, hypochondria, chorea, prophylaxis of insanity, and special forms of mental disease have been considered in relation to this form of treatment with its various modifications, Normal suggestion, and suggestion of mystic and religious methods are two interesting chapters ending the volume. The work is well written, and the author shows a wide range of knowledge and observations brought to bear upon the preparation of the work.

High-frequency Currents in the Treatment of Some Diseases. By Chisholm Williams, F.R.C.S., Edin., Member Royal College of Surgeons, etc. London and New York: Rebman Company, 1903.

This may be said to be the first work in the English language that gives anything like an adequate idea of the subject. We have had a good French monograph, and chapters in foreign and domestic works, but the latter have usually been inadequate. Williams presents the subject in an attractive and not over-elaborate or deep manner. His therapeutic claims while not unreasonable are often not convincing. The type is large and much paper space goes to waste, so that in his 218 pages there is not more reading than one can do in an evening. The title indicates the author's belief that while useful in *some*, these currents must not be thought applicable to *all* diseases.

The Four Epochs of Woman's Life. By Anna M. Galbraith, M.D. Second Edition. Philadelphia, New York, and London: W. B. Saunders & Co., 1903.

This little volume was so well received when it first appeared that it is not surprising that a second edition should have been needed within two years. This has afforded an opportunity to add three new sections, viz., one on "The Hygiene of Puberty;" one on "Hemorrhage at the Menopause, a Significant Symptom of Cancer," and one on "The Hygiene of the Menopause." The author starts out with the motto, "Ignorance is the curse of God," and then gives an introductory chapter on "Education as the Controlling Factor in the Physical Life of Woman." The four epochs, maidenhood, marriage, maternity, and the menopause, are all discussed in a practical, common-sense manner, and with rare good judgment.

# Society Reports.

## NEW YORK ACADEMY OF MEDICINE.

SECTION ON PEDIATRICS.

*Stated Meeting, Held November 12, 1903.*

HENRY HEIMAN, M.D., CHAIRMAN.

**Myelogenous Leukæmia.**—Dr. EDWARD MILLER presented a boy of eleven years having a negative family history. When first seen on September 11, 1903, he was suffering from diarrhœa, and the abdomen was distended. Following an operation for adenoids a few months ago, there had been troublesome bleeding, but this was the only history of hemorrhages. A year and a half ago it was noticed that the child was becoming pale and that the abdomen was large. Examination showed the child to be well nourished and only moderately anæmic. The abdomen was distended, and the superficial veins dilated. The spleen was enlarged, extending from the seventh rib in the axillary line to the crest of the ilium. The examination of the blood showed hæmoglobin 63 per cent., the red cells 3,976,000, and the white cells 432,000. There were 2.6 per cent. eosinophiles. On September 9 a loud cystolic murmur developed. A more recent blood examination showed hæmoglobin 54 per cent., red cells 3,232,000, and white cells 347,400. The differential count showed polynuclear nutrophiles 16.4 per cent., and eosinophiles 4.8 per cent. The patient had now been on Fowler's solution of arsenic for about a month.

Dr. D. S. D. JESSUP said that this was the first case of myelogenous leukæmia that he had seen in a child. The condition of the red-blood cells was very much the same as in adults. The proportion of eosinophiles was within the normal limits. The mast cells made up 10 per cent. of the number of white cells. The polynuclear nutrophiles ran from 60 to 65 per cent., which was higher than the average found in the myelogenous leukæmia of adults by 10 or 15 per cent. The myelocites constituted about 10 per cent., whereas 36 per cent. was the average in adult cases.

**Nodular Tuberculosis of the Skin. (Erytheme Induré of Bazin.)**—Dr. L. E. LAFETRA presented a boy of two years whom he had first seen last June. In November, 1902, the child was circumcised, and five weeks later a swelling appeared on the middle phalanx of the ring finger of the left hand. Shortly after this a red spot appeared upon the right cheek, and subsequently ulcerated. There had been no night sweats or obvious fever. Examination showed bronchitis and slight enlargement of the liver and spleen. The examination of the eyes for tubercles was negative. On the face were two bluish patches, one on either cheek. The one on the right side was discharging thin serum. Similar nodules, evident on palpitation, were found on the skin of the legs, particularly of the back and sides of the calves. In most places the skin over the nodules was bluish. On July 8 the dactylitis became fluctuating, and the examination of the evacuated pus was negative. On September 29 there was a mass on the left hand removed for examination; this showed a few tubercle bacilli.

Dr. HENRY KOPLIK said that these cases were quite rare here, although he had seen such a case recently in his hospital ward. If such a case were described as tuberculosis of the skin and glands, and dactylitis, the condition would not be so well described as if it were spoken of as scrofulosis.

Dr. JACOB SOBEL said that he had seen several such cases in this country, but not before in a child. The disease was more common in young women than in men. As a rule, the affection involved the lower third of the calf, whereas in the case under discussion the lesions were scattered over many other parts. The condition must, of course, be differentiated from erythema nodosum.

Dr. LAFETRA said that in searching the literature the youngest patient so affected that he could find reported was a boy of about nine years. It was a more common affection in young girls. particularly those who stood a good deal. One of the names for this disease was scrofulous gumma, and this was certainly a very expressive term. In only one other case had tubercle bacilli been found, although tuberculous tissue was usually present.

**Congenital Heart Disease.**—Dr. HENRY HEIMAN presented this patient, a little girl showing a marked bluish tint, and well-marked clubbing of the fingers. The dulness, so characteristic of the pulmonary stenosis, was best noted over the second interspace.

**The Constituents of the Layers of a Quart of Milk.**—Prof. JOHN S. ADRIANCE discussed this topic. He said that if sugar, fat, or proteid material were oxidized the result would be the formation of heat, the degree of which would vary with the ingredient oxidized. The heat produced by the oxidation of fat was about two and a half times greater than that produced by the oxidation of the other two food ingredients. The inorganic matter underwent no change. Milk contained all of the necessary food constituents.

The milk coming to this city could be divided into three classes: (1) That containing a little over the legal requirement of fat, 3 per cent.; (2) that containing between 4 and 5 per cent., and (3) that containing 5 per cent. or over. The best milk delivered in this city was at least sixteen hours old. The proteid material was not in true solution. The milk, when delivered to the consumer, had undergone some change. This change was the rising of the lighter material, the fat; in other words, the fat was held there only by surface tension. A bottle of milk contained at the top a layer composed of a large amount of fat. This layer was approximately the same from day to day. On analyzing this layer it was found that it contained nearly all of the fat of the milk. Most books stated that the composition of cream was the same as that of the milk except that it contained more fat, but, as a matter of fact, the proportion of sugar, proteid, and inorganic matter in the cream was much less than in the original milk, because everything else was pushed out as the cream rose. The composition of the milk examined by him was, fat, 5.02; sugar, 4.82; proteids, 3.56, and ash, 0.74. The proteid material was held there in combination with inorganic matter. The first ounce gave the highest percentage of fat. The ninth ounce contained practically 1 per cent. of fat, and this amount remained nearly the same until the fifteenth ounce was reached, which was found to contain 0.4 per cent. less than the first ounce. The last ounce contained less fat, and, hence, a larger amount of all the other constituents; in other words, the skimmed milk contained a higher percentage of proteid than the original milk. By proteid material was meant organic matter containing nitrogen in such a form that it could be utilized by the body. The point which the speaker especially emphasized was that the proteid material was decreased as the fat content increased, and that the inorganic salts which were necessary for the bony structures of the body, were likewise decreased.

**The Function of Maternal Milk in Developing the Infant's Stomach.**—Dr. HENRY D. CHAPIN read a paper with this title. (See page 921.)

Dr. ROWLAND G. FREEMAN said that all should feel indebted to Dr. Adriance for his careful work on the composition of the different layers of milk. The question arose as to whether this exposition would alter at all our methods of modifying milk. For practical purposes, he thought we could go on modifying milk as heretofore, such deviations as had been pointed out being lessened by the dilutions employed. Growing experience with the modification of milk had impressed most physicians with

the fact that small deviations were not of much practical importance. In his hospital work he had found the house physicians disposed to use too low formulas for feeding. Such formulas were of the greatest value for short periods, but should not be kept up long. In using cow's milk, it could be fairly well adapted to the infant's stomach by extracting the whey, thus obtaining a lactalbumin milk, which would often be well digested by infants who could not digest ordinary cow's milk.

Dr. H. KOPLIK said that Dr. Chapin had made the statement that colostrum had a distinct cathartic function, and this might be true of the lower animals. The textbooks handed down the statement that the colostrum, as such, had a cathartic function, but he had been unable to find any recent scientific data on which to find such a statement. It was not uncommon for the new-born infant to be constipated, and, in any case, the quantity of colostrum taken by the infant would seem to be too small to produce catharsis unless the colostrum possessed very cathartic properties. The statement had also been made in the paper, that as the child grew older the number of feedings were reduced naturally because of the increasing quantity of milk secreted. There were two sets of observations for determining the quantity of milk that the human breast would deliver. In one set the quantity was found to remain about the same from the second month to the time of weaning. In the other set, the quantity of breast milk increased gradually from birth to weaning. Dr. Chapin had made the statement that the milk adapted itself to the infant's stomach, and the infant adapted itself to the milk, but to this statement he would take exception, because cases occurred in practice which seemed to negative this view. The proteid of cow's milk should be adapted to the baby's stomach, but it must be remembered that it was not at all the same proteid in cow's milk as in breast milk. Sixteen times as much phosphorus was voided by a baby fed on cow's milk as by one fed at the breast. There was no hard and fast rule for infant feeding, and we were not yet prepared to say how or why food was digested and assimilated.

Dr. JOSEPH E. WINTERS said that in the summer of 1898 he had consulted Professor Adriance with regard to milk analysis, stating that he was confident, from clinical work, that the upper layers of cream contained a very small quantity of proteid. Professor Adriance replied that, according to all analyses, the upper layer contained the same quantity of proteid as the rest of the milk. At the request of Dr. Winters Professor Adriance made a series of milk analyses. Another series of analyses was made by Dr. Lederle, and still another by Mr. Henry C. Sherman of Columbia University. The milk supplied for these analyses was all from the same source, and the milk was not over sixteen hours old. He was glad that the results presented this evening by Professor Adriance fully confirmed his own views of five years ago, based entirely upon clinical observation. Whenever there was a diminution of the proteid there was a corresponding diminution of the inorganic constituents, because as the cream rose there was less of the proteid, and as the proteid diminished, the inorganic salts necessarily diminished. The reduction of the proteids of the food for a long period always meant the development of rickets. He would even go so far as to assert that it was the only cause of rickets. Lime-water had been added to milk in the proportion of one-quarter for a great many years by those who had been most successful in the feeding of infants, but it was not done to render the milk alkaline. In the summer the proportion of lime-water should be greater than in winter, and should preferably be one-fourth the quantity of milk.

Dr. HENRY L. COIT of Newark, N. J., said that his experience had taught him that every baby's stomach was a law unto itself. It had taken him ten years to learn how to individualize the feeding of infants, and, he thought, with most physicians this became eventually largely a matter of intuition rather than of the precise application of scientific rules. He had had twenty-two analyses of milk made at the twelve-ounce line, and nineteen of these gave 10 per cent. The lower down one examined the milk in the bottle the more uniform would the fat percentage be found. He was not yet convinced that proteid indigestion was the most important obstacle to success in infant feeding, being rather of the opinion that the digestion of cow casein had not received sufficient attention.

Professor Adriance, in closing, said that as the fat increased the other ingredients decreased, but that the ratio was not uniform for these other ingredients. Of course, as milk was diluted more and more the error became less. The physician should, however, aim at accuracy, because clinicians had learned that a difference of even one-fourth of 1 per cent. of proteid exerted an appreciable effect upon the infant's digestion. Some years ago he had shown that the percentage of proteid in cow's milk was not 4, as usually stated in the books. Richmond of England, as a result of thousands of analyses of milk, had confirmed this statement, and had declared that the proteid of cow's milk was ordinarily only 3 to 3½ per cent.

Dr. Chapin said that a very rich milk creamed differently from milk not so rich, and he was inclined to think that if Professor Adriance had taken an average milk, having a fat content of 3 to 3½ per cent., the figures would probably have been different. Moreover, he had given us the results of only one assay, and although no doubt this was most accurate, it was still only one assay. Again, it was much easier to assay the butter fat than the proteid, and even expert chemists were not always entirely agreed as to the method of estimating the proteids. It should not be forgotten that the proteids of milk were quite complex, and that some of them had very different functions from the others. The idea of using lactalbumin had been referred to, yet he did not believe the theory was correct. It had been found that nucleoalbumin was required; the phosphorized albumins had a different nutritive value. It was known that infants could be starved on these phosphorized albumins; nature craved nucleoalbumin for the building up of tissue. The longer milk was kept the more albumoses and peptones would be present. All these facts showed how complex was the subject, and how improper it would be to take such a table as that presented by Professor Adriance and use it as a basis for generalization. He thought that Dr. Koplik had misunderstood him, for he had not stated that the bulk of the milk varied much, but rather that the infant's digestive secretions varied. He believed this whole subject should be studied more from a biological than from a chemical standpoint.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION ON OBSTETRICS AND GYNECOLOGY.

*Stated Meeting, Held November 27, 1903.*

L. J. LADINSKI, M.D., CHAIRMAN.

**French Instruments for the Production of Abortion.**—Dr. FREDERIC GRIFFITH exhibited a number of instruments that he had collected in Paris, where they were sold in the market places, and were intended for the production of abortion.

Dr. H. J. BOLDT presented a number of specimens and reports of cases.

**Myofibroma with Pregnancy; Cæsarean Section.**—The first specimen was a myofibroma of the uterus, which had complicated pregnancy, and had been associated with symptoms simulating those of ovarian tumor with twisting of the pedicle. The patient was a woman of thirty-five, married ten years, and the mother of four children. Soon after her last confinement, two years ago, it was said, she had been examined by two prominent gynecologists, who had diagnosticated an ovarian cyst. This was also the diagnosis of the family physician at the time of calling in Dr. Boldt. When seen by him she was seven months

regnant, and had been well up to the night before, when he was suddenly seized with intense abdominal pain. This was accompanied by a pulse of 120 and a temperature of 100.5° F. Examination showed a large tumor filling the abdomen up to the umbilicus, and pushing the pregnant uterus upward and backward. A diagnosis of ovarian tumor with a twisted pedicle was made, but on opening the abdomen the tumor was found to be a myoma in the lower segment of the uterus. Cæsarean section was done, and resulted in the delivery of twins, each having a separate placenta. The vagina not having been prepared, it became necessary to do a supravaginal instead of a panhysterectomy. The adnexæ were left. The infant lived an hour and the other for three days. The mother made a good recovery. The symptoms in this case seemed to point very strongly to the twisting of the pedicle of an ovarian tumor, and in the light of the operation he was unable to explain these symptoms.

**Fibrocyst of the Uterus; Total Hysterectomy by Unusual Technique.**—This specimen had been taken from a single woman, aged forty-seven years, whose principal symptoms were flatulence, emaciation, sharp pains in the thighs, and abdominal enlargement. Exceedingly extensive and firm adhesions were encountered at the operation, especially in connection with the ascending colon and the sigmoid flexure. The colon was spread over the tumor in such a way that the bowel must have been almost occluded, yet the history only noted ordinary constipation. As it was impossible to separate the intestinal adhesions without severe and extensive injury to the bowel, the operator first freed the uterus below, and then turned it upside down, thus reversing the usual mode of approach. A part of the mesentery had to be sacrificed during the separation. The cyst measured five inches in the anteroposterior diameter, five and three-fourths inches laterly, and twelve inches from base to apex. The recovery of the patient was interrupted by a bronchopneumonia, probably caused by the ether. The chief practical interest of this case centered in the unusual technique by which seemingly insurmountable difficulties were overcome.

**Ovarian Cystoma; Twisted Pedicle; Absence of Peritonitis.**—The next specimen presented had been taken from a woman of thirty-five, the mother of seven children. Her last confinement had occurred ten months previously. The woman complained chiefly of abdominal pain, which had increased in severity during the previous week. The pain was referred to the left iliac fossa. The diagnosis was ovarian cystoma of the left side with twisting of the pedicle. On operating, an ovarian tumor, 11 inches in diameter, was exposed. The pedicle was twisted four and one-half times from left to right. According to the history, the twist must have been present several days, and gangrene of the tumor was well advanced, but there was not the slightest evidence of peritonitis.

**Cancer of the Sigmoid Flexure.**—This specimen was removed from a patient, thirty-seven years of age, who had been ill six months with constant cramp-like pain in the lower part of the abdomen. She was obstinately constipated, and the stools usually contained blood. The physician who had treated her made a diagnosis of an ovarian tumor pressing upon the bowel and producing an ulcer of the intestine. Examination showed that the neoplasm was in the bowel and lying near the uterus. The diagnosis of neoplasm of the lower part of the sigmoid flexure was confirmed by operation. The bowel, with as much of the mesentery and glands as were diseased, was resected.

**Ovarian Fibroma; Symptoms Caused by Appendicitis.**—The patient was a single woman of twenty-five, who had been complaining for nine years of dysmenorrhœa and pain in the right iliac region. The pain in the right iliac fossa was constant, and at times so intense as to prevent her from following her vocation. The ovarian fibroma could be readily felt on examination, but was not specially sensitive on pressure, and what little discomfort was produced in this way was not like the constant pain of which she complained. On the other hand, when even slight pressure was made over the region of the appendix the pain of which she constantly complained was greatly aggravated. For these reasons a diagnosis was made of chronic appendicitis. At the operation the appendix was found in a condition of subacute catarrhal inflammation. The speaker said that he had seen a number of instances in which a similar error in diagnosis had resulted from the fact that the examining physician ferred fromily feel prolapsed and cystic ovaries, and incould read this that they were the cause of the distress.

**Adenocarcinoma of the Body of the Uterus; Abdominal Hysterectomy without Ligature or Clamp.**—Dr. Boldt reported the following case: He said that it was, perhaps, unique to have the abdominal contents so matted together that an abdominal operation could, and had to be performed without resorting to either ligature or clamp. The patient, a woman of fifty-five years, was the mother of two children, the last one having been born thirty-three years before. Menstruation had ceased several years before, but there had been an atypical flow during the past two years. Not infrequently a good deal of blood had been passed per rectum. For the past six weeks she had suffered severely from rectal tenesmus and abdominal cramps. Under ether it was found that there was an enormous fecal impaction high up in the bowel. At the first examination, without an anæsthetic, this mass was so firm that it was diagnosed as an incarcerated fibroid. After much difficulty the fecal impaction was finally dug out piecemeal. Curettage was then done for diagnostic purposes, and the material so removed was reported by Dr. H. T. Brooks to be an adenocarcinoma. Because of the large size of the uterus, its extreme relaxation, the narrowness of the vagina and the likelihood of their being some retroperitoneal glands requiring removal, the abdominal route was chosen, although the patient weighed about 250 pounds. After opening the abdomen, the omentum was found to be firmly adherent to the intestine and much thickened. The coils of intestine were so intimately adherent to one another, to the parietal and to the pelvic peritoneum, that it was impossible to separate all the adhesions. The dark red appearance of the bowel seemed to indicate an acute inflammation, but the firmness of the adhesions negatived this view, so the color was probably dependent upon chronic congestion. It took fully half an hour to locate the uterus. After reaching the fundus it was found so tightly embedded in adhesions that abandonment of the operation was considered. The intestine tore whenever a little more force was used in separating adhesions, so that several intestinal sutures were necessary. So intimate and firm were the adhesions that it was impossible to use either ligature or clamp. Working along the posterior surface of the uterus the floor of the pelvis was reached, and then with the fingers hugging closely the uterus so as to cause no further injury to the intestines, the right parametrium was approached and manually separated from the uterus from behind forward. The bladder could not be seen, but was separated from below upward. The parametrium on the left side was then approached from its anterior surface, and separated as had been done on the right side. Thus, the organ was finally extirpated. The free oozing was controlled by tamponing the pelvis with iodoform gauze, and the abdomen was closed. The first dressing was changed on the fifth day. Recovery was interrupted by a large abscess in the adipose tissue of the abdominal wall, and the woman had hallucinations and delusions for two weeks after the operation. It was subsequently learned that she had had an attack of general peritonitis fifteen years before, but this would hardly explain the condition found at operation. The state in which this woman's abdomen was found was almost incredible, and it was wonder-

ful that she recovered from the operation. She was now well, except for constipation.

Dr. GEORGE H. BALLERAY presented a number of specimens, as follows: Two specimens removed by vaginal hysterectomy from women, forty-four years of age, for procidentia. The tubes and ovaries, removed from a woman of thirty-six who had pyosalpinx and ovarian abscess, were also shown. In this case the woman nearly died under the anæsthetic. The pulse kept rapid, and there were vomiting and abdominal distention for three or four days after operation. On the fourth day the pulse became exceedingly rapid. The speaker was of the opinion that these symptoms were dependent upon implication of the pneumogastric nerves.

The next specimen was a uterus removed from a woman of thirty-five, because of excessive hemorrhage at the menstrual periods. All the usual medicinal measures, as well as tamponing, had been tried without avail.

The other specimens were, a multilocular cyst which had contained forty pints of fluid; a monolocular ovarian cyst which had contained fourteen pints of fluid, about three pints of which were pus, and an appendix.

Dr. S. MARX said that in cases of procidentia he did not think relief was afforded simply by removing the uterus. After such an operation there was apt to be much subsequent distress from prolapse of the vagina, bladder, and rectum. For this reason he had, in the past two years, a abandoned this method of operating.

Dr. P. A. HARRIS said that he agreed with the last speaker. He preferred to do an abdominal hysterectomy, leaving the cervix and sewing the latter into the musculature of the abdominal wall. This operation had given him considerable satisfaction.

Dr. A. STURMDORF said with regard to the case reported, in which vomiting, intestinal symptoms, and rapid pulse followed operation, that those who would make it a routine practice to examine the urine after operation would be surprised to find how many cases of acute nephritis, due to ether, developed at this time. Sometimes these symptoms were, of course, due to sepsis.

Dr. BALLERAY said that he had not hesitated to do vaginal hysterectomy in his case of procidentia, because the patient was past the child-bearing period. He could recall only a single case of this sort in which there had been prolapse of both the anterior and posterior vaginal wall of sufficient extent to demand a subsequent operation. In that case he believed this result was due to the house physician's having allowed the patient out of bed at the end of two weeks instead of keeping her in bed for four or five weeks. In the case of vomiting and rapid pulse reported by him, the urine had been examined daily for several days after the operation, but had failed to show the presence of nephritis.

**Tubal Pregnancy.**—Dr. P. A. HARRIS presented specimens from three cases of tubal pregnancy. The first was a tubal pregnancy operated upon before the fœtus had escaped from the tube. The patient was a woman of forty, the mother of four children, the youngest being sixteen months old. On June 17 she had a slight chill and a severe attack of pain in the hypogastric region. There was a good deal of tenderness on the right side of the lower part of the abdomen, and although the colic ceased the soreness continued for three or four days. There was a second attack of abdominal colic on June 27, which passed off in three or four hours. The next morning the pain was agonizing, necessitating the use of morphine. After another day of pain she did fairly well until seen by Dr. Harris on July 11. She then stated that ten days before the first attack of colic she had had a rather prolonged and profuse menstruation. Examination showed enlargement and tenderness of the right tube. A diagnosis of tubal pregnancy was made, and operation was done.

The other two cases were examples of quite advanced extrauterine pregnancy with severe internal hemorrhage. The first of these patients was a colored woman, twenty-six years of age, the mother of two children. Preparations had been made for operation immediately upon her arrival at the hospital. On admission, her pulse was so weak and rapid as hardly to be counted. and the slight delay necessitated by her refusal to submit to operation until the arrival of her husband was sufficient to so aggravate her condition that it was deemed best to postpone the operation long enough to give a saline infusion of 425 c.c. in the median basilic vein. This improved the pulse so that it could be counted, and, accordingly, the abdomen was opened. Quarts of clotted and fluid blood were turned out along with the fœtus and placenta Following the operation she was given an infusion of 650 c.c. saline solution. She made an excellent recovery.

The second patient was a woman of thirty-four, the mother of one child, eleven years old. Menstruation had been regular up to and including February, 1903. On March 8 there was some bleeding accompanied by severe pain in the hypogastric region. There was no more bleeding until March 22, but from that time on there was more or less "spotting" until April 8. On that day she had an attack of severe abdominal colic, and a fainting spell, and for many days thereafter the abdomen remained excessively tender and she suffered at intervals from cramp-like pains. It was learned that on April 7 she fell from a step-ladder and struck the lower part of the abdomen. A local physician considered the attack on April 8 a miscarriage, and attended her for two weeks, but she did not miscarry. She did fairly well until July 16 when another seizure led her to call Dr. Stinson. Her pulse then was 90 and temperature 97° F. He diagnosed tubal pregnancy and internal hemorrhage, and urged her to go to the hospital. Six hours later her condition was so bad that she consented to be removed, but she died just as she was being taken from the ambulance.

**Toxæmia of Pregnancy.**—Dr. WILLIAM S. STONE was the author of this paper. He said that a review of the textbooks on obstetrics indicated that hyperæmesis gravidarum was, in most cases, a reflex neurosis, or a form of toxæmia of unknown origin. In two-thirds of the cases there was increased irritability of the medullary centers, due to circulatory disturbances or toxic elements circulating in the blood. The literature was reviewed, and the author's own three cases reported. One of the cases was interesting because of the character of the vomited matter. It contained bile, blood, and epithelial cells from the stomach, and corresponded with what was known as "black vomit." In another case the symptoms all became very much worse after emptying the uterus; the urine contained numerous casts and large quantities of albumin, and in forty-eight hours the patient died in coma. The autopsy in this case was complete, and, so far as he knew, was only the second one on record in which the autopsy was complete. The condition of the liver, as well as the clinical course, corresponded very closely with acute yellow atrophy of the liver. The stomach and intestine were normal, and the coffee-grounds matter in the stomach was proved to contain blood The author concluded that nausea and vomiting were not physiological, but pathological accompaniments of pregnancy.

Regarding eclampsia, it was stated that the temperature might be normal or high, and that jaundice might or might not be present. Eclampsia occurred without albuminuria in one-tenth of the cases. There was a rapid disappearance of the albuminuria in many cases in which severe lesions of the kidneys were found. The kidney lesions varied from those of nephritis to degenerations like those in the liver. Eclampsia was now generally recognized as a toxæmia, the chief lesions of which were necrosis and multiple hemorrhages in the liver. The liver, in fatal cases, might show simple cloudy swelling, chronic congestion, acute yellow atrophy of the yellow or red stage. In eclampsia there were multiple miliary necroses or hemorrhages. The gall-bladder usually contained an abundance of bile. In grave conditions, marked by

black vomit, there must be very severe degeneration and some necrosis to account for the color of the vomitus. The moderate, uniform fatty degeneration commonly observed in the liver of pregnancy must stand as the anatomical basis of the toxic symptoms noted in the mild cases. In all cases the renal lesions appeared to be less severe and secondary to those of the liver. The kidney was often normal while the liver was diseased, yet a diseased kidney and a normal liver were never observed in these cases. There seemed to be no escape from the conclusion that pregnancy itself was an autointoxication. The pulse was ordinarily the best indication of the condition of the patient, although taken by itself it might mislead the physician. The character of the vomitus was of even greater importance; it was usually almost colorless mucus, changing in the severe cases to thin and brackish fluid in larger quantity. The urinary changes were a good guide in some cases. Albuminuria in slight amount was probably always present, but, by itself, was of greater significance when present in the earlier months of pregnancy. The presence of blood and casts in the urine, and the increase of certain normal ingredients, and the presence of leucin and tyrosin and bile were of the greatest importance in connection with the diagnosis and treatment. The presence of cerebral symptoms, convulsions and coma, except in the eclamptic type, denoted such severity that efforts at treatment were of no avail. It was most important to recognize the toxæmic origin of these symptoms, and the influence of various hereditary disorders. The treatment of the severe cases should be that recognized as best for eclampsia. We should limit our efforts to calomel, salines, and a few similar well-known and tried measures. In some cases it was well to try gastric lavage once or twice if vomiting were obstinate. The chief reliance should be on the frequent use of saline injections into the rectum, or continuous irrigation with hot saline solution. The direct injection of saline solution into the cellular tissue or into the veins was sometimes of service. It should not be forgotten that the injection of premature labor was often futile as regards the control of vomiting; indeed, in the later stages this procedure often only served to precipitate the fatal issue. It should be especially noted that urinary troubles often failed to make their appearance until very late in the disease. The speaker thought it was proper to terminate pregnancy when black vomiting appeared, or still better to do it at a somewhat earlier period.

**Significance of Albuminuria in Pregnancy.**—Dr. CHARLES JEWETT said that the keynote of the paper was the proposition that the underlying cause of most of the disorders peculiar to the pregnant state was toxæmia. We were greatly indebted to the reader of the paper for bringing out this theory so prominently, for it was certainly very important, and opened up a field for investigation and emphasized a new treatment. Some years ago Dr. Montgomery Crockett had contributed a chapter to a work on obstetrics in which he had taken this view. The speaker said he believed that it was still an unsettled question as to what was the nature of the toxæmia, whether it was due to a lesion of the liver, to intestinal putrefaction, or whether the poison was partly derived from the fetal products of gestation. It was the custom of most writers to belittle the importance of albuminuria as evidence of danger in pregnancy, and yet he believed it was of great value, although all knew that an albuminuria did not necessarily mean eclampsia and that eclampsia might occur without albuminuria. In the presence of albuminuria, however, the patient was never safe. If the quantity of urine and the quantity of total solids were ample, the patient was safe so long as no nervous symptoms developed; but such cases required the closest supervision. The quantity of urea seemed to him an over-rated danger signal of the re-eclamptic stage. If the urea were estimated daily in half a dozen cases the results would be found to vary widely. Moreover, the quantity of urea would vary a good deal with the quantity of nitrogenous food taken, and it should not be forgotten that the quantity of urea was ordinarily diminished in the later months of pregnancy. He had frequently seen cases in which the urine was very much diminished, and yet the patient evinced no evidence of illness, and went on safely through her labor. Mention was made of a case of eclampsia in which the patient passed over 100 ounces of urine for several days after labor, and then developed a severe eclamptic attack, which was finally controlled and the patient started on the road to recovery by the introduction through a stomach tube of a large dose of calomel and Epsom salts. The interesting feature was the large quantity of urine passed, but this was explained by the drainage of the œdematous tissues of the body without much elimination of the urinary solids.

Dr. MALCOLM MCLEAN said that inasmuch as the function of the liver was always very decidedly disturbed in cases of seasickness, he desired to call attention to the fact that a lady who had previously crossed the ocean eight times without being seasick, even in stormy weather, crossed the ocean when pregnant four months. She almost immediately developed a most pernicious vomiting, became extremely toxic, and was taken from the ship at the end of the voyage almost moribund.

**Diminution of Urea an Index of Danger.**—Dr. S. MARX said that he could readily understand that a hysterical condition might give rise to hyperæmesis of sufficient gravity to worry the relatives and lead the physician to induce abortion. Antecedent stomach disease was of the greatest importance in connection with hyperæmesis gravidarum. He treated these women as if they were not pregnant, but the victims of a very serious stomach disorder, such as gastric ulcer. He kept them quiet on liquid food, and gave them at a dose nearly a tablespoonful of subnitrate of bismuth. The more he made urinary examinations of pregnant women the less he thought of albuminuria as an index of danger, and the more he thought of the quantity of urea. He did not mean by this that urea was necessarily the element of danger, but he had never yet seen a case of eclampsia or a severe case of eclamptic toxæmia in which the urea was not diminished. On the other hand, he was free to admit that he had seen cases in which the quantity of urea had been so much diminished as to make him very anxious, and yet eclampsia had not developed. It was quite possible that we did not know what was the normal output of urea, but whenever the quantity of urea progressively diminished it should be taken as an indication of serious danger.

**Vomiting of Pregnancy of Two Kinds.**—Dr. E. B. CRAGIN said that the more one saw of obstetrics the more respect one had for toxæmia. We should look upon the vomiting of pregnancy as of two kinds, the later and the earlier. Severe vomiting in the later months of pregnancy almost always indicated a severe toxæmia, usually a liver toxæmia. He was not prepared to say that the early vomiting of pregnancy was always due to toxæmia, for there were so many changes in the pelvic organs which might produce nausea and vomiting in the non-pregnant that he was inclined to think that it might give rise to such symptoms in the pregnant. Again, if all such cases of vomiting were due to toxæmia he found it difficult to understand why that vomiting should cease spontaneously later on in pregnancy when the products of the fœtus were tending to increase the toxæmia. The only two fatal cases of toxæmia of pregnancy occurring in the past year at the Sloane Maternity Hospital were of the liver variety, *i.e.* acute yellow atrophy. Four cases of toxæmia of pregnancy, three of them eclamptic, at this hospital were reported by the pathologist to be cases of acute yellow atrophy of the liver.

Personally, he believed there was only one way of treating a severe case, and that was by emptying the

uterus before the severe symptoms developed. He would admit that sometimes this procedure only hastened the fatal termination, but not infrequently these patients improved after evacuation of the uterus. He had just such a case at present in his wards, emphasizing the improvement that sometimes followed, even in very severe cases, from prompt emptying the uterus before the supervention of severe symptoms.

With regard to urea and albumin as indices of eclampsia, he would admit that neither the diminution of the urea or the presence of albuminuria necessarily meant that eclampsia was imminent. He had seen a number of cases in which there was great diminution of the urea, and yet the patients presented no symptom of toxæmia. He believed, with Dr. Jewett, that albuminuria was not necessarily an indication of toxæmia, but that it should be looked upon as an important danger signal, and that by grasping the whole clinical picture one could arrive at a correct diagnosis. The treatment outlined in the paper was the one which he would indorse.

Dr. S. W. BANDLER regretted that the author of the paper had laid so much emphasis upon what he called "liver toxæmia," for this term would tend to blind us as to the true nature of the condition. The brain, the heart, the spleen, the pancreas, and other organs of the body were known to participate in this process, thus indicating that there was circulating in the blood certain toxins, but gave us no clue as to the origin of these toxins. In the opinion of the speaker, the important point to consider was the origin of toxins from the fœtus or the placenta. He believed that these toxins were given off by the placenta. As to why the placenta should do this in some cases of pregnancy and not in others, he said that microscopical examination showed no difference in the structure of the placenta in the toxæmic and in the normal cases of pregnancy. We knew what too little or too much thyroid or other internal secretion would do; hence, he saw no reason why grave consequences should not follow a diminution or an increase of the placental secretion.

Dr. STONE, in closing the discussion, said that one of the chief objects of his paper was to try to interest the profession in making more exact and exhaustive reports of these cases of hyperæmesis gravidarum.

## THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

*Stated Meeting, Held November 23, 1903.*

WENDELL C. PHILLIPS, M.D., PRESIDENT.

**President's Inaugural Address.** — Dr. WENDELL C. PHILLIPS delivered this address. He said that during the ninety-eight years of the society's existence sixty-five men had been elected to the presidency, one holding office for a period of seven, and another for five years. The first president, Nicholas Romayne, took office in 1806. The society had always taken a strong position upon all questions relating to the public health, sanitation, the enacting of medical laws and efforts to raise the standard of medical education. It was decided that there should be a just and equitable state law to determine the qualifications of those who desired to enter the medical profession of this State, and through the efforts of the State Society, influenced by the medical sentiment of New York City, such a law was enacted, but only after a revision of the Code of Ethics, chiefly in the matter of freedom in consultation with all legalized practitioners of medicine. This action was not taken primarily to obtain liberty to consult with homœopathic practitioners, but to secure their coöperation in bringing about the passage of this law, which was considered paramount even to any code of medical ethics. The result has been so satisfactory that Pennsylvania, Virginia and Illinois, and finally all the States of the Union, as represented in the American Medical Association, had, after twenty years, vindicated the action taken by the Medical Society of the State of New York by abolishing from its by-laws and constitution the code of ethics so long maintained. A harmonious union of the medical profession of this State was now being attempted, and it was hoped that a successful issue would be consummated.

Reference was then made to the good work done by the Milk Commission and by the legal department of the society. The work of the latter had been recently set forth at some length by the counsel, who declared that "The County Society has become a terror to evil doers." A notable instance of the success achieved in this field was the exposure of a so-called Lung Cure, but even the society's best efforts were not sufficient to keep pace with the offenders. It was most unfortunate that in the prosecution of this work the society was dependent upon the financial aid derived from the fines imposed, and he would recommend that a committee be appointed to investigate the matter and report concerning the possibility of doing away with this objectionable feature.

The speaker said that in the past two years there had been some notable improvements in the conduct of the two departments of the city government most closely allied to the medical profession, *i.e.* the Department of Public Charities and the Department of Health. It was difficult to believe that the present Commissioner of Charities, Mr. Homer Folks, could have accomplished so much in the short space of twenty-two months. Similarly the present Health Commissioner, Dr. Ernest Lederle, had brought his department to the highest state of efficiency in its history. A distinct advance would be made in the maintenance of good city government if our citizens could be made to appreciate fully the fact that the death rate rises or falls in direct proportion with the efficiency of the street cleaning, charities and health departments.

The society began the new year with a membership of more than 1,700, making it by far the largest medical society in the City of New York. It was his purpose as the presiding officer to spare no effort to maintain a vigorous administration of its affairs, both in things scientific and secular.

**The Tendency to Tuberculosis.**—Dr. JOHN B. HUBER read this paper. He said that many persons at the present day were of the opinion that tubercle bacilli gained entrance frequently through the alimentary canal, the course to the lungs being through the lacteals, the thoracic duct, the vena cava, the right heart, and the pulmonary circulation. If this theory were true it was certainly of transcendent importance that food and the secretions from the nasopharynx should be bacillus-free. Under the head of environment, perhaps, one of the most potent causes of tuberculosis was alcoholism, with its attendant evils.

**A Brief Description of the State Hospital for the Treatment of Incipient Tuberculosis.**—Mr. HOWARD TOWNSEND, Chairman of the Board of Directors, said that the trustees had had to contend with many things, and although there had been so much delay he felt that they were entitled to at least a little credit. To Dr. E. L. Trudeau was due the credit of selecting the site at Raybrook. It was located four miles and a half southeast of Saranac Lake, on the line of the railroad going from Saranac Lake to Lake Placid. The site comprised nearly a square mile of ground, on which was woodland, meadow, and pasture. The hospital itself was built on the southern slope of a hill, entirely protected from the west and southwest winter winds, and faced the southeast. The hospital was intended to accommodate only one hundred patients and only those suffering from incipient pulmonary tuberculosis. He could not say when the hospital would be opened, but he hoped some patients would be there by next March, and that the hospital would be in full working order by next August.

**Recent Care of Tuberculous Patients by the Department of Public Charities.**—Mr. HOMER FOLKS, Commissioner of Public Charities, reviewed what had recently been accomplished by his department in the care of cases of tuberculosis, illustrating his remarks by numerous photographs and lantern slides of the various buildings and tent cottages. He said that 142 patients had been accommodated in twelve tent cottages, built after the plan of Dr. Holmes. A large number of tuberculous persons were cared for in an old building that had been vacated by the Manhattan State Hospital for the Insane. In this building all the sickest patients, *i.e.* those confined to bed, were placed on the top floor, while the others occupied the two lower floors. In a few days they would open probably the first house intended wholly for dining purposes, and designed by a woman. It would seat 350 persons, and the food was to be served hot while these persons were seated at the tables. At first, a considerable quantity of cod-liver oil and liquors had been given the tuberculous patients, but last summer these supplies were largely discontinued, yet the results had been in no way inferior to those previously obtained. After the tubercolosis infirmary had been in operation for three or four months, a graduate of Princeton University was made superintendent of the institution, and was instructed to become personally acquainted with every patient, explain the nature and objects of the institution, and personally ascertain the reason for each patient's discharge. He was also given charge of the social features of the institution, and of such employment as might seem desirable. This gentleman's work seemed, to the speaker, exceedingly important. The institution was not, of course, looked upon as a model one, and he did not think it should be further enlarged. It now rested with the Board of Health to select a proper site for the out-of-town tuberculosis sanatorium for the city. It was difficult to state just what had been accomplished with the tuberculous patients at this infirmary on Blackwell's Island, but he would say that, in the main, those who were not evidently in the last stages of the disease at the time of their admission, had rather uniformly gained in weight and strength for a certain period of time. A certain number of them, at the present time about fifty, were pronounced by the physician to be practically cured. Quite a number of these had been placed upon the payroll as employees of the institution.

**Recent Measures Adopted by the Health Department for the Care of Tuberculous Patients.**—Dr. JOHN S. BILLINGS spoke briefly on this topic. He said that the registration of tuberculosis cases was secured by notification from institutions, by notification from physicians, and by sputum examinations. He was sorry to say that even now the smallest number of cases reported was by physicians, and out of 8,500 sputum examinations, only 3,200 cases were reported. They were preparing two indexes, one of all of the new cases of tuberculosis and another of all the consumptive poor under the observation of the department. Fully 40 per cent. of the cases reported by the institutions could not be found, largely because of wrong addresses having been given. The statistics of the department showed that there had been recently practically no fatal cases reported as dying of other diseases in order to conceal the fact that the cause of death was tuberculosis. There was a corps of inspectors, and also a corps of nurses, the latter following up the cases reported by the inspectors. It was the intention of the department to open a dispensary on the first of next January. The chief object of this dispensary was to strengthen the control of the department over the consumptive poor.

**Brief Description of the Stony Wold Sanatorium.**—Dr. JAMES E. NEWCOMB presented this description. He said that this sanatorium was the work of women for women, and was intended for incipient cases of tuberculosis, occurring in working women and children, including boys up to the age of twelve years. After due deliberaton, the present site in the northern Adirondacks, eight miles beyond Paul Smith's station, was selected. It was on the line of the New York Central Railroad, 379 miles from New York City. At present this site embraced two thousand acres of land and water, and was at an altitude of 1,730 feet. The main lake comprised about 350 acres. Most of the land was heavily wooded, and the soil was admirably adapted for drainage. The supply of water was from a lake, about one-third of a mile away. The grounds had not come into the possession of the trustees until December, 1901, and the formal opening exercises were held last August. The architects were those who planned the Adirondack Cottage Sanitarium. There were, at present, accommodations for about sixty patients, including sixteen children, although there were only twenty-five or thirty patients in the institution at present. Eventually accommodations would be provided for 150 patients. There were no free beds now, each patient being charged one dollar a day in advance, with no extras, except a charge of twenty-five cents per week for laundry. Each patient was received on probation for one month.

**Comparison of American and Foreign Methods of Sanatorium Treatment of Tuberculosis.**—Dr. HENRY P. LOOMIS discussed this subject briefly, illustrating his remarks by lantern slides. He said that the sanatorium treatment of tuberculosis had been in existence abroad for about forty years, and had reached its highest development in Germany during the past twenty years. In this country such treatment had only been in vogue, to any extent, for the past eight years. All sanatorium experience demonstrated beyond any doubt that tuberculosis was a very curable disease. The attention to slight details in each individual case was, in the opinion of the speaker, what accounted very largely for the great success of the sanatorium treatment. The sanatoriums abroad were constructed on the pavilion plan; in this country, they were, for the most part, on the cottage plan. This idea of having only a very few patients together under one roof was distinctively American. In Germany, either owing to the long familiarity with sanatorium treatment, or to the different national temperament, the people, when attacked by consumption, immediately went to a sanatorium. Again, the discipline, of the sanatorium abroad, particularly in Germany, was something which could not possibly be enforced in this country. The medical profession abroad did not consider altitude as of so much importance as did the physicians in this country, and, hence, many of their institutions were located in low altitudes; nevertheless, the two most successful sanatoriums abroad were situated at 1,300 and 1,800 feet respectively. It was worthy of note that in the foreign sanatoriums, creosote was not used, and it was believed that it was rather prejudicial. On the other hand, they made use of what was very seldom employed here, *i.e.* hydrotherapy.

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**Feeling for the Cord Immediately After the Birth of the Head.**—Schultze wishes to abolish the universal custom of examining the child's head with the finger immediately after the birth of the head to determine whether the cord surrounds it or not. There is no doubt of the risk to the child when this condition is present, but the danger lies chiefly in compression of the cord between the symphysis and neck during the latter part of the descent, as soon as the head is born this danger ceases, while shortness of the cord sufficient to cause dystocia or premature separation of the placenta gives symptoms so pronounced as to make the diagnosis certain without digital examination. The great danger consists in having a band, often of questionable sterility, introduced into the freshly lacerated genital passages of every parturient woman, a procedure which, granted its superfluousness, is contrary to all the tenets of modern obstetrics.—*Centralblatt für Gynäkologie.*

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending December 5, 1903.:

| | Cases. | Deaths. |
|---|---|---|
| Measles | 326 | 6 |
| Diphtheria and croup | 408 | 68 |
| Scarlet fever | 211 | 19 |
| Smallpox | 1 | 1 |
| Varicella | 104 | ... |
| Tuberculosis | 306 | 163 |
| Typhoid fever | 68 | 12 |
| Cerebrospinal meningitis | ... | 3 |

**How a Pullman Car Is Cleaned.**—The management of the Pullman company, in controversion of the recent criticisms of the sanitary condition of their cars has sent out this statement of just what the process of cleaning a Pullman car is: As soon as a Pullman car arrives at its destination it is entirely stripped, the carpets are beaten and aired and the interior of the car is thoroughly scrubbed with soap and water. The blankets are taken out of the car and are thoroughly blown out with compressed air at a ninety-pound pressure. It is impracticable to wash them after every trip, but they go to the laundry several times a year, which is oftener than is the case with hotel blankets. All linen is renewed each trip. Every case of sickness in a car, however trivial, is followed by the antiseptic cleansing of the section occupied by the sick person, and the entire car is sprayed with formaldehyde. As a further sanitary precaution, in the newer cars of the company, purely decorative draperies are being omitted, and the necessary ones, such as berth curtains, are being made of a lighter material which does not hold dust or odors.—*The Sun.*

**A Golden Opportunity.**—It has been my experience that the greatest movements to help the consumptive poor have always originated through the activity of some family physician who could interest his wealthy friends or patients, or even the municipality in the cause. Therefore, should these lines be read by anyone of my colleagues who is in the position to help, I beg him to exert his influence as much as he can on behalf of the poor consumptive in our tenement districts.—S. O. KNOPF.

**Massage by the Blind.**—Among the Japanese, from whom we have yet much to learn, massage is generally recognized as the work of the blind The sightless Japanese operators are masters in their useful craft. The blind are usually endowed, by way of compensation for their loss of sight, with a sense of touch exceptionally acute, so that here is a field in which they may surpass their seeing fellows. Massage is chiefly dependent for its success upon the delicacy of its application, which depends in its turn upon the nicety of the operator's sense of touch.—*Medical Magasine.*

**Increased Longevity.**—The International Congress of Insurance Actuaries held its session recently in New York City. A prominent feature of the discussion was the admitted fact that people are longer lived now than formerly. This was attributed to the growth of hospitals, the advance in medicine and surgery and the more enlightened care of the poor and suffering, especially of the children. John K. Gore of Newark, N. J., presented statistics showing that during the last five years of the century there had been a very perceptible decrease in the mortality rate. From 1870 to 1874, the period including the fatal smallpox epidemic of 1872, there was an increase in the death rate of every age group but one. From 1880 to 1884 the rate was relatively high, owing to the great prevalence and wide distribution of diphtheria scarlet fever, and measles. The influenza epidemic of 1891 caused an augmented death rate from 1890 to 1894. As to causes, it was stated that there had been a remarkable decrease in the death rate from phthisis, and a slight decrease from typhoid fever in the northern countries.

**The Use of Adrenalin in Anæsthetic Injections.**—Braun considers adrenalin of great value as an addition to local anæsthetic mixtures, but finds caution necessary in regard to two points, viz.. toxic effects and secondary hemorrhage. Eight centigrams of cocaine, together with eight drops of one to one-thousand adrenalin chloride solution, have caused death, and even three drops are reported by Enderlew to have produced uniformly untoward symptoms. The author has often exceeded this dosage, however, without bad effects. The desired action of the drug, *i.e.* intensification of the anæsthetic properties of cocaine and eucaine, can be produced to the full by amounts so minute as to be absolutely harmless, while larger quantities are undesirable, through their tendency to permit secondary hemorrhage. Contrary to general belief, adrenalin does not cause a secondary relaxation of the vessel walls leading to oozing, but owing to its intense styptic action in larger quantities, even arteries, are kept from bleeding, and hence allowed to go without ligature. When the effect of the drug wears off the open vessels bleed, not because of any fault of the adrenalin, but because they were not secured. In minute amounts the anæsthesia is greatly enhanced, parenchymatous oozing entirely checked, but all vessels of any importance still bleed and may be ligated as usual. The solution used by the author for Schleich's infiltrations contains one-tenth per cent. cocaine with two to five drops of adrenalin chloride one to one-thousand to each one hundred cubic centimeters.—*Centralblatt für Chirurgie.*

**Health Report.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended December 5, 1903:

SMALLPOX—UNITED STATES.

| | | CASES. | DEATHS. |
|---|---|---|---|
| Alabama, Mobile | Nov. 21–28 | 6 | .. |
| California, Los Angeles | Nov. 14–21 | .. | 1 |
| Illinois, Chicago | Nov. 21–28 | 3 | .. |
| Louisiana, New Orleans | Nov. 21–28 | 2 | .. |
| | | (Imported) | |
| Massachusetts, Haverhill | Nov. 21–28 | 1 | .. |
| Lowell | Nov. 21–28 | 1 | .. |
| Michigan, Detroit | Nov. 21–28 | 1 | .. |
| New Hampshire, Manchester | Nov. 21–28 | 2 | .. |
| New Jersey, Camden | Nov. 21–28 | 1 | .. |
| Ohio, Cincinnati | Nov. 21–28 | 2 | .. |
| Youngstown | Nov. 21–28 | 9 | .. |
| Pennsylvania, Johnstown | Nov. 21–28 | 6 | 1 |
| Philadelphia | Nov. 21–28 | 70 | 11 |
| Pittsburg | Nov. 21–28 | 25 | 7 |
| | | (Imported, 2) | |
| Reading | Nov. 23–30 | 3 | .. |
| Tennessee, Memphis | Nov. 21–28 | 8 | .. |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Ecuador, Guayaquil | Nov. 7–14 | .. | 1 |
| Great Britain, London | Nov. 7–14 | 16 | .. |
| New Castle-on-Tyne | Nov. 7–14 | 18 | .. |
| Nottingham | Nov. 7–14 | 4 | .. |
| Italy, Catania | Nov. 6–12 | .. | 1 |
| Palermo | Nov. 7–14 | 1 | .. |
| Russia, Moscow | Oct. 31–Nov. 7 | 1 | .. |
| Turkey, Smyrna | Nov. 1–8 | .. | 16 |

YELLOW FEVER—UNITED STATES.

| | | | |
|---|---|---|---|
| Texas, Cannel | Nov. 26 | 4 | .. |
| Laredo | Nov. 23–Dec. 1 | 6 | 5 |
| Minera | Nov. 28 | 2 | 1 |
| San Antonio | Nov. 23–Dec. 1 | 5 | 5 |

YELLOW FEVER—FOREIGN.

| | | | |
|---|---|---|---|
| Mexico, Ciudad, Victoria | Nov. 8–14 | 9 | 7 |
| Linares | Nov. 8–14 | 74 | 6 |
| Merida | Nov. 8–14 | 3 | .. |
| Monclova | Nov. 17–18 | 2 | 2 |
| Nuevo Laredo | Nov. 8–14 | .. | 2 |
| Reata | Nov. 26 | 1 | .. |
| Vera Cruz | Nov. 15–28 | 14 | 9 |

CHOLERA—FOREIGN.

| | | |
|---|---|---|
| Turkey, Syria | Nov. 7 | Prevailing |

PLAGUE—UNITED STATES.

| | | | |
|---|---|---|---|
| California, San Francisco | Nov. 12 | 1 | 1 |

PLAGUE—FOREIGN.

| | | | |
|---|---|---|---|
| Egypt, Alexandria | Oct. 24–31 | 3 | 2 |
| Samanlut District | Oct. 24–31 | 2 | .. |
| India, Bombay | Oct. 26–Nov. 3 | .. | 45 |
| Karachi | Oct. 18–25 | 16 | 14 |
| Karachi | Oct. 25–Nov. 1 | 12 | 11 |
| Japan, Yokohama | Oct. 24–31 | 1 | 1 |
| Mauritius | Oct. 19–26 | 117 | 55 |

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## Original Articles.

### LEPROSY IN HAWAII.

By JAMES T. WAYSON, M.D.,
HONOLULU, T. H.

LEPROSY is defined as an endemic, chronic, constitutional disease analogous to syphilis, caused by the Bacillus lepræ, and varying in its morbid manifestations, depending upon the tissues of the body affected, such as the skin, the nerves, the mucous surfaces, the lymphatic ganglia, and certain viscera.

It occurs in three forms, the tuberculated, non-tuberculated or anæsthetic, and the mixed tuberculated.

"The microscope is the supreme agent of the final diagnosis of leprosy. No patient should be committed to a segregated colony without a bacteriological demonstration of the disease. Of clinical symptoms, maculæ, chiefly leucodermic spots, are found in 89 per cent. of all cases. The lepra nodule, found in 74 per cent., is the one chief distinguishing lesion of skin leprosy. Thinning or complete loss of eyebrows and lashes is present in 63 per cent. Atrophic changes in hands and forearms with retraction and contraction of fingers and enlarged ulnar nerve in 32 per cent., a leading feature of nerve leprosy. The plantar ulcer found in 26 per cent., usually on the ball of the foot. Absorption of phalanges in 16 per cent., with occasional spontaneous amputation. Elephantiasis of hands and feet in 16 per cent. Facial paralysis in 11 per cent. The entire body should be carefully tested for anæsthetic areas. Some of the above symptoms can be found in some slight degree at least in every leprous subject" (J. T. McDonald).

At the present time it is firmly believed that the Bacillus lepræ, discovered by Hansen, is the cause of leprosy, but its method of entering the human body is absolutely unknown, whether by the skin, with or without abrasions; the mucous membranes; inoculations by insects; inhalations; or by articles of diet, such as salted or dried fish—the latter a theory of Jonathan Hutchinson of London, who believes the lepra bacilli are in such food. However, it is well known in Hawaii that people become leprous who have never made salted or dried fish a part of their diet.

Personally, I believe that a syphilized people are more susceptible to the disease than even the offspring of lepers; also, that there is but a slight predisposition among the children of leprous parents, and that the disease is in no way hereditary. Touching upon the point of the heredity of the disease, a striking peculiarity is to be noted, and that is, that while brothers, sisters, and cousins may be lepers their parents are aliens to the disease.

According to the latest authorities it is unknown whether the Bacillus lepræ has spores, but I believe it has, and that it is by the spores the disease is spread. The spores are thrown off the body of a leper and become lodged either in the integument or mucous membranes of a predisposed healthy person, where they remain inactive for many years, or become very active within a short time, developing into full-grown bacilli, and soon manifesting their presence by the usual lesions of leprosy.

Father Damien de Veuster said that when near lepers, as at confession, or in their cabins before coming to the Leper Settlement, he felt on each occasion a peculiar sensation in the face, a sort of itching or burning, and that he felt the same here at the Settlement, during the first two or three years.

The first lesions of leprosy are surely local, as there is undoubted evidence of aborted cases, especially in the purely anæsthetic form. The activity of the spores is due to their passage through the air before entering the human body (otherwise direct inoculation would be possible—an experiment which has often been tried, but has never been successful), and is also dependent upon the predisposition of the human body—which is probably caused by certain foods, syphilis, and climate, which so modify the tissues that the otherwise healthy person becomes a suitable soil for the growth of the bacillus.

I believe the length of life of the lepra bacilli is so short that it accounts for the inability of experimenters to cultivate it, and that the danger of infection is wholly due to the activity of the spores. Also, that it will be necessary before a cure is obtained, to find some drug that will act solely upon the spores (having a selective action upon the skin and mucous membranes of the diseased person), destroy them, and at the same time overcome the condition of the system upon which the spores seem to thrive. If a cure is obtained it will certainly stop the spread of the disease by eradicating the source of infection.

No specific remedy is known. General tonic treatment and hot baths with hygienic surroundings aid in checking the disease.

The Kausatsu Springs of Japan are reported to check materially the advance of the disease, and I have received personal letters from lepers who firmly believe they have been cured by the baths. It is a very severe treatment, but certainly very efficacious.

*Leprosy in Hawaii.*—The first attempt by the kingdom of Hawaii to check the disease of leprosy or to cure or alleviate the sufferers was made in 1865, when an act, entitled, "An Act to Prevent the Spread of Leprosy," was officially passed.

The native Hawaiians believed the disease to have been brought among them by the Chinese, so named it "mai pake" (Chinese disease), but it is well proven that the disease was among the natives before any Chinese had visited or lived in the Islands. In all probability it came from the South Sea Islands, as the disease was endemic there and the people of those Islands frequently visited Hawaii.

A hospital established for the examination and

treatment of persons affected with leprosy, was opened on the 13th of November, 1865, and has been in existence ever since. It is now known as the

Anæsthetic leprosy, showing the leper claw and palmar ulcers.

Kalihi Detention Hospital. Persons supposed to be affected are sent to the Kalihi Hospital, where

Macular eruption in early stage of anæsthetic leprosy.

they are thoroughly examined by a commission of physicians and a bacteriologist.

At the present time the lepra bacillus must be demonstrated before a leper is sent to the Settlement at Molokai. Previous to 1897 no bacteriological examination was made. Any person showing clinical symptoms sufficient to warrant the commission to keep them under observation, is kept at

Anæsthetic leprosy, showing muscular atrophy and mutilations of the hands and feet.

Macular lesions of anæsthetic leprosy showing the gyrate patches with elevated margins.

Kalihi or required to report at short intervals for further examination until the presence of the lepra bacillus is firmly established.

At Kalihi there is also a very creditable home, called the Kapiolani Home, conducted by the Franciscan Sisters. Here all the girls born of leprous parents at Molokai find a good home with the Sisters.

The Leper Settlement is situated on the Island of Molokai, one of the principal islands of the Hawaiian group. The peninsula upon which the settlement is located has an area of eight square miles, and is on the northern coast of the island; it is commonly known as Kalaupapa, named after the high precipice separating the peninsula from the rest of the island. The pali is about 2,000 feet in height, and is a natural barrier against escape, by land, of any of the inmates of the Settlement. A zigzag road has been cut down this nearly perpendicular pali, which would certainly take an old and accustomed mountaineer nearly one hour to descend.

There are two separate residence portions on the peninsula, known as Kalawao and Kalaupapa, giving an appearance of two small villages, as there are churches, stores, houses and streets, which go to make up a country-town of equal population. A jail is also in evidence, as it is at times necessary to punish the unruly there as well as in other communities, therefore you will find a resident magistrate, and one or more police.

The Settlement is governed entirely by the Board of Health; the Board having sole control of the people, whether lepers or non-lepers, at the Settlement. There is the Superintendent of the Settlement, an employee of the Board, who makes regular trips back and forth from the Settlement—who also does the buying of all necessary clothing and provisions (issued by the Government), attends to all disputes between the lepers where law is not called in action, and makes regular weekly reports to the Board of Health—in fact, the Superintendent has general supervision over the entire workings of the Settlement, under the direction and approval of the Board of Health. An assistant superintendent, usually a leper, is located at the Settlement.

A skilled physician and surgeon is a resident at the Settlement, and he has but little spare time, as the ailments of the lepers are many. His position is a most difficult one to hold, as the Hawaiians are very apt to have their own medicinemen attend them at the same time the resident physician is attempting to aid them. They will accept his remedies, but most likely throw them away, preferring the crude method of their kahuna or doctor.

There are two fine institutions, the Baldwin Home for boys (so called after the donor), and the Bishop Home for girls (also named after the donor), which, carried on in an ideal way, aid very materially in taking care of the young children.

There are Catholic and Protestant churches, also a Y. M. C. A. branch, having cheerful and suitable quarters.

There is a brass band, which very often gives public concerts for the amusement of the lepers, and every holiday is carried out in the usual manner of the Hawaiians, such as with a "luau" or feast, horse racing, and games.

The number of lepers admitted to the Settlement, from January, 1866, to December 31, 1875, the first ten years of segregation, was 1,587. The number admitted during the last ten years, ending June 30, 1903, was 888.

The largest number admitted in any one year was in 1873, when 487 were sent there; the smallest number was in 1886, there being but 43 admitted. The largest number there in any one year was 1,213, in the year 1890, and the smallest number after the first ten years of segregation was 590, in the year 1886.

At the end of June, 1903, there were 540 males, and 348 females at the Settlement, 796 being Hawaiian, 6 American, 2 English, 7 German, 49 Chinese and Japanese, and 28 of other nationality.

The present estimated population of Hawaii, including the lepers at Molokai, is 150,000, therefore the number of known lepers to each hundred of the population is one. Not knowing the length of the stage of incubation, it is extremely hard to estimate the number of lepers at large that are at the present time a source of infection to healthy people, but taking into consideration the number yearly admitted to the Settlement, and the advance condition of the disease of those taken, it is quite evident that from three to four hundred are at large. They are not a source of infection to the average inhabitant, because as soon as they realize they have the disease, they keep very close at home, or take up their abode in the high valleys and hills away from any chance of a passing stranger or police agent seeing them. Their relatives and friends supply them with food and clothing, and warn them of danger, therefore it is a very difficult matter to apprehend them.

It cost the territory of Hawaii about $116,400 per year to care for the lepers, $30,400 being paid for salaries and the balance for expenses at Kalihi and the Settlement, $86,000.

The care of lepers will soon become a national question, as it is a national calamity rather than a purely local issue. The Federal Government, with its Bureau of Public Health and Marine Hospital Service, having at its disposal well qualified and able medical men to attend to the physical wants of the lepers, and equally as well trained men capable of superintending such a Settlement, is surely better equipped to handle such serious conditions than even the Government of Hawaii, although great credit must be given this Government for the way it has taken care of its own afflicted.

During the time the Sub-Committee on Pacific Islands and Porto Rico was in Hawaii in 1902, the question of the Federal care of lepers came before it, and the greatest objections put forth by many people here, were:

(1) That the "dumping" of the mainland lepers in Molokai would be a source of discontent and at times riot at the Settlement, but here, it would seem, the fact was overlooked that the mainland lepers are equally as unfortunate and just as law-abiding as the present inmates of the Settlement, and as capable of affiliating with the Hawaiian peopl ethere, as the people affiliate with them outside the Settlement.

(2) That the Federal Government would not be as careful and considerate of their modes of living and diet, Here, again, the fact is overlooked that the Federal Government is just as humane as any local or foreign government would be in the care of their afflicted wards, and that it would as gladly furnish the Hawaiian leper his poi and fish as the present Government of the Territory of Hawaii is doing at the present time.

(3) The most serious objection would come from the Hawaiian lepers at the Settlement, supported by many of the former men who have had their care, and that is the fear that the Federal Government will segregate the sexes. At the present time

and ever since the Settlement was established the lepers have been allowed to marry, but few children have been born in consequence, as it is well known that lepers bear but few children, the male frequently becomes impotent and the female sterile, which greatly lessens the danger of bringing children into the world. If the woman becomes pregnant, it is

Perforating ulcers of anæsthetic leprosy.

no uncommon thing for her to abort as frequently as in syphilis.

Therefore, taking into consideration the fact of there being between three and four hundred known lepers on the mainland and several thousand in Guam and the Philippines, with the known conditions in

Lesions of tubercular leprosy.

Hawaii, the Federal Government will sometime in the near future awaken to the necessity, as did the Hawaiian Government in 1865, that something must be done with the lepers of our country and her colonies.

It would be somewhat of a hard task, but with the Government's usual good methods and foresight, the vexed question of segregation of lepers, even to the segregation of the sexes, and their care and treat-

Early stage of tubercular leprosy.

ment, would be accomplished for the good of the unfortunate lepers, and protection of the people from future danger of contagion.

The illustrations are from photographs of typical

Leonine facies of tubercular leprosy.

cases of leprosy as we see them at the examinations in the Leper Receiving Station. They show how far advanced the disease usually is before the sufferers are sent to Molokai. and emphasize the need of earlier segregation.

# THE DIAGNOSIS AND TREATMENT OF INTUSSUSCEPTION, WITH A REPORT OF FOUR CASES.*

By HENRY ROTH, M.D.,
NEW YORK.
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Acute intussusception forms about one-third of all varieties of acute intestinal obstruction. In children and infants it is the most common variety of obstruction. More than one-half of the cases occur in children, and fully one-half of these are under twelve months of age. The disease may be acute, subacute, or chronic. Four cases of acute intussusception came under the writer's observation in a comparatively short space of time. One case occurred in an adult and three in infants, less than one year old. All of these patients were admitted to the service of Dr. Parker Syms, at the Lebanon Hospital, and of these, two were operated upon by the writer.

The histories are as follows:

Case I.—W. M. G., age forty years, single, admitted to Lebanon Hospital February 6, 1903. Good family history; venereal history is negative. Eighteen years ago the patient had a cough and expectorated blood for two years. After that he was perfectly well up to six years ago, when he had an attack of pain and vomiting like the present one. He remained in bed for a few days and recovered without medical aid. On February 5 patient worked the entire day throwing stones out of a wagon. At 5 P.M. he stopped work and went home; while partaking of his dinner, consisting of meat and potatoes, he felt a sudden pain, dull and rolling in character, most of the pain being in the right iliac region. He had to lean against the chair and the pain became gradually worse, which compelled him to take to his bed. He could not sleep on account of the pain, and of the incessant vomiting, which began soon after the initial attack of pain. Vomiting continued all night and the next day. Bowels moved several times on the following day; he could not retain even a drop of water. During the night he was seen by his physician, who sent him to the hospital, with a diagnosis of appendicitis. When he reached the hospital his temperature was normal, pulse 88, respiration 24. On examination, a distinct mass was palpable in the right iliac region. There was rigidity and considerable tenderness over the right side of the abdomen. Abdomen somewhat distended. After admission to the hospital, bowels moved freely after a soap-suds enema. On February 7, 1903, forty hours after the first symptom appeared, he was operated upon by the writer. Under ether anæsthesia, the abdomen was opened through a Kammerer incision. On opening the peritoneal cavity, a quantity of serous fluid escaped. The appendix was found normal. On further examination a movable mass was felt, which proved to be the cæcum and ascending colon, with the ileum invaginated. An ileocolic intussusception was demonstrated, and an attempt made to reduce it. This was impossible and resection was decided upon. The ileum was divided about two inches above the neck of the intussusception, and an incision around the ileocæcal valve allowed removal of the entire mass. The ileum and cæcum were united with the aid of a Murphy button, reinforced by a row of Lembert sutures. The abdominal wound was closed, down to its lowest portion, which was drained with iodoform gauze. The intussuscepted ileum, which was constricted by the ileocæcal valve, was considerably swollen and discolored a dark brown. Attempts to unfold the mass, even after its resection, were difficult. About thirty-two inches of ileum were resected.

After the operation the patient reacted well, but complained of considerable pain. He was given nutritive enemata, which he retained. The bowels moved on the third day after the operation. On the fifth day fæces appeared in the wound. This caused considerable excoriation of the skin, and required frequent changes of dressings. The fecal fistula contracted down to a small caliber, and on March 20, 1903, an attempt was made to close it. Under ether anæsthesia, the fistula was dissected out and the gut closed with silk Lembert sutures. The patient's condition was not very good after this operation; his pulse was 120, of poor quality; vomiting was incessant; the bowels, however, moved the day after operation, and the nutritive enemata were retained. On the fourth day leakage of fæces was noticed, which continued, but the general condition improved rapidly. The fistula became smaller, and on April 29, 1903, the writer operated through an incision near the median line. With the aid of a Murphy button, lateral anastomosis was performed between the small intestine and the ascending colon. This was done to short-circuit the fecal current. The bowels moved three days after the operation, and the button passed on the ninth day. There was some leakage from the original fistula.

At the time of writing, the patient is out of bed, has some leakage, but his bowels move more freely than at any time, and his local and general conditions are improving rapidly.

Case II.—Gertrude M., four and a half months old. Native of the United States, was admitted to Lebanon Hospital February 21, 1903. An infant brother of the patient died from acute intussusception nine years ago. On February 19 the patient suddenly started to cry, and continued to do so, apparently having a great deal of pain; vomiting set in and continued. The child's bowels did not move, but it passed blood and mucus, and strained constantly. The mother, learning from past experience, recognized the acute nature of the condition, and informed the family physician. Castor-oil and calomel were prescribed, but without any result. The child became more and more fretful and exhausted. On the 21st of February the mother was advised to take the child to the hospital for operation. On examination a tumor could be seen in the region of the sigmoid flexure. On palpation a long tumor was felt extending from the epigastrium down to the region of the sigmoid and hypogastrium; the mass was freely movable. Rectal examination revealed a tumor in the lumen of the rectum, about one and one-half inches from the anus. On withdrawing the finger it was found stained with blood. Otherwise the abdomen was not distended. The child was well-nourished, was listless, and took no notice of its surroundings; pulse 146, hardly perceptible at the wrist. Temperature subnormal; cold extremities and marked cyanosis. At the most urgent solicitation of the mother, laparotomy was performed. An incision was made through the left rectus muscle. The neck of the intussusception was found in the transverse colon. The tumor was irreducible, and on account of the desperate condition of the child, an artificial anus was made, and the rest of the wound closed. The child reacted to some extent, but only temporarily, and died six hours later.

*Read before the Medical Society of the Borough of The Bronx.

Case III.—Thomas S., age four and one-half months, native of United States, was admitted to Lebanon Hospital February 26, 1903. The patient was the only child in the family, and had had no previous illness. The child was taken sick suddenly on Monday, February 23, 1903, at 6 A.M. Began to cry as if it had colic. At noon of the same day vomited for the first time. Rhubarb was given, and in the evening some castor oil. That same evening the child had blood and mucus discharges from the rectum; otherwise, was constipated. The vomiting and the bloody discharge from the rectum continued. The child was getting progressively worse, and was brought to the hospital on Thursday, February 26, 1903, in a state of collapse, with an imperceptible pulse. On examination, four days after the onset of the disease, the child was found to be unusually well developed. The abdomen was slightly distented, and no distinct mass could be felt. Rectal examination was negative. The child was apathetic, took no notice of its surroundings, and only cried feebly when the abdomen was palpated. Temperature subnormal, and pulse imperceptible at the wrist; respirations very shallow; cold and cyanotic extremities; vomiting stercoraceous material, and seems to be moribund. At the most urgent request, on the part of the mother and family physician, an operation was attempted as a desperate last resort, but could not be undertaken on account of the rapid failure of all the vital functions. The child died within a short time after admission to the hospital.

At the autopsy an ileocæcal intussusception was found, and resected.

The intussusception is about three and one-half inches in length, the cæcum being intussuscepted. Only part of the appendix is seen protruding from the unsheathed bowel. The intussuscepted bowel is much swollen and very dark.

Case IV.—Gertrude E. S., six months of age, admitted to Lebanon Hospital, April 5, 1903. The patient is an only child, and had never been sick until the present time. On Wednesday, April 1, at 6 P.M., the child was suddenly taken ill with a severe crying spell, followed soon after by vomiting of a whitish material, resembling curdled milk. About half an hour later the bowels moved, a brownish fluid being passed. A second movement occurred about fifteen minutes later, the character of the stool being similar to the first. One hour later the bowels moved for the third time, the movement this time being distinctly bloody; blood was repeatedly passed, this continuing through the following day, and all this time being accompanied by vomiting. After Thursday night the stools were very slight in quantity, and of a dark, brownish-red color. A physician was called in on Wednesday, about an hour after the beginning of the disease. He prescribed some powders which were vomited. The next morning he called again and gave a liquid preparation. This call was repeated in the afternoon. On Friday, the third day of the disease, an enema was ordered, which was expelled immediately after admission. On Saturday, at 4 P.M., a consultation was held, and an enema was given with the aid of the fountain syringe; the result being negative, the parents were advised to take the child to the hospital for operation. The patient was admitted four days after the onset of the disease.

On examination the child presented the appearance of one very sick, was apathetic, eyes sunken, and did not cry. There was complete muscular relaxation; constant vomiting of stercoraceous material. The abdomen distended, and a mass was felt on the left side, which seemed tender. Rectal examination revealed apex of intussusception, one and one-half inches from the anus. There was a constant discharge from the rectum, of a material which looked like currant jelly. Radial pulse imperceptible, temperature 104°, respiration shallow; extremities cyanosed. The child being moribund, and it being almost four days since the intussusception occurred, operation was not deemed advisable, or was it considered that it would be of any possible benefit. The child died five hours after admission, the vomiting and bloody mucus discharge from the rectum continuing to the last.

Autopsy revealed an ileocæcal intussusception, which was removed and found to be about eight inches in length.

Observation of these cases impressed the writer with the fact that this disease is frequently overlooked, or else diagnosed too late in its course. Furthermore, it seems that the importance of the surgical treatment of intussusception is not fully recognized, and that mechanical treatment is given too long a trial. The experience of the writer leads him to believe that in many cases surgical treatment is sought only as a last resort. A study of the above histories shows that intussusception in children is attended by a characteristic chain of symptoms which should lead to an early diagnosis. The diagnosis once made, should be followed by early treatment, which, in every instance, should be surgical from the very beginning. Observation of these cases in so short a time, led the writer to a study of this disease, and a review of its recent literature.

The two most exhaustive essays on the subject, in recent American literature, are those of Wiggin, in 1896, and Gibson, in 1897. Wiggin[1] reports two personal cases, and his essay is based on a study of 103 cases treated either by intestinal distention or laparotomy. In his study he observed that while English surgeons paid considerable attention to the subject, and many cases have been recorded in English literature, American journals contain a comparatively small number of scanty reports. His cases are gathered from the English and American literature, since the beginning of the nineteenth century. Of the 103 cases collected, nearly 50 occurred at the fourth, fifth, and sixth months, in almost equal proportion. Of the 39 cases treated only by means of inflation or enemata, or both, 16, or 41 per cent., recovered, and 23, or 59 per cent., died. He found 72 cases in which distention was tried, but some of these cases were subsequently operated upon. In 54, or 75 per cent. of these cases, reduction failed, and had none of them been operated upon subsequently, the mortality of the treatment by injection would be represented by 75 per cent. Sixty-four cases were treated by laparotomy; 21, or 32.8 per cent., recovered, and 43, or 67.2 per cent., terminated in death. Excluding the operations done previous to 1889 and those of incomplete operation, there are left 18, of which 14 recovered and 4 died, showing the still lower mortality of 22.2 per cent.

Gibson,[2] in 1897, read an exhaustive paper on the mortality and treatment of acute intussusception, based on a study of 239 tabulated operative cases. His deductions are based on the largest recorded number of cases, and hence, their great value. Gibson obtained most of his cases from the tables of Braun,[3] Barker,[4] Rydygier,[5] Wiggin,[1] Braun collected all the reported cases up to 1895. Some of the cases collected by this writer do not belong to the purely acute form, and were not included in Gibson's statistics. He found the presence of a bloody discharge from the rectum the

most constant symptom, and considers that when present in a young child, accompanied by the sudden onset of abdominal symptoms, it is pathognomonic. He notes fecal vomiting as infrequent, and calls attention to the fact that in general, palpation of the abdomen yields more definite data than any other form of acute intestinal obstruction. Only the cases since 1887 have been utilized for deductions concerning operations. The mortality in 149 cases was 53 per cent. The first two days show the lowest mortality, while with each succeeding day it increases steadily, and is greater than the average mortality. Of 99 cases, in which reduction was possible during the operation, 38 died, a mortality of 38 per cent., while of the 50 cases in which the reduction could not be performed, the mortality was 82 per cent., or more than double. The proportion of non-reducible cases is shown to increase steadily after the first day. In the cases in which an artificial anus had to be made, the mortality rate was 86 per cent., and in cases requiring resection it was 79 per cent., or 82 per cent. for both, that practically being the mortality rate for irreducible cases. The ileocolic variety gave a mortality of 72 per cent., the enteric, 64 per cent., the ileocæcal, 58 per cent., and the colonic, 50 per cent. Gibson calls attention to the fact that the mortality is due not so much to the tender age of the patient, as to the condition itself. He contrasts the mortality of 53 per cent. from acute intussusception, with the mortality of 42.1 per cent. from other forms of acute intestinal obstruction, and is strongly impressed with the fact that our method of dealing with intussusception must be improved upon. To reduce the high mortality earlier operation is urged, so that the cases might be operated upon while the intussusception is still reducible. Gibson considers the treatment by inflation or injection as uncertain, deceiving and dangerous, and believes that it frequently delays the favorable moment for operation. He would limit its application to one attempt under anæsthesia, in the first twenty-four hours, the patient being prepared for immediate operation should reduction be impossible. Should there be uncertainty regarding the successful reduction, laparotomy is urged. He then describes the details of the treatment by laparotomy and advises immediate incision, under chloroform and ether anæsthesia. He cautions against pulling on the intussusceptum. In the irreducible forms he finds the following methods to choose from: artificial anus, enteroanastomosis, partial resection and typical resection. The first of these methods should be resorted to only in the most desperate cases, in which the patient's condition will not permit any other measure. In gangrenous intussusceptions, resection with immediate union of the divided intestine, or resection with utilization of the divided ends for a temporary artificial anus, is recommended. Maunsell's method is commended for enterorrhaphy.

In searching the literature since 1897, the date of Gibson's paper, it will be observed that most of the cases are recorded by English surgeons, who seem to pay more attention to the subject than the American, German, or French. The greatest number of cases are recorded from England, Australia, and Canada. The same observation was made by Wiggin, dealing with the literature prior to 1896.

In 1898 Edward Martin,[7] in response to 800 communications, most of which were answered, could obtain the histories of only 54 cases occurring in the practice of various surgeons. Only 15 of these were operated upon; 2 recovered and 13 died, giving a mortality of 86 per cent. This he attributes to operations which were delayed until the time when there was no hope from any other method of treatment.

Intussusception was the principal subject for discussion in the Section on Pediatrics of the British Medical Association, at its meeting in 1901. The papers read dealt with large numbers of cases, and the deductions derived from their study are of the greatest value.

Pitts[8] based his paper on a study of 115 cases occurring at St. Thomas' Hospital from 1875 until 1900. There were 105 children under 12, of which number 36 were cured, 13 after injection of water or air, and 23, or almost twice as many, after laparotomy. Since 1897, with the exception of one seven months' old baby, all cases were treated by laparotomy. The author is in favor of immediate operation, and condemns attempts at reduction by injections or inflation.

D'Arcy Power[9] studied the cases which occurred at St. Bartholomew's Hospital and the Victoria Hospital for children from 1860 to 1890. There were observed 113 cases; 66 died and 47 recovered.

William McAdam Eccles[10] studied 96 cases which were admitted to St. Bartholomew's Hospital; of these, 63, or over 65 per cent. were in children under one year. The total mortality was 55.2 per cent. Thirty-two cases were admitted on the first day. Of these, 19 got well and 13 died. On the second day 16 were admitted; of these, 10 recovered and 6 died. Between the third and seventh day 36 were admitted; 17 recovered and 29 died, showing the increase in the mortality rate after the first day. He found that a tumor could be felt through the rectum and abdominal walls 24 times; through the abdominal walls alone, 37 times, and through the rectum alone, 9 times, or in a total of 70 cases. During the discussion he stated that early laparotomy was indicated in all cases, as it was the only certain treatment.

One of the strongest advocates of early operation was Edmund Owen, who has written a most valuable paper[11] on the subject. He points out the necessity of early surgical treatment to relieve the strangulation of the invaginated bowel. With one exception, all who took part in the discussion, were in favor of early operative treatment, and opposed to the uncertain and dangerous treatment by injections.

Clubbe[12] delivered a clinical lecture, based on the study of 49 cases, of which 4 were reduced by injection alone; 45 were operated upon, of which 24 were cured and 21 died, giving a mortality rate of 45½ per cent. It is worth noting that in the successful cases the average duration of the disease before operation was 24 hours, while in the fatal cases it was 56 hours.

Commenting on Martin's paper, Erdmann[13] says, "It has been the fortune of the author to see 4 cases within a period of four weeks' time, during February and March of this year. And 3 cases within the three years preceding, while a typical and chronic case came under his observation a number of years ago, and 2 cases, chronic in nature, and due to malignant growths, were seen in the practice of a brother surgeon during the past year and a half. In addition, 2 cases were reported to him during the first half of the year. Such a series of cases, under the observation of a single operator, tends to the belief that the disease is much more frequent than most authors admit."

Erdmann[14] reports a series of 12 cases, of which 10 were operated upon, one recovered by the use of injections, and one in which enemata had been used, no operation allowed, died. Of the 10 operative

cases, 5 died and 5 recovered, and of the deaths, 3 were cases which were operated upon as a last resort, 2 requiring resecting for gangrene, and the third one being septic from a seven days' intussusception. The cases terminating fatally were of 2½, 3, 4, and 7 days' duration when operated upon, and of these, 3 were practically moribund at the time of operation. In a foot-note the author states that since writing his paper he has operated upon 5 more cases, all under 12 months of age.

In a subsequent paper, written in conjunction with Francis Huber, he reports one other successful case, in a child eight and one-half months of age, which was operated upon in less than six hours after the appearance of the first symptoms, and made an uneventful recovery.

At a recent meeting of the Section on Pediatrics of the New York Academy of Medicine,[15] Erdmann reported three additional operations, and presented two of the patients, all three successful cases.

According to a personal communication made to the writer, at the end of May, 1903, Erdmann operated upon 23 cases. This makes the largest number of personal cases in this or any other country. Excluding the cases which required resection, all being moribund at the time of operation, the recovery rate is 68 per cent.; including all cases, the mortality rate in 23 cases is 50 per cent.

Erdmann is a strong advocate of early laparotomy, and would try injections only within the first twenty-four hours of the disease. While formerly he advocated the production of an artificial anus in desperate cases, he is now in favor of resection, which takes only a few minutes' longer. It has been shown that the results after artificial anus are extremely bad. He did not find it necessary in any of his cases to attach the mesentery to the abdominal wall. He advocates an incision through the right rectus muscle, and claims to be able to explore the entire abdominal cavity through this incision. He found most of his cases belonging to the ileocæcal variety, and in two of his recent cases found double intussusceptions.

Successful operations in children are reported by Lees and Silcock,[16] Barker,[17] Barlow,[18] Boldt,[19] Connell,[20] Kammerer,[21] Bryant,[22] Primrose,[23] Moore,[24] Morrison,[25] Price,[26] and Dowd[27]. Howit[28] observed seven cases; four were operated, all successfully; all were under six months of age. Kocher[29] operated upon six cases. In the five successful cases resection was practised; one died after an artificial anus, made on account of peritonitis, which was present. Russel[30] treated twenty-two cases in infants; sixteen were treated by operation; twelve recovered and four died. The fatal cases were of three or four days' standing, in which the condition was not recognized until late.

A remarkable experience is Riddel's,[31] who saw three cases in a family of four children. Two were relieved by operation and one died.

Case No. 2 in my series was the second in the same family. There may be more than mere coincidence in these cases.

Rigby[32] saw seven cases in nine consecutive weeks; six were operated upon, resulting in five recoveries; only one was irreducible and gangrenous.

The chronic form of intussusception is usually due to some pathological condition of the intestinal wall, such as polypus, malignant disease or a diverticulum, and occurs principally in adults. Primary, acute intussusception in the adult is comparatively rare, and it is worth noting that while intussusception in children is readily diagnosed, in adults the condition is frequently mistaken for some other condition, especially acute appendicitis, as in the first case reported by the writer.

Munro[33] reports two cases in adults, with one recovery, after resection of 32 inches of jejunum. He reviews 72 cases of intussusception in the adult; thirty-four were acute, or chronic with acute exacerbation, 33 chronic, and in five it could not be ascertained. After reduction 21 recovered and 13 died; after resection, 17 recovered and 21 died.

Boldt[34] reports a case which was supposed to be one of ectopic gestation.

Syme[35] records a case of carcinoma of the ascending colon, with intussusception, in a woman thirty-four years of age. Resection and lateral implantation of ileum by Maunsell's method, was followed by recovery.

Auvray,[36] had a case in which appendicitis was diagnosed. At the operation an intussusception was found without any other lesion.

Boldt[37] reports a similar case in a girl sixteen years old, in which the symptoms all pointed to appendicitis, including a leucocytosis of 20,000; at the operation an intussusception of the ileum was found, necessitating the resection of 56 inches of gut, which was followed by recovery. The cause of the intussusception was found to be a polypus.

Poza,[38] reports the case of a woman, thirty-seven years of age. Enteroanastomosis was performed with the aid of a Murphy button. Seven days later a large necrotic mass was passed per rectum, which proved to be 60 centimeters of small intestine, resulting in recovery, with primary union.

Lilienthal,[39] Stead,[40] Quadflieg,[41] Helbing,[42] and Gibbon[43] each report a case of intussusception in the adult.

Meyer,[44] operated upon a chronic case which was found to be caused by a round-celled sarcoma of the intestine.

Erdmann[45] and Wainwright[46] each report a case in which a Meckel's diverticulum was the cause of the intussusception. The latter case occurred in a boy seventeen years of age. He was operated upon, the intussusception reduced and Meckel's diverticulum removed, which was followed by recovery.

Von Eiselsberg[47] reports 13 cases, eleven in adults and two in children, both of them boys six and seven years of age respectively; of the adults, six were males and five females; in addition to these, he saw two infants; in one operation was declined and in the other, after an apparently successful injection, the child was taken home. There were seven chronic, three subacute, and three acute cases. Two were of the enteric, ten of the ileocolic, and one of the ileocolic rectal variety, the last being caused by carcinoma. He found polypi, strictures, and lymphocarcinoma as the primary cause in a number of his cases. Total resection and end-to-end union was practised in twelve. In one case partial, and later, total excision was practised; nine cases out of twelve were cured after resection, and he points out that in Rydygier's series of cases there were only three cures in 12 resections, and in Gibson's cases, of 45 resections, only seven were successful.

Von Eiselsberg is a strong advocate of resection and end-to-end anastomosis.

There are a number of other papers on the subject in German literature by Ludloff,[48] Prutz,[49] and Haasler.[50] They all write on the cases from von Eiselsberg's clinic, which are referred to above. Haasler points to the fact that in Germany and France very few operative cases are recorded. He studied ten cases which occurred in the Halle Clinic in the last ten years. All of them were chronic cases, which he considers comparatively common. There was not one case in a child under

one year within the first twenty-four to forty-eight hours, and he regrets that practitioners are not sufficiently on the lookout, and that surgeons are not called to see these cases often enough. In adults, a cause for the invagination can, in most cases, be found. Polypi, Meckel's diverticulum and tuberculosis of the intestine are mentioned as causative factors.

From the above, it will readily be seen that instances of successful operations are becoming more frequent. This may be attributed principally to the earlier recognition of the disease. Up to 1885 very few cases of intussusception were operated upon. In that year Braun recommended surgical treatment as being the only proper method of dealing with acute intussusception.

It may not be out of place to consider briefly the anatomical varieties of intussusception. The most frequent form is the ileocæcal, and the rarest is the ileocolic. Besides these two forms. we have the enteric and colonic. Of the different varieties, the ileocolic is the most dangerous. In this variety, the ileum is prolapsed into the cæcum and the ileocæcal valve acts as a constricting ring. It might be well to call attention to the fact that the increase in the size of the intussusception is not at the expense of the entering gut, but that which is entered. Very frequently at autopsies one or more enteric intussusceptions are found, which very likely occur during the agony preceding death.

I shall briefly consider some of the changes which occur during intussusception. The intussuscepted intestine being constricted, undergoes certain changes which are due to the obstruction in the venous circulation. As the intussusception increases, the mesentery is pulled upon, the venous channels are obstructed, and we will find venous congestion of the intussuscepted gut. Slowly the gut enlarges, and in a short time the arterial circulation is interfered with, and soon changes occur which lead to necrosis, and finally gangrene of the entire intussuscepted portion. The congestion gives rise to one of the most characteristic symptoms of the disease—bloody evacuations from the rectum. When gangrene occurs, it is usually seen first around the neck of the intussusception. These vascular changes bring about a condition which soon gives rise to obstruction and prevents easy reduction. After several hours' adhesions are formed between the various layers which make up the intussusception, and they still further act as a barrier in attempts at hydrostatic or other reduction. If unrelieved, gangrene will develop, and the entire intussuscepted portion may be cast off in one mass. Such cases are found reported, and some of them as recoveries.

It is the writer's conviction that intussusception in children *may and should be diagnosed early.* The symptoms associated with this disease are characteristic, and if we bear in mind the possibility of the occurrence of this disease, we will never fail in recognizing it. The disease usually begins suddenly and, as a rule, in children, in previously good condition. The first and most important symptom is pain. This is usually paroxysmal and colicky in nature. Soon after the appearance of this paroxysmal pain we will find vomiting, which also recurs, at first at long and later at much shorter intervals, and may become projectile in character. With the onset of the pain, a marked change in the appearance of the patient will be noted. The child will usually be in a condition of shock, which is brought about by the irritation of the terminal branches of the solar plexus of nerves. It is the same condition which we find in the beginning of most intraabdominal injuries or inflammations. This condition of shock will be characterized by an anxious expression of the face, pale skin, rapid and feeble pulse, the skin may be covered with cold perspiration, and the respiration may be shallow. In fact, the child will present the appearance of one very seriously ill. This is of great diagnostic value, because it usually occurs in children who only a few hours previously presented the picture of perfect health. Several hours after the onset of pain, there may be an escape of bloody mucus from the rectum. The child may have had a movement from the bowels which may have been blood-stained or may have absolute constipation, dating from the time of the first symptom. At times there may be no escape of blood or of bloody mucus from the rectum until a rectal examination is made, and on withdrawing the finger, an escape of blood will be noticed.

This group of symptoms is looked upon by most clinicians as being pathognomonic of the disease under consideration. After this disease has lasted for a number of hours, we will find that the vomiting and the bloody discharge become more frequent and prominent, and that the child is suffering from tenesmus; the latter symptom is most marked in those cases in which the apex of the intussusception is in the rectum. In the beginning there will be no rise in the temperature; on the contrary, there may be a subnormal temperature. If the child should now be examined, we will find that the abdomen is not distended; in fact, the abdominal walls may be found relaxed. In the early part of the disease there will be no rigidity of the abdominal walls, and during the paroxysms of pain we may observe a tumor or fulness. On palpation a tumor may be felt, and most frequently about the right iliac fossa. Many times the tumor is on the left side of the abdominal cavity, or may not be felt at all, being hidden under the lower ribs. As remarked above, if not otherwise felt, a tumor or fulness might be detected during the paroxysms; at times a tumor might be detected on bimanual examination, and in a number of cases the examining finger in the rectum may detect the apex of the intussusception. This was present in two of the cases reported by the writer.

Should the disease be allowed to go on, without treatment, the clinical picture will change, and the changes will be brought about by the occurrence of gangrene and peritoneal sepsis. While the temperature in the beginning was possibly subnormal, it will now be above normal, the pulse becomes rapid and feeble, and the appearance of the child will be like that of one suffering from peritonitis; it will be listless, show general muscular relaxation, eyes sunken and extremities cold and cyanosed, and be absolutely indifferent to its surroundings. On examination the abdominal cavity will be found distended, and there will be rigidity of the abdominal walls; in fact, the distention may be so great that the tumor will not be felt. The vomiting in the later stages becomes almost continuous, projectile in nature, and of a stercoraceous odor.

This, I believe, is a good picture of the disease, and one that ought to be appreciated when seen.

The treatment of the disease in former years was principally mechanical, by injections and inflation. The mortality from this treatment is as high as 75 per cent., as found by Wiggin. On the other hand, we find that the percentage of recoveries after operative treatment, is daily increasing, and the great majority of the patients will recover if early surgical treatment is applied. The results from early operation are very much better than they were five years ago.

In studying the pathology of intussusception we are struck by the great similarity existing between this disease and strangulated hernia; and the writer believes that mechanical treatment in intussusception has its limitations, just as has taxis in strangulated hernia. There are very few physicians at the present time who place much reliance upon taxis, and there should be just as few who advocate mechanical treatment in intussusception. There are very few who would make more than one attempt at taxis, and there should be even fewer who will try injection or inflation more than once. There are cases of strangulated hernia in which taxis at times succeeds, and similarly, there are cases in which intussusception has been reduced by injections. But this surely, should not be an argument in favor of mechanical treatment, and the time has arrived when physicians should consider both of these conditions as *surgical*, from the very beginning. And, bearing in mind that intussusception is a surgical disease, these cases should be turned over to the surgeon at the earliest possible moment, for here again, we find the analogy between strangulated hernia and intussusception. If a case of strangulated hernia is operated upon early, all that is necessary is to cut the constriction, and relieve the strangulation. Should operation be delayed, however, we may find gangrene of the intestine, which may require the formidable operation of resection. And so it is with intussusception. If the case is operated upon early, reduction will be readily accomplished, but if operation is postponed, this will be impossible, and in order to give the patient relief, a far more dangerous operation will be necessary. In fact, the high mortality rate we still have in this disease, is due either to mechanical treatment, or to delayed operations.

In studying the mortality rate in the operative cases, we will find that it increases with every additional day, and the very high mortality is due to long-delayed operations, and to operations done where reduction is impossible, and in which gangrenous intestine has been resected.

To return to the mechanical treatment of injection and inflation, we must realize that it is unscientific, dangerous, difficult, uncertain, and antiquated. From the cases which were operated upon, we learn that reduction is difficult in some of the cases, even in the first few hours; and it can be readily seen how much more difficult it is to reduce an invagination by mechanical distention by air or water. It is the writer's conviction that all cases of intussusception should be operated upon at the earliest hour, and if mechanical treatment is tried at all, it should be employed in the first twelve hours. If mechanical treatment is decided upon, an anæsthetic should be used, after all preparations have been made for a surgical operation.

Of the two methods of distention, only one is worth considering, and that is, by the injection of water. This should be done by the aid of a fountain syringe, held not higher than three feet above the level of the patient. The child should be turned upon its face, the hips raised, and the fluid allowed to run in slowly. While the fluid is allowed to run in, the abdomen should be massaged, and occasionally it may be our good fortune to feel a previously existing mass gradually disappearing. If the distention is followed by success, there will be an escape of gas and possibly fecal matter from the rectum, and if the child is allowed to come out of the anæsthesia, a most pronounced change in its appearance will be observed; the child which only a short time ago had violent paroxysms of abdominal pain, was straining and vomiting, will become quiet go to sleep, or eagerly take its nourishment. Such a result, however, is the exception rather than the rule, and frequently we are unable to state positively whether or not the invagination is reduced. In such instances an operation should be performed immediately.

Before leaving the subject, it may be well to call your attention to the fact that the greater part of the intussusception may have been reduced, but the apex of it is left unchanged, so that the condition is practically unrelieved. Many cases are recorded in which, after an apparent successful reduction, the symptoms have returned, showing a recurrence of the intussusception. We must not lose sight of the fact that mechanical distention is dangerous because of ruptures which it is liable to produce. It may be the means of perforating a beginning area of gangrene around the neck of the intussusception, and it is certainly the cause of considerable shock in an otherwise unfavorable condition.

As said above, the writer would make one attempt at mechanical treatment, and that only in the very first hours of the disease, and he takes this opportunity of adding a word of warning regarding the administration of cathartics of any kind during this disease; if administered they not only fail to relieve, but they make the condition decidedly worse. We will find that a great number of fatal cases were those which were overlooked, and those treated by cathartics.

The objection may be raised that the patients are too young to stand an operation, but it is an indisputable fact that infancy is no bar to successful operation, and that children stand operations very well.

If a case is submitted for surgical treatment early in the disease, reduction after a laparotomy will be readily accomplished. On the other hand, if the condition is not recognized early, or operative treatment has been delayed by unsuccessful attempts at reduction by injections, reduction will be difficult, even during a laparotomy, and operations, such as resection, partial or complete, entero-anastomosis or artificial anus, may be necessary. The mortality rate from the latter operations must be very much higher for the reason that the conditions which require them in themselves, are connected with a very formidable mortality.

When a case is seen within the first twelve hours and an attempt is made to reduce the intussusception by mechanical means, all preparations should be made for an aseptic and rapid laparotomy. The patient should be anæsthetized by chloroform or chloroform and ether. Should reduction fail, or should there be doubt regarding the result, and in cases over twelve hours' duration, the abdomen should be opened at once through incision in the right rectus muscle. In most instances this incision will answer the purpose. The intussusception is brought out of the abdominal cavity and an attempt made to reduce it. This is best done by pressing upon the apex of the intussusception through the ensheathing bowel. To attempt reduction by pulling on the bowel is very dangerous, and will cause lacerations of the intestine or mesentery and at times an extravasation of fæces. In early cases reduction will readily be accomplished, and after assuring ourselves that there are no other intussusceptions, the abdomen is closed in the usual manner. Where reduction is impossible on account of adhesions between the various parts of the intussusception, and the patient's condition will permit, partial resection can be done, after the method of Barker, Rydygier, or that recommended by Erdmann,[51] in which after incision of the en-

sheathed bowel, the intussusceptum is resected and the operation completed after the method of Maunsell. The writer will not attempt to give a description of these operations, as it would carry him beyond the scope of his paper. If the intussusception is gangrenous, or the condition of the patient will permit, complete resection, with immediate union of the divided intestine, may be practised. Union can be established with the aid of sutures, the Murphy button, or after the manner recommended by Maunsell. In cases of long standing, in which reduction is impossible or gangrene is present, the condition of the patient being so bad that partial or complete resection, with immediate union of the bowel cannot be practised, the divided bowel may be left open, to be united at some future time, should the patient's condition improve. In desperate cases, in which reduction is impossible, enteroanastomosis can be performed or an artificial anus made. The last two measures might improve the patient's condition, but leave the intussusception unrelieved, to take care of itself. Enteroanastomosis excludes the intussusception and relieves the obstruction, but takes almost as much time to perform as partial or complete resection, and has none of the advantages which the last two operations afford. Artificial anus is the only operation which is left for the desperate cases, which are irreducible or gangrenous. It can be performed very rapidly, though it leaves the intussusception unrelieved, and carries with it the risk or peritonitis and starvation.

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663 EAST ONE HUNDRED AND FORTIETH STREET.

## AN UNAPPRECIATED SOURCE OF TYPHOID INFECTION.*

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" . . . , *en l'obligeant à tout voir, lui permet aussi de tout dire.*"—Tardieu.

THE "scenes of confusion and creature complaint," which the American traveler beholds with such wonder at every European railway station, when the doors of an incoming express are unlocked, tempts him to patriotic self-congratulation that among the good things American not least is the railway water-closet.

A call to look after a typhoid-fever patient, on a railway train, a few years ago, first drew my attention to certain possibilities of enteric infection from these same closets which have been almost ignored by the profession.

In the case in question the railway journey was one of several hours, and the diarrhœa and straining were so constant, that, in the language of the patient himself, he had been "on the stool for a hundred and fifty miles." This peculiar standard of measurement, infection in miles, doubtless first suggested the idea embodied in this paper, viz., the infection of the road-bed of our American railways through the discharge of typhoid patients traveling over the road while in the infective stage.

The infectiousness of the typhoid stool even in the early stages when patients are well able to travel and hardly know they are ill, is well-established. The prolonged presence of the *Bacillus typhosus* in the urine of typhoid convalescents, going about, is equally well known. The fact that all American railway lines use closets which discharge all fecal matter passed on the train by passengers directly upon the road-bed, is not so generally known to medical men, but it is none the less a fact.

If these things then are true, the only chance of ultimate escape for any foot of road-bed must lie in the hope that traveling typhoid patients are rare—a hope not well-founded, as the following figures will show: In the United States six hundred million railway tickets are sold annually, representing over seventeen thousand million miles of travel, to be used on the two hundred thousand miles of railway in this country. It will be seen that the average distance traveled on each ticket, *i.e.* traveled by each passenger, is about twenty-eight miles. At this rate some seven thousand passengers, each on a twenty-eight mile ticket, would be required to cover once each mile of the two hundred thousand miles of road-bed in the United States.

But as over six hundred million passengers travel each year over this same road-bed, it will be seen that each mile will be covered in this time by over eighty-five thousand persons. How long do you suppose a road-bed, receiving the discharges of eighty-five thousand passengers annually directly upon its surface, would escape infection with such travel as this?

Further light may be thrown upon this problem by remembering that the death rate of typhoid fever for the United States is 46.2 per hundred thousand.

*Read at the annual meeting of the Virginia Medical Society at Roanoke.

per annum. As only about one typhoid patient in every ten dies, this would mean some 460 cases of typhoid each year for every one hundred thousand of population.

Now, I believe that the proportion of typhoid patients that travel, either to their homes during the early stages of infection, or back to their homes during the equally infectious stage of convalescence, is very large. Contract doctors send them away from the mines, factories, etc., once a diagnosis is made; summer resorts and other hotels show them the door even on suspicion, and when we remember that the years of typhoid susceptibility are also the years in one's life when the lust of travel burns freely in the blood, we will understand why we hear of them so often on the rail. If the proportion of sick and well on the railway is anything like the proportion of sick to well shown above, viz., four hundred and sixty typhoids to the hundred thousand of population, then with eighty-five thousand passengers to the mile, annually, we would have over three hundred and seventy cases of typhoid traveling over each mile of road in the United States each year. Would not a few years of this give almost complete infection even to a new road, and if so is there any hope that any of the old road-beds in the East, twenty, thirty, forty, and even fifty years old, as they are, could remain free from permanent infection. I say permanent infection because I believe that in the well-drained but cool and moist soil under the ties and ballast of a modern railway road-bed, baptized day after day and year after year with the albuminous fluids of human excrement, the *Bacillus typhosus* once planted, in this natural culture medium, will live forever, revitalized at intervals by new infection, perhaps, but, in the meantime facultative enough to meet seasonal and other changes and remain potent. I further believe that the old trunk lines of the United States are already infected for practically their entire length, and unless some radical change is made in dealing with railway excrement this country will ere long be threaded and traversed in every direction by long and narrow but none the less deadly zones of enteric infection, a permanent and ever growing menace to national health. Here in America, in a new land, thinly populated, we have already a death rate of 46.2 per 100,000, while England, an old country, densely populated and crowded has a death rate of only 18.0. It is too much to believe that this great difference is due solely to the peripatetic watercloset, but if the closet were abolished in America, as it should be, I feel sure that the close approach of our figures to the low English death rate would surprise us.

In advancing proof of infection of these road-beds it must be borne in mind that there is at present in every community a certain, constant, and very appreciable amount of typhoid fever which cannot be traced to any known source. For several years I have worked on these cases, when opportunity offered, and I have been myself surprised at the number in which the trail led to some recent connection with a railroad.

Infection of a long, narrow strip of earth, like a road-bed, would be expected to influence two distinct classes of persons: First, those living more or less permanently along the line of road, and, second, those usually living elsewhere, whom the necessities of travel or vocation have brought into transient or temporary contact with the road and its influences.

As regards influence upon the first class, the permanent inhabitants, we turn at once in mind to the direct infection of streams, brooks, creeks, and rivers which pass under the line of road, or as a secondary consequence to the infection of springs and wells which flow from the area crossed by the infected road-bed. The danger of this class of population must necessarily multiply with the increase in travel and contamination, but so far little or no attention has been paid to guarding against such infection by those entrusted with the care of public health. As I came to this convention, my train, with closets certainly open and, perhaps, active, crossed a river not two hundred yards *above* the point of intake for the water supply of a city of thirty five thousand inhabitants. The possibilities of an acute general infection in such a city are manifest, and it may yet perhaps have its name become a by-word and a reproach among cities, as Plymouth, Maidstone, Lausen, Ashland, etc., for all the world hears of the great epidemics. In less degree this infectious influence and this danger exists for every town, village, and farm-house along every line of railroad, and the only reason we have not found it is because we have not looked. We will travel up stream ten miles to look for a house with a case of typhoid that might have produced our infection below and ignore the railway line, which parallels the stream the entire distance, and crosses it at intervals.

But immense as the possibilities of road-bed infection may be for the people along the "right of way," a danger far more difficult to avoid and none the less potent threatens the people that travel the infected road.

It has long been observed that a journey, usually a railway journey, increases one's chances of typhoid fever. Even the laity have observed this, and the family physician has the stock explanation ready in ascribing it to "contaminated water taken in travel." For some years, with doubt in mind, I have carefully observed the filling of the railway tanks in travel, and on all roads that have any claim to be called passenger lines, they invariably fill the drinking-water tanks in the cities or towns where they can get city fire pressure for prompt filling. This being the case, why should we have more fever among those who drink this water in travel than among those who drink it at home. I know that we do have more, for any practitioner with experience in towns where railroad employees form any considerable part of the population will tell you that railroad employees are particularly prone to typhoid infection. Bearing upon this subject is the fact that traveling salesmen—"drummers"—are also prone to typhoid. Within the last year I heard the president of a large corporation, employing many salesmen, make the statement that his firm had several salesmen incapacitated with fever every fall. In spite of all this I still found it hard to believe that water which was seldom or never charged with misdemeanor at home could do all this mischief on the train.

My first ray of light came from a railroad hospital where the interne told me that "nine out of ten of our typhoid cases are track men." By track men he meant section bosses and section "hands," whose labors are directed toward keeping the road-bed in good condition, taking out old ties and putting in new, leveling up the general surface and redistributing the ballast, etc. Why did this class have more fever than brakemen, conductors, etc.; they seldom took a drink of "city water," of the kind here suspected?

The report of the United States Army Commission chosen to study the causation and methods of spread of typhoid fever in the camps of the volunteer armies of the Spanish-American war had been accepted by me as proof conclusive of the possibilities of typhoid-fever infection through contami-

nated dust, so when in one hour of summer travel I saw from an observation car four gangs of trackmen in turn swallowed up in receding clouds of stifling dust I felt that I was on the right track at last for the solution of this problem. I subsequently found that these men were exposed not only to the dust and dirt thrown up by their "billies," picks, and other tools, but every half hour, day after day, they lined up beside the track to let some train pass, and then stood choked and blinded by the dust for several minutes after it had passed. Their drinking water, obtained, as a rule, from some well, spring or stream near the track, was usually carried in an open bucket, which, with its tin cup, hangs beside the track to receive its quota of the disturbed road-bed dust. Of course the high sick rate among these track men may be due simply to the fact that their water is usually drawn from the drainage area of an infected road-bed, but if this water were the sole cause we would still look in vain for the source of the infection producing travel typhoid in drummers, train crews, etc. I am convinced that railroad typhoid is traceable to one common cause. I believe the high sick rate of the track men is due to direct infection from handling the contaminated ties, earth, and dust of the road-bed, supplemented by constant exposure to the clouds of dust raised by passing trains. It is my belief that this same dust is the unappreciated source of typhoid fever infection in railway travel, as this, and this alone will explain the facts as they exist for track men, train men, traveling salesmen, and the general public alike.

The only practical cross-tie, the wooden tie, is, unfortunately, rapidly perishable, and the whole genius of railroad construction has been directed toward creating such conditions of road-bed as will best preserve the tie. To this end the track is now always well-drained, the ties are elevated on broken stone, or if that is not available, cinders from the roundhouse or yards is used. On such a bed as this fecal matter dries very rapidly, and once dry the forces of disintegration move apace.

An examination of any section of passenger road will show two distinct forms of track pollution depending upon the type of closet used on the train. The first type of closet, usually found on "day coaches" and those doing local traffic, consists of a slightly conical metal tube with a simple seat and lid at the upper extremity and open below. There is no water used in this closet, and it delivers fecal matter and urine direct and unmixed upon the road-bed about the ends of the ties. I say about, because complaint in days past by section hands and bosses against handling soiled ties has caused the car builder to give this tube an outward turn to make it clear the track, and as this brought the open end of the tube over the truck frame or stay chains we sometimes find these tubes with a double turn, outward and forward, hence the fecal matter nearly always falls on the side of such an oblique shaft, clings there, and by the vibration of the train what naturally would infect a few rods is doled out to the track for miles, and falling in very small masses is blown all over the road-bed.

The other type of closet found—the so-called railway "watercloset"—is purely an imitation affair, intended to impress by its resemblance to the genuine hygienic type, and also to keep the cold air out of the car. These are found in the better class of coaches, parlor cars, sleepers, etc. Here the open metal delivery tube has, at the upper end, in place of the simple seat, a hinged seat and cover fitted over a bowl closed below with an old-fashioned "pan" seat. On raising or lowering the lid of the closet the pan is tilted and the excrement discharged into the open tube, at the same time water is turned on, washing the tube reasonably clean. It will be seen here that water is first mixed with the natural discharge in the pan, and then the softened mass is washed out with more water. The result of this is that such discharges sink at once into the road-bed, leaving only the spattered paper pulp to mark the place of fall. It will be noted that while both closets are deadly, in that they discharge human excrement undisinfected, upon the roadway, the watercloset type makes for the saturation of the soil of the road-bed, while the simple closet gives the superficial deposits. The latter, dried, broken, and driven by the fierce blasts which sweep the track, forms a constant and appreciable organic factor in the dust which we find ever present in travel. If now the fecal matter constituting this dust chance to be that from a typhoid patient, and containing viable bacilli, we can see that the contents of the drinking tanks and cups, the fruits, candies, and other foods upon which this dust settles become at once dangerous.

The passage of a train at high speed over the rails, even in still air, creates most violent currents and draughts, particularly close to the ties, where pilot, fire-box, and numberless brake beams skim the ground and force the air out from under the car, carrying with it not only dust but even coarse particles of cinder. A wind of fifty miles an hour could not do more for the limited area covered by the ties, and this dangerous dust, once clear of the running gear that disturbed it is swept by strong lateral currents backward to afflict most seriously the rear coaches, where we pay an otherwise justifiable premium for safety.

This is my theory of infection, and while it, to my mind, harmonizes all facts known of typhoid from Pettenkofer to Widal—I put it forward now only as a working theory to explain, not epidemics, but the steady seasonal presence of typhoid all over the land, which has never yet been explained. Over 50 per cent. of all cases of this fever occur in the months of August, September, and October—these are first of all the traveling months; they are the hot and dry, and hence dusty months; they are the fruit and ice and drink months; and this, I believe, is exactly why they are the typhoid months This question cannot be settled by simple bacteriological examination of the soil. This is so difficult as to be impossible. This question is one for the clinician and not the pathologist. As throwing some light on it, will cite the following facts:

At the University of Virginia we have between six and seven hundred students, nearly all within the age limits of prime enteric susceptibility. These students come to us in September, and remain till the Christmas holidays, when they go either to their homes or to visit some city, to return in January; a large proportion of them also make a railway journey at Easter, and yet this singular fact exists—in fifteen years we have never known the Easter holidays to bring back to us a travel case of typhoid, only once in this time have we had a case follow the Christmas travel, but in the fall pilgrimage to college (one way only) we see nearly every fall one or two travel cases, and one year—'98, I believe it was—we had three.

By travel cases I mean cases in which the first manifestations appear just about a fortnight after a railway journey. Had they been infected after arrival, there would have been found subsequently a local cause and other cases would have appeared; had they been infected earlier they would not have left home; so when two or more men, living in boarding houses widely remote and using different

milk supply, show manifestations of typhoid on the same day, and that day just about two weeks after a hot, dusty railway journey of several hundred miles. I call that travel typhoid, because I cannot but believe it was acquired in travel.

If these things be true what is the remedy? Is it to ballast the road till there is no dust? I am persuaded that fæces on the cross-tie or on the surface of the ballast is in the most dangerous site for ready infection, but the contained bacillus in such a place is short-lived, while the water-soaked fæces from the Pullman which sinks down at once through the ballast, out of the sunlight and free air to the cool, moist earth to become dry only in the late summer and fall, furnishes the condition for permanent infection. Ballast, at least, harbors the infecting agent. Is relief to be obtained from the use of crude petroleum? Dust in itself, while disagreeable, is not dangerous. Coal oil will not prevent infection of the road-bed drainage area, even if it stops the dust.

The remedy lies in a retention closet which will retain safely, and without offence to the passengers, all dejecta passed on the trip, and at the end of the trip, in some suitable and approved place, these closets can be emptied of their contents and cleaned. For the poorer roads, with mediocre equipment, a good metal-lined, dry earth box would suffice, while for the better class of roads their mechanics could, without trouble, devise a retention watercloset, using a plunger instead of a pan. Such a closet would add little weight, would give no offence to the senses of passengers, and it also could deliver its material safely at an appointed place. These things are but matters of detail—the direct deposit of fecal matter which might be infected with the organism of enteric fever, cholera, uncinariasis, or a dozen other possible sources of human contagion, on the soil daily without regard to any surroundings or consequences should be forbidden. It is a hygienic anachronism and it must go. European roads, having few or no closets on their trains, escape these difficulties at great discomfort to their passengers. We can have both comfort and safety at little expense. Infected road-beds relieved of their annual supply of new infection and natural culture media will in time be starved out, so to speak, but under present conditions the menace to health grows with time, grows with increase of population, with increase of traffic, with increase of disease, is self-perpetuating, and must be, for these very reasons, stopped.

## POINTS TO BE OBSERVED BY THE FAMILY OF A TUBERCULOUS PATIENT.

By C. P. AMBLER, M.D.
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When a diagnosis of pulmonary tuberculosis is made in a member of a family the first duty of the physician making this discovery is probably to the patient in advising him as to the course best to pursue in caring for himself and attempting to bring about a recovery. As physicians, we should listen to the likes and dislikes of the patient in so far as they do not jeopardize the health of those with whom he is to come in contact.

Frequently the patient will desire that the other members of the family are not to be informed of his condition; will, in fact, demand that the physician does not so inform them. Until the State requires notice of all cases of this disease discovered, the physician will be forced to decide whether his duty lies in listening to the whim of the patient or in taking measures to protect the other members of the family. Personally, we believe that the family should always know the facts and be thoroughly instructed as to wherein lies the danger to others.

We should take all time necessary in explaining, both to the patient and to his friends, the source of danger of infection and the means of avoiding the same. We should carefully point out that when discretion is used and directions are followed, very little danger to others exists from residing in the house with tuberculous patients, but if no regard is given to advice and directions, then there is great danger in being so situated.

Our records show that a single tuberculous patient in a family is the great exception. This does not by any means prove the heredity theory of the disease. It is easy, however, in many cases, to trace the source of infection to some other member of the family who probably died months or years before the symptoms become manifest in our patient.

To be born of tuberculous parents does not by any means imply that the child who later develops the disease inherits the same. Contact with such parent, on the part of the small child, is frequently followed by infection of the child. Very little resistance exists against infection in the young. When they are once infected, the disease may advance rapidly, or may become latent and develop only in later years of life.

It would be unfortunate indeed, and unjust to the patient, should our warning words be construed by the family as meaning that the infected member was to be looked upon as a sort of leper and shunned as such. When this occurs in a family it means that the physician has only done half his duty. He must take time to explain fully his statements. He must by no means create an aversion on the part of the family. He must seek to gain their coöperation with that of the patient. They, as well as the patient, must be made to understand that the care is used both for the advantage of the patient and for their own protection.

The coöperation of the patient can usually best be secured by showing him that he is a possible source of infection to himself, that he can infect sound lung tissue from his own sputum, if the proper regard is not given to the disposal of the same.

If physicians in general would take more time in instructing their patients and informing their families as to the source of danger, we would not have nearly so many second and third and fourth cases in the same family.

Medicines have their place in the treatment of tuberculosis, but in point of benefit to the patient, no possible medication can accomplish the good that careful, painstaking, repeated, and intelligent instruction by the physician can and will result in. Further, when a case exists in a family an ounce of prevention distributed among the members is worth many tons and years of treatment and cure.

*Disposal of Expectoration.*—The greatest danger from expectoration is that the same may become dried and be whipped or stirred up in the shape of dust to be inhaled by the patient or others. It should, therefore, always be our aim to keep the expectoration moist. If cuspidores or other receptacles are used, they should always contain liquid, preferably a strong disinfectant, while the greatest care should always be exercised by the patient to see that the expectoration is expelled into the liquid. Metal pocket flasks are convenient and are easily disinfected. The habit of expectorating into handkerchiefs is bad, and should always be discouraged. Paper napkins may safely be used if properly cared for and burned. Under no cir-

cumstances should the patients be allowed to expectorate into the open fires, grates, registers, or corners, upon carpets, rugs, or floors, or about the walks, lawns, or other similar places. Either sputum cups, flasks, cuspidores, or paper napkins should always be within reach of the patient, and should be used carefully and knowingly.

The ultimate disposal of the collected sputum should be by burning, or, after thorough disinfection, by passage into the sewer.

The insanitary, disgusting, and dangerous custom of expectorating about the lawn or over the veranda railing should be absolutely prohibited. The patient should be taught the danger of expectorating upon floors, sidewalks, or, in fact, into or upon anything except the vessel or object prepared as a receptacle for such expectoration.

When the patient expectorates at night, either sputum cups should be used or some large-mouthed vessel, containing liquid disinfectant should stand beside the bed upon a large piece of paper. The paper is, of course, burned in the morning. Napkins, handkerchiefs, and towelling should never be used for the purpose of receiving expectorated matter, and should never come in contact with the same.

*Eating and Drinking Utensils.*—It is not necessary that the patient should have separate eating and drinking utensils. All such objects should, however, be subjected to the action of boiling water after use. The patient should not use the common drinking cup or glass kept at the water cooler for the members of the family.

It can be easily demonstrated that the lips of the tuberculous patient contain upon their surface tubercle bacilli in variable numbers. This means that all objects brought into contact with his lips receive such bacilli and may be carried to the mucous membranes of others.

*Kissing.*—For the reason just mentioned, the patient should never kiss another person, especially upon the lips. Parents, in particular, are to be cautioned against kissing children.

*Foods and Breadstuffs.*—It is impossible for the consumptive to keep his hands free from bacilli. He should, therefore, never be employed in markets where foodstuffs are sold to the public, and he should not handle or prepare food for the family; especially such foods as are eaten uncooked or unwashed.

*Coughing.*—It is a fact, not commonly understood, that when a person coughs there are myriads of small globules of mucus, saliva, or sputum expelled with the expired air. This necessarily means that tuberculous patients do unthinkingly and unknowingly distribute bacilli into the air immediately surrounding them. In the open air the danger from this source is slight, but in the room it makes one of the most dangerous and difficult to overcome of any source of infection with which we have to come in contact. The breadth from the patient quietly breathing does not contain bacilli. Any one can demonstrate the danger from forcible coughing if he will but cough violently against the polished surface of a looking-glass, holding the same from a few inches to two feet from the face. Since this is true, coughing at the dining table must be prohibited, and the floors of the rooms occupied by tuberculous patients should not be covered by carpets, rugs, or mattings.

*Dust.*—Rooms occupied by tuberculous patients should be so arranged that dust floating in the air can be kept at a minimum. The patient himself should not inhale dust, and the members of the family should remember that all dust arising in apartments occupied by a consumptive is very probably a highly infected material and one of the, if not actually the most common, sources of infection to others.

*Ventilation.*—No person should sleep in a poorly ventilated room. The patient should occupy his room alone; he needs all the oxygen in the room himself and, moreover, the sleeping room of the consumptive always contains tubercle bacilli beyond the reach of disinfectants.

*Wounds or Abrasions.*—Wounds or abrasions of the skin of the healthy offer modes of entrance for bacilli. A wound (ever so small) so infected will, perhaps, never give more than slight local inconvenience, but may be the beginning of what later terminates as pulmonary tuberculosis.

*Danger to Small Children.*—We allow our little ones to creep on the floor where we walk with soiled footwear and in many homes where but slight regard is given to the disposal of expectoration. Most of these little ones are frequently putting their fingers into their mouths, sucking from them the dirt collected from the floor. Is it remarkable that intestinal diseases among children are so common? Tuberculous nodules are frequently started in the intestine of the small child in this way. Such a nodule may remain latent throughout life, or may soften and start an active general or local tuberculosis at some remote part of the body at any future time of the child's life.

*Advice to Patient by Members of the Family.*—The family should be sure that their advice conforms to that of the physician. His word should be law. Healthy individuals rarely appreciate the necessities and limits of the patient's vitality and strength. Take, for instance, the matter of walking: if the patient accompanies healthy friends, they, in the buoyance of their vigor, forget his weakness; result—the patient must bring his gait up to theirs at the expenditure of what is to him overexertion, but to them no effort whatever. The family should not "nag" the patient by always saying "don't," but should use tact and judgment, seasoned with common sense and patience.

*Public Hall and Meeting Places.*—Public halls and meeting places should be avoided by the consumptive, both for his own good and for the good of the public generally.

The slow development of tuberculosis disarms the public and the friends alike. Rarely do the friends attribute the trouble to the true source of infection. Months and years generally elapse before the symptoms become so marked as to call the attention of the party infected to the same. As a rule, the patient from whom he received his infection is long since dead, and months of good health were enjoyed since the infection occurred, hence no thought is given to the subject.

If tuberculosis were the rapidly fatal disease that smallpox is, or produced the visible disfigurement resultant from the same, we would long ago have quarantined against it. The public is always frightened at the very word "smallpox," but fails to appreciate that thousands die every year from tuberculosis where one dies from smallpox. Tuberculosis is the cause of one in every seven deaths in this country yearly.

Disinfection will do great good as a prevention, but does not compare in efficiency with care in the disposal of the expectoration.

All members of a family in which has occurred a case of tuberculosis should remember that they may have been infected at the same time the sick member was, at the same source, and that their own case may simply have been less active. All mem-

bers of such family should therefore be from time to time thoroughly examined. It is in the cases thus discovered that the percentage of cures is high. Any member of such family, discovering that he or she has a temperature record varying daily from one to two degrees between the minimum at morning and the maximum at evening, should be very suspicious of tuberculosis unless the variation is otherwise satisfactorily explained.

The head of the family should learn in detail exactly what the physician has advised about these tuberculous cases and should see that such directions are carried out carefully. All physicians should have printed directions for both patient and family to observe; and finally, if the patient does not and will not follow such directions, he should in order to protect the other members of his family, be removed from home and placed in some institution in which such cases are cared for.

We have a great duty to the healthy members of the family, and should not lose sight of the fact in advising the tuberculous patient. We can protect the healthy when we cannot save the dying.

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**The Sterilization of Catgut by Claudius' Iodine Method.**—Martina has subjected this method to a careful series of tests and reports very favorably on it. The preparation of the catgut is very simple, consisting of immersion of the gut, as it comes from the maker, in an iodine solution for eight days, at the end of which time it is ready for use. The iodine solution, in which the gut is sterilized and kept, is made as follows: One part of potassium iodide is dissolved in a little distilled water, then one part of iodine is added and the solution made up to one hundred parts with distilled water. Claudius originated the method about a year ago, and has since published the opinions of a number of well-known surgeons, which were all favorable. Martina has investigated the product obtained from all points of view and praises it highly. An elaborate series of cultures made under many different conditions showed the absolute sterility of the gut, and also that the iodine retained makes it markedly antiseptic without, however, being sufficient in amount either to produce local irritation of the tissues or involve any risk of iodine poisoning. Claudius advises that before use the gut be placed in a three-per-cent carbolic solution, but the author does not recommend this, as it diminishes the antiseptic value of the iodine. Comparative tests showed that iodine catgut possesses about one-seventh greater tensile strength than the raw material, though it gradually loses this property unless the iodine in the solution be kept up to full strength. The method, therefore, offers an extremely simple and inexpensive means of preparing gut which can be easily preserved in a sterile condition, and is not only aseptic but antiseptic. Its disadvantages are the unpleasant odor emitted by the iodine solution while exposed to evaporation during the operation, the fact that if kept together with instruments the vapor attacks these, the yellowish color the gut imparts to the hands and dressing, and the fact that it is absorbed in six to seven days so that it is not adapted to use under circumstances in which greater permanence is desired.—*Deutsche Zeitschrift für Chirurgie.*

**Observations on Auscultation in the Cardiac Region.**—Syllaba points out that the so-called Flint murmur may give rise to serious diagnostic errors unless care be taken to make repeated examinations of the patient, preferably after rest in bed and digitalis. The true Flint murmur is largely dependent on variations in blood-pressure, and when this is high, as after the administration of digitalis, the conditions for its production become much less favorable. Although patients exhibiting this sign are likely to suffer more than those without it, still it is not necessarily of bad omen, and but little prognostic information is to be derived from it. The systolic murmur at the apex frequently accompanying arteriosclerosis, and nephritis is due to a relative insufficiency of the mitral valve; when constant, an organic insufficience; when evanescent, a functional insufficience may be assumed. An important feature in the production of relative insufficiencies is the dilatation of the muscular ring about the auriculoventricular ostium; when this is enlarged, owing to ventricular hypertrophy, the valve does not receive its legitimate assistance and regurgitation follows. Thomayer's friction sound consists of a cardiorespiratory sound heard over the upper part of the sternum in old persons. It is audible during inspiration, mainly its latter half, but not during expiration. It occurs synchronously with systole. Thomayer believed it was due to inflammatory roughening of the adventitia of the large vessels just above their exit from the heart, but this has not been confirmed by autopsy. The author describes three forms of pseudopericardial murmurs. The first is due to the well-known extrapericardial pleurisy, which affects mainly the lingula of the upper lobe of the left lung. A much less common form is due to a perihepatitis of a serofibrinous nature, in which the cardiac movements cause friction sounds between the liver and diaphragm. The last resembles the first, but is due to a pleurisy affecting the mediastinal portion of the right lung.—*Zeitschrift für klinische Medicin.*

**The Arch of the Palate.**—In concluding an elaborate paper on palatal growth and development, H. L. Swain notes that it is possible by deforming processes which artificially alter the shape of the skull to produce a change in form and shape of the hard palate. Under the above mentioned conditions the septum seems to conform itself to the altered development of the rest of the face, rather contrary to our previous ideas regarding the habits of this structure. If, however, from arrested or retarded development of the superior maxilla the palate fails to descend to its proper level, a bent septum is as liable to be produced as when the palate is arched too greatly by an unnatural narrowing process. Hence a palate of perfectly normal height as compared to breadth may produce a bend in the septum. Swain also contends that in considering the various causes which produce the abnormalities of the palate, we must lay more stress upon the lack of proper aëration of the maxillary sinuses retarding their development and hence that of the whole superior maxilla. He believes that the conservation and general care of the deciduous teeth help to produce a normal horizontal curve in the hard palate and lessen the tendency to narrowing.—*The Laryngoscope.*

**The Treatment of Ménière's Disease.**—J. M. Bradley reports a case successfully treated by the use of the hydrochlorate of quinine in solution. Starting with 21 grains in twenty-four hours, it was found that by increasing to 24 grains and keeping at that point for one month, the spells were thoroughly controlled. The strength of the solution was then reduced to 3 grains to the drachm, taking one drachm in the morning, 2 at noon, and 3 at night, without the recurrence of paroxysms of vertigo. After ten days the dose was reduced to 15 grains in twenty-four hours without return of the spells. Finally the dose was reduced to 12 grains in the twenty-four hours, which thoroughly controlled the paroxysms. This dose being as small as may be given without recurrence of the spells, and still not large enough to cause an aural congestion, it will be the permanent dose, in this case, and the patient will be required to take that amount for an indefinite time. By this method of treatment the number of paroxysms was reduced from two each day to one in three months.—*Therapeutic Gazette.*

**A Cheap Method of Removing Silver Stains from White Fabrics.**—Moisten for two or three minutes with a solution of bromine 5 in water 500. Then rinse in clear water. If a yellowish stain remains, immerse in a solution of sodium hyposulphate 150 in water 500. Rinse in clear water. This formula has been found especially useful for hospitals and laundries.—*Revue Médicale de l'Est.*

# MEDICAL RECORD:

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## SOME THOUGHTS CONCERNING THE PARASITIC ORIGIN OF CANCER.

MUCH has been written during the past two or three years with respect to the parasitic origin of cancer. Clinician and scientist alike have advanced their convictions concerning the fundamental etiology of this disease. In the main the staunchest advocates of the parasitic theory have been the self-proclaimed discoverers of the causative microorganism of malignant growths. The data offered by them in support of their claims relate almost exclusively to the demonstration by various methods of the supposed microorganisms in cancer tissue. To the unprejudiced mind it is evident that the mere histological demonstration of microorganisms in malignant tissue is small proof of their etiological relation thereto. Recent advances in biology force this conclusion. Our present knowledge conclusively shows that during infection definite and, in the majority of instances, specific biological relations exist between the infecting microorganism and the tissues of the infected individual. That is to say, during infection certain substances are produced by the tissues of the infected individual. These substances are in various ways antagonistic to the infecting microorganism, and in the majority of instances to that microorganism only. They are known as bacteriolysins, agglutinins, etc. They can be obtained, although not isolated from the body tissues and submitted to experimental examination. Not alone does this invariably occur in the presence of bacterial infection. Such relations are also known to be universally present following the inoculation of various substances, such as bacterial toxins, various body cells, and many chemical compounds. Under the latter conditions there arise in the tissues of the inoculated individual antitoxins, cytolysins, hæmolysins, precipitins, etc. These facts are universally admitted by all who are competent to form an opinion with respect thereto. It is apparent therefore that he who would receive recognition as the discoverer of the causative microorganism of cancer must accomplish one of two objects, viz., (1) Produce proof in accordance with known facts relative to the biological relations existing between his microorganism and the tissues of those suffering from cancer, or (2) demonstrate that such biological facts are false. This is the more forcible since the careful pathological study of malignant tissue renders it somewhat improbable that such relations can ever be shown to exist between any microorganism and the tissues of cancer patients.

In this connection it is interesting to consider the statements of one of the most recent advocates of the parasitic theory. Feinberg announced, in the *Deutsche medicinische Wochenschrift*, 1902, No. 11, that he had discovered the causative microorganism of carcinoma. This he claimed to demonstrate in fresh carcinomatous tissue by a special staining technique. In the *Wiener klinische Wochenschrift*, 1903, No. 45, he publishes a second article on this subject. Here it is stated that this parasite is a protozoa, belonging to the special class of sporozoa. According to the researches of the author, protozoa are to be differentiated microscopically from the cells of the human and animal body essentially by the minute anatomy of the nucleus. The nucleus of the latter is made up of a nuclear membrane, a nuclear framework, a nuclear protoplasm and nucleoli. In contradistinction, the nucleus of the protozoa as a class consists of a nuclear membrane, a nuclear protoplasm, and a compact mass of chromatin substance. In the sporozoa, however, the nuclear membrane is wanting. Hence in them the nucleus appears merely as a mass of chromatin substance surrounded by nuclear protoplasm. Furthermore, the nuclei of the sporozoa and the cells of the human and animal body are different in staining reactions. By these means the author seeks to establish as sporozoa the bodies which he describes in carcinomatous tissue. This microorganism he names the "Histosporidum carcinomatosum." It is capable of vegetation only in the epithelial cell. Outside the human or animal body it exists only in the form of spores. The development of the parasite in carcinomatous tissue may be followed by the aid of a special technique. This microorganism is not capable of producing infection when directly transmitted from man to man. In order that it may produce such an infection a sporulating stage outside the body is necessary. So-called "cancer pearls" are none other than this parasite surrounded by a mass of cancer cells. The biological relations between this parasite and the tissues in general of the human and animal body are *nil*. This is so because it can vegetate only in the epithelial cell. In the presence of this parasite the epithelial cell loses its normal form, enlarges its nucleus, and becomes simpler in construction. In this way it is transformed into the cancer cell. This is not a degenerative process on the part of the epithelial cell, but an endeavor to combat the parasite. This sporozoa produces no toxin. Hence, under its influence the cancer cell undergoes indefinite multiplication. This excessive multiplication of the cancer cell reacts upon itself. From mere overgrowth it loses its vitality and degeneration occurs. Metastases are due to the direct transmission of the cancer cell inclosing the parasite from one portion of the body to another. Sarcoma is due to another protozoa. This is named the "Histosporidum sarcomatosum." It can vegetate only in the connective tissue cell. It is entirely analogous in its action to the parasite of carcinoma. In support of all of these latter statements no proof in fact is offered. It is stated that by analogy they may be assumed.

Viewed from the standpoint of strict analysis, these claims are to be separated into two subdivisions: (1) The demonstration of the supposed para-

site in carcinomatous tissue. (2) Theoretical reasoning concerning the specific etiological relation of the parasite to the disease. Observations of numerous investigators show that the data offered in support of the first contention are open to severe criticism. It is extremely doubtful whether, on the basis of minute anatomy and staining reactions, a differentiation is possible between protozoa and the cancer cell in its various forms of degeneration. Concerning this phase of the subject, however, the author's endeavors deserve no condemnation. They are undoubtedly painstaking demonstrations concerning a debatable subject. Hence they are calculated to stimulate research in a field where such is greatly to be desired. The endeavors to establish the etiological relation between the supposed parasite and carcinoma are less praiseworthy. Here no demonstrations are offered in support of the claims made. Analogy is advanced whenever it can be advantageously utilized. When this is impossible fanciful assertions are made which are in direct opposition to universally acknowledged biological facts.

No unbiased observer conversant with the situation denies the possibility of the parasitic origin of cancer. Unfortunately the arguments in favor thereof have been usually brought forward by those whose field of research is limited, when we consider the many lines along which investigation must be conducted in order that the etiology of this disease may be definitely solved. Thus the arguments hitherto advanced lack the rounded-out character which alone can command respect. They have been essentially destructive rather than constructive. For these reasons the MEDICAL RECORD has been obliged to withhold its support. The present vital need is a systematic combination of effort directed toward this protean subject. Such a necessity has been frequently emphasized in these columns. Nor alone must this be effected with respect to the individual fields of research. The pathologist, the bacteriologist, the biologist, the physiological chemist, and not less the clinician, must join issues in order that the final goal shall be attained.

## ITCHING AS CAUSE AND CONCOMITANT OF DISEASE.

IN the *Medical News* Dr. E. B. Bronson says that itching has its seat in the simple nerve endings which subserve the contact sense, which is a very different thing from the highly specialized sense of touch. Smarting and burning, on the other hand, are sensations allied to pain, and also form an adumbration of the temperature sense. That, however, the sensation of burning in causalgia is allied to itching is shown by the latter not infrequently preceding or following the attack. Pruritus may occur reflexly, as itching of the anus from ascarides in the rectum, of the end of the penis from stone in the bladder, etc. It also occurs associated with internal tumors, especially the malignant. Sometimes it occurs as a pure neurosis and may affect the distribution of a single nerve. It may be symptomatic of hysteria or neurasthenia, and it may have a psycho-sensory origin.

Whether pruritus be the first symptom or not it is always a factor aggravating the disease, and Bronson believes it is oftener than is generally supposed the primary factor. Thus in pruritus ani and vulvæ the physician seeing the case after an eczema secondary to the scratching, has developed, is apt to attach undue importance to the eczema and to look on the itching as one of its symptoms. Where an eczema is limited to these parts and is attended by excessive itching, in most cases the itching is the primary trouble. Some authorities regard kraurosis vulvæ as secondary to the scratching of the parts, and there is abundant evidence that such a sequence does exist in many inflammatory reactions of the skin. Apart from infectious conditions distributed by scratching, many pure vasomotor disturbances, with more or less decided trophic changes, arise as "scratch effects," *e.g.* "flannel eczema," and the so-called papular eczema.

In the treatment of all pruriginous diseases the relief of the itching is of the first importance. The underlying hyperæsthesia will be alleviated only when its underlying general conditions are discovered and removed. As regards local treatment, our first care should be the avoidance of all irritant contacts. The skin should be protected from changes of temperature, excessive dryness or scaliness, irritating discharges, and from scratching. In place of the last, firm pressure on the skin may be made, or the nails may be drawn with some force but not violently over it. The rationale of many of the antipruritics is their substitution of another sensation for itching. Judiciously applied when there is not too much inflammation, they often give relief. Perhaps the most generally serviceable remedy is menthol, in ointment, in oil, or as a dusting powder, but most effectively as a two to four per cent. alcoholic solution. Thymol or chloroform (the latter being especially serviceable when urticaria is present) may be added. Thymol is in some degree anæsthetic, and is especially useful in certain severe and persistent itchings, its anæsthetic action supplementing the cooling action of menthol. When applied for some time hot water is decidedly sedative, particularly in itching around the anus and genitals. Many antiseptics (notably corrosive sublimate and carbolic acid) are antipruritic and anæsthetic to the skin. Indeed, of all local antipruritics carbolic acid is the most reliable and lasting. A 25-per-cent. solution used not oftener than once a day is suited more particularly to limited areas of pruritus where inflammation is not prominent, but weaker solutions may be used over larger areas. There are no definite internal antipruritics. The bromides are not only useful, but sometimes, when there is great hyperæsthesia, indispensable. In very severe cases the cautious inhalation of chloroform relaxes spasm and has not the after-effects of pilocarpin, gelseminum, and atropin, which last in large doses will sometimes abort a violent urticaria, but is not often to be recommended. In toxic urticaria (particularly the chronic or recurrent), in which the attacks are presumably connected with toxin formation in the economy, antiseptics such as creosote or the salicylates in full doses sometimes seem of decided benefit. In simple urticaria following drugs or errors of diet, an emetic, or later a saline purge, usually affords speedy relief. In pruritus senilis harsher methods of treatment (such as vigorous rubbing) can be tolerated than in ordinary essential pruritus. Electricity (particularly in the forms of faradism and the static

electric brush) has been found especially useful. Cannabis indica internally in full doses is sometimes beneficial, and strychnine is decidedly appropriate. In pruritus hiemalis all dietetic errors should be carefully avoided, the surface (particularly the legs, where the disease is worst) should be protected from cold, and at night an antipruritic (preferably alcoholic menthol or thymol) should be at hand. Salve should be applied daily to points of excoriation liable to become the initial focus for eczema. As the skin is apt to be dry, cold cream should be rubbed in, especially after the bath. In the even more troublesome bath pruritus the bath and room temperature should be comfortably warm, only the blandest soaps, such as the superfatted Baby Soap of Eichhoff, should be used, and those sparingly. After the bath the skin should be thoroughly dried with the softest towel and the least possible friction, and a little cold cream should then be applied. Arsenic internally occasionally is beneficial. In pruritus around the anus and genitals, while search should be made for more or less distant sources of irritation and casual general conditions (lithæmia, neurasthenia, diabetes), usually more direct measures of treatment yield a quicker return. When inflammation is present, emollients (aluminum acetate solutions, simple Lassar paste without salicylic acid, with two to three per cent. of carbolic acid or with ten per cent. of orthoform, perhaps preceded by cocaine, may answer better. When itching is intense cocaine is sometimes indispensable, but it is not a good remedy for prolonged use, as continued it produces vascular atony and an increased disposition to hyperæmia. Orthoform in powder is often useful on abraded fissures of the anus or vulva. On account of the starch it contains, Lassar paste is preferable to other ointments in this region. Hot water sometimes has an excellent effect, especially in traumatic or inflammatory thickenings; the temperature may be gradually raised to 110°, and continued several minutes. The sovereign remedy, however, in pruritus ani and vulvæ is, however, carbolic acid, a single application of the 25 per cent. oil often affording relief for an entire night. Not more than one or two applications a day should be used. In some rebellious cases silver nitrate (5 to 30 grains in water or sweet spirits of niter) produces a good effect. Silver nitrate is also very useful in pruritus of the scrotum. The author passes in review the other remedies in vogue, but only to reject them.

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### The Leg and Foot in Relation to Marching.

The *Journal of the British Royal Army Medical Corps*, November, discussed this subject. The remarks of our contemporary are based upon an article written by Boigey, a French army surgeon, which appeared in *Le Caducée*, June 20, 1903. Opinions in regard to the ideal conformation of foot and leg to fit a man for marching vary considerably. Some hold that a flat foot should be almost sufficient cause to disqualify a man for service in the infantry, while others think that "spindle legs" should act as a bar to those desiring to become foot-soldiers. Boigey considers these points in their logical and anatomical aspects. He ventures the prediction that if we could see those who competed in the foot races and games of prehistoric times, we should be probably astonished with the anatomical conformations of the contestants, and yet walking or running were the main modes of locomotion in those days. Again the feet of negroes at the present time, who are notoriously good walkers, are flat. The human foot is composed of three distinct parts—the tarsus, metatarsus, and the toes. The essential feature in the foot of a good walker is width of tread. The feet of all the lower races show a much wider tread than those of Europeans, so that what is termed among us a flat foot is rather the rule with them than the exception. In other words, in respect of arching, the foot of the negro is intermediate between the highly vaulted foot of the European, and the very flat or expanded foot of the ape. To construct an ideal foot for the foot-soldier, it is necessary to critically examine the tarsus, bone by bone, both in our own race and the negroes. Thus the astragalus is more spread out in the lower races, than in the higher. In these latter the articular surfaces are comparatively small. From these characters it follows that the astragalus more fully overhangs, and is a more perfect keystone to the plantar arch in the former races than in the latter. The length of the os calcis is in direct relation to marching aptitude. It is noticeable that climbing animals have a comparatively small calcaneum, and among the monkeys, those which habitually walk as well as climb, this bone is much larger than in those who are essentially climbers. Anthony has described the apophysis of the calcaneum as the true support of the good walker, and among the lower races it is more developed and nearer the ground than among ourselves. In short, the larger and more prominent the heel, the greater is the fitness of the foot for marching. The study of the plantar arch is intimately associated with that of the angle at which the calcaneum rests on the ground. In all the lower races this angle is very small; it is greatest among adult Europeans, especially those with high insteps. The comparative study of the scaphoid in different races gives little information. Its inner border—that is, the tuberosity—is more developed and nearer the ground in the lower races; similarly the glenoid cavity by which it articulates with the astragalus is shallower in whites than in negroes. The tarsus best fitted for walking and marching is that which is firmly rigid and well-braced together by strong ligaments. It may be compared to an arch supported on three pillars, which are the os calcis and the heads of the first and fifth metatarsal bones. Its great essentials are strong plantar ligaments and the astragalus placed exactly on the summit of the arch, for it to transmit the weight of the body evenly to the three supports of that arch. One can form an idea of the right position of the astragalus in normal subjects by drawing a perpendicular line along the axis of the tibia which will coincide with the anatomical axis of the foot. In other words, if the internal malleolus and the tuberosity of the scaphoid do not overhang the inner portion of the foot the subject may be deemed well-fitted to be a good marcher.

Dr. Boigey's views are certainly instructive, and, on the whole, there is no reason to believe that he is not correct in the deductions he draws from the conformation of the leg and foot in relation to marching. The best form of foot, according to Dr. Boigey, for a foot-soldier is one in which the axis of the leg coincides closely with the anatomical axis of the foot. Prominent muscles on the calves, which are characteristic of the athletic white man, are not necessary to be a good walker. The mechanical value of a muscle must not be estimated by its apparent volume, but rather by the weight of contractile substance in this mass. The legs of negroes contain proportionately more contractile

substance than do the legs of the white, which makes the members of the black races, as a rule, very good marchers.

### Investigations into the Cause of Plague in Sydney.

Dr. J. Ashburton Thompson, the President of the Board of Health, New South Wales, who some time ago made investigations in regard to fleas as a cause of disseminating plague, has recently published an elaborate report on the subject, the main features of which are given by the Sydney correspondent of the *Lancet* in its issue of November 21. "Prefacing his reply," says the *Lancet* correspondent, "the statement that the events of the epidemic of plague in Sydney in 1902 justify and enforce the advice which was given in the report on the outbreak of 1900, Dr. Ashburton Thompson proceeds to discuss the causes of the maintenance and spread of plague. The observations of 1900 that the epidemic was not caused by direct communication with the sick, nor by diffusion of infected articles, nor by place infection, have been confirmed and amplified. The evidence in support of the theory that the rat is the sole source from which infection is communicated to man has been largely supplemented, and the attention of the authorities is now being given to determine the species of fleas which infest rats in Australia, to variations in their frequency on rats at different times and to examine into their ability to bite man. The President of the Board of Health concludes the preface to the report by emphasizing the fact that the promise of safety for the future lies neither with attempts to prevent the importation of plague-infected rats, which must fail from time to time, nor with attempts to exterminate the rats infesting the locality to be defended, which have been found to be practically impossible, though both of these measures have their valuable uses. The really safe course lies in habitually excluding rats from inhabited premises."

Dealing with the origin of the epidemic, the only hypotheses worth serious examination in the opinion of the Board of Health are the two following: Either the epidemic depended on a recrudescence of the epizootic of 1900 or upon a second epizootic set going by newly infected rats. As to the former, the health department had reason to believe that the epidemic of 1900 died out in the course of that year, but the evidence gathered was insufficient to establish the fact. Still, the recurrence was apparently too long delayed to have been a recrudescence, and the balance of evidence at Sydney appears to tell in favor of reimportation. Practically the local authorities have decided that while there is no pathological evidence that man is infected by food, there is abundant testimony that he is usually infected by inoculation, and that the agent between the rat and man is the flea.

### The Army Canteen Question.

The abolition of the army canteen, brought about by the efforts of well-meaning but misguided members of the Woman's Christian Temperance Union, has been made the subject of severe criticism in the report by General Young, chief of the staff to the Secretary of War, which has been published recently. In the course of his remarks General Young says: "Special attention is invited to the incisive comments of department commanders upon the demoralizing effect of the operation of Section 38 of the Act of February 2, 1901, which prohibits the sale of beer and light wines in post exchanges. This law has now been in operation for over two years and a half, and has been fairly tested. Reports received from officers of all grades throughout the army who have had practical experience in supervising and observing post exchanges under present conditions exhibit practical unanimity of opinion as to the evil effects of this restriction. These evil effects show themselves in increased drunkenness, increased desertion, and generally increased insubordination. In addition to these considerations of morality, discipline, and health, there is a further one advanced by the Commanding General Department of Texas, that the soldiers' rights and privileges should not be curtailed simply because he is a soldier."

The entire matter lies in a nutshell. A certain proportion of the rank and file of the army, like their fellows in civil life, will drink spirituous liquors, and if they are unable to obtain these at the canteen they will procure them elsewhere. At the canteen the products offered were of good quality, and drunkeness or excessive drinking was prohibited. In the present state of affairs, these soldiers who desire refreshment of an alcoholic nature have perforce to go outside the lines to satisfy their wants, and, in the nature of things, do not get a good article, nor is excessive drinking restricted. The consequence is, as officers of the army almost to a man unite in stating, drunkenness and vice are far more frequent than was the case when the canteen was in existence. Officers should be—and undoubtedly are—better judges as to the situation than are the women reformers, excellent though their intentions may be. Alcoholic beverages do more harm than good, and soldiers would, perhaps, be better mentally and physically if they abstained altogether. But as they will not do so, it is a question of choosing the lesser of two evils, and as the canteen has been proved the lesser, it should be reëstablished.

### The Indorsement by Laymen and Clergymen of Patent Medicines.

Dr. S. A. Knopf has recently written a pamphlet, issued by the Committee of Tuberculosis of the Charity Organization Society of New York, in which he draws attention to the frequent indorsement of patent medicines and other secret remedies by clergymen and other persons of position and prominence. The writer considers that ministers of all denominations should pause to think of the probable consequences ere they allow their names to be thus used for advertising purposes. Further, he is convinced that if they were aware of the fact that many of the advertised patent remedies contain as much as 30 or 40 per cent. of alcohol, and often other dangerous ingredients, they would refrain from indorsing the use of medicines, of whose composition they have not the least idea. Dr. Knopf also criticises in strong terms the same procedure on the part of statesmen and senators, and is especially severe on the custom of religious newspapers of lending their columns to the advertisement of nostrums and patented remedies of all sorts. The American public is ever too ready to be beguiled by the wiles of the patent-medicine manufacturer. The taking of remedies has become a second habit with a large proportion of the population of this land. It has been proved on numerous occasions that many of these medicines—witness headache powders—not only do no good but positive harm. As Dr. Knopf remarks, a large amount of alcohol is contained in many of the advertised patent remedies. It is then more than unwise of clergymen and other educated men that they should deliberately recommend the use of a remedy of whose composition

they are completely ignorant. Ministers would seem to be imbued with the belief that they are competent to judge as to the merits of a therapeutic remedy, and have even been known to be so confident in their medical knowledge as to prescribe for suffering members of their fold. It should be pointed out in the plainest manner possible that in indorsing patent medicines they exceed the scope of their duties, to the probable detriment of those who are foolish enough to be influenced by their advice. Dr. Knopf's pamphlet is strongly recommended to the consideration of clergymen, statesmen, senators, and others who are in the habit of allowing their names to be appended to laudatory advertisements of patent medicines and secret remedies.

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### The Antiseptic and Germicidal Properties of Glycerin.

Dr. M. J. Rosenau, Director of the Hygienic Laboratory of the Public Health and Marine Hospital Service, has published in Bulletin No. 16 the result of his investigations as to the antiseptic and germicidal properties of glycerin.

When working upon the bacteriology of vaccine virus, the fact became clear to Dr. Rosenau that the germicidal value of glycerin had been overestimated. The director and his co-workers, during the past two years, have made a careful study of the question. These studies were considered under three heads: (1) The antiseptic power of glycerin was first determined; that is, its property of restraining bacterial growth and the amount required to prevent putrefaction and fermentation. (2) Its exact germicidal value was determined; that is, the amount and time required to destroy pathogenic and saprophytic bacteria, both spore-bearing and non-spore-bearing varieties. (3) On account of the great importance of tetanus as a contaminator of vaccine virus, an extensive series of special studies were made to determine the effect of glycerin upon the spores of this organism.

The conclusions reached as the result of these investigations were as follows: Glycerin as an antiseptic. Small quantities of glycerin, less than 10 per cent., added to nutrient media, have well-known powers of favoring the growth and multiplication of many forms of bacteria. The presence of 50 per cent. of glycerin will restrain all bacterial growth. Less than this amount cannot be depended upon for the preservation of vaccines and other organic growths. The antiseptic power varies for the different glycerins. For instance, some restrain all growth and development when present in the proportion of 43 per cent.; others require 49 per cent. No evident growth or multiplication of bacteria takes place in nutrient media containing 32 per cent. of glycerin, but molds grow in stronger percentages., viz., 40 to 49 per cent. In order to prevent the growth and development of pus cocci at least 33 per cent. of glycerin must be present. This is more than that required to restrain the growth and multiplication of the other eighteen pathogenic and saprophytic bacteria tested.

Glycerin as a germicide: Glycerin has a distinct, though exceedingly feeble, germicidal action. It probably acts by virtue of its great affinity for water, abstracting this substance from the germ. As a rule, glycerin destroys the micrococci of suppuration, whether these be in pure culture or in the pus itself, within two weeks. This action, like that of all germicides, depends for its activity upon the temperature. Pus cocci may live in glycerin for months in the ice chest. They would die in a week at the body temperature. Glycerin seems to be a selective poison for the bacillus of diphtheria, which in all the experiments died much more quickly than any of the other organisms tested. The bacteria of the typhoid and colon group often show a marked resistance to the effects of glycerin in strong proportions. Glycerin asserts its greatest germicidal effects during the first twenty-four hours. The remaining members of the colonies which resist its action for the first period succumb very slowly. Glycerin in all proportions has practically no effect upon endogenous spores. Anthrax spores have been kept alive and virulent two hundred days in the stronger percentages and at warm temperatures.

Tetanus in glycerin: Tetanus spores in pure culture, freed of all organic matter and washed free of toxin, may lose their virulence in glycerin in thirty days at the body temperature, but they live for months at room temperature or in the ice chest. Glycerin, therefore, cannot be depended upon to purify vaccine or other organic matter containing this contamination. The virulence of the spores is lost long before they actually die, for they still retain the power of growing and multiplying if placed under favorable conditions. Under these circumstances they also regain their original pathogenic properties.

Glycerin has practically no effect upon tetanus toxin: Such toxin added to glycerin was found to be active for sixty days at the body temperature, and one hundred and eighty days at room temperature, or in the ice chest.

It may then be definitely stated that the experimental work of Dr. Rosenau and colleagues has shown the germicidal and antiseptic properties of glycerin to be but very feeble.

Other substances, such as chloroform vapor, chloretone, potassium cyanid, carbolic acid, formalin, etc., have been substituted for glycerin in the manufacture of vaccine virus, with more or less success, and as Dr. Rosenau remarks, "it is possible that one of these more energetic germicidal substances may be found to be superior to glycerin for this particular purpose in commercial practice."

Dr. John Anderson, speaking on the subject at the recent meeting of the American Public Health Association, referred to the statement of Green of England in which he said that by the use of chloroform vapor the crude pulp was freed from non-spore-bearing germs in from a few hours to seven days. While the active agent of the vaccine remained potent as long as the glycerin controls, and in six cases longer. This method of preparing is superior to the use of glycerin for the same purpose, in that, by the quick elimination of the extraneous bacteria, much time is saved. In hot countries where vaccine virus does not retain its potency for any length of time, or when, as in case of epidemics, sudden calls are made for large quantities of the virus, its composition with chloroform would render this mode of preparation especially valuable. Chloroform being of a very volatile nature, might be allowed to evaporate from the vaccine under careful aseptic precautions after being allowed to act as long as desired.

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**Apomorphine Hydrochlorate as a Sedative and Hypnotic in Acute Alcoholism.**—Dr. Paul E. Becket of New Orleans concludes that (1) strychnine counteracts the depression of the heart and respiration which follows the use of apomorphine in frequent doses. (2) It acts as well in delirium tremens as in other conditions of alcoholism, and is indicated in these cases. (3) It is better to begin with a small dose (about gr. $\frac{1}{60}$) and increase it, if necessary. —*New Orleans Medical and Surgical Journal.*

## News of the Week.

**New Hospital for the Bronx.**—The plans for the new Fordham Hospital, to be built by the Board of Trustees of Bellevue and Allied Hospitals for the accommodation of that section of The Bronx lying between One Hundred and Seventy-second street and the city boundary, have been completed by R. F. Almiral, the architect. The new hospital buildings will cost about $550,000, and will occupy four acres, to be purchased from St. John's College, at the junction of Crotona avenue and the Southern Boulevard, at which point Cambreling avenue ends. The institution will comprise a group of four buildings, so disposed that the hospital building proper faces the Southern Boulevard, on the eastern side of the grounds. The Nurses' Home will also face the Southern Boulevard. A third building, the power house and laundry, occupies the northwest corner, while on the southwest corner will stand the fourth building, comprising the ambulance barns, stables, and the morgue. The six medical and surgical wards will accommodate 150 patients, and provision has been made for two additional wings similar to those now to be built, when the growth of the city requires them. The wards are provided with fire-escape balconies, six feet wide along the rear and facing the southwest, designed for use as outside balconies by the convalescent patients. Each ward is also provided with a sun parlor at its southern end. The dormitory building for the nurses, to the north of the hospital, is 56x43 feet, five stories high, and provides sanitary accommodations for forty nurses. The first floor is taken up by a classroom, sitting room, and reception hall, which may be thrown into one by sliding doors. The morgue has accommodations for twelve bodies, and contains autopsy room, refrigerating room, undertaker's room, and a small chapel. The force system of ventilating the hospital is used. The air is first filtered through an accordion screen, and then allowed to circulate in air chambers, where it is tempered by radiators. The blower then sends the air through ducts, where it is slightly dampened and then allowed to circulate through the various rooms. Air chambers at the top of each room are provided with fans for driving out the impure air. The rooms are heated by radiators. The refrigerating machinery consists of a mechanical brine plant and an ice manufacturing machine. The entire hospital is fireproof. The partitions are of terra cotta brick with clinker concrete arches. The floors of the operating rooms are tiled, while the surgical wards have composition floors and the medical wards wooden floors. The board of trustees plan to begin construction of the new hospital early next year and to finish it, if possible, before autumn.

**The American Röntgen Ray Society** held its annual convention in Philadelphia on December 10 and 11. On the first day, Dr. Charles Lester Leonard of Philadelphia read a paper entitled "The Results of the Röntgen Method in the Diagnosis of Renal Calculus." He dwelt upon the dependence that could be placed upon the *x*-rays in this connection and related cases in which operation was abstained from on account of failure to demonstrate the presence of a suspected calculus with the aid of the *x*-ray. Dr. Clarence Edward Skinner of New Haven read a paper entitled "Two Cases of Severe *X*-ray Necrosis Presenting Some Unusual Features." Dr. Miran K. Kassabian of Philadelphia read a paper entitled "How to Obtain an Instantaneous Skiagraph of the Thorax." He pointed out that the time of exposure for making skiagrams of the lungs and the heart has been reduced to a few seconds, and he predicted their production so rapidly as to demonstrate the movement of these and other viscera in kinetographic reproductions. The advance has been due to improvements in apparatus and increased skill as the result of experience. Dr. Henry Hulst of Grand Rapids read a paper entitled "Skiagraphy of the Chest. Its Why and How." He pointed out the utility of this procedure as an adjunct to other methods of physical diagnosis, and its usefulness especially in the recognition of the early stages of pulmonary tuberculosis. Dr. William S. Newcomet of Philadelphia read a paper entitled "Pathologic Changes in Tissue under the Influence of the *X*-ray." Dr. William M. Sweet of Philadelphia, paper on "Localization of Foreign Bodies by the Röntgen Ray," and Dr. Henry Waite, one upon the "Care of the Static Machine." In the evening the President, Dr. Arthur W. Goodspeed of Philadelphia, delivered an address entitled "The Trend of Modern Thought upon the Subatomic Structures of Matter." On the second day, Dr. Henry K. Pancoast of Philadelphia read a paper upon the "Therapeutic Effects of the *X*-rays as Shown by the Results of Treatment in One Hundred Cases." He related a number of instances in which carcinomatous growths disappeared under treatment. The results were less successful in cases of sarcoma. Lupus, also, has proved amenable to the influence of the *x*-ray. Dr. John T. Pitkin of Buffalo read a paper on "Dangers to the *X*-ray Operator." Dr. Russell H. Boggs of Pittsburg read a paper entitled "Accuracy in *X*-ray Diagnosis." He reported a number of instances in which a diagnosis was made with the aid of the *x*-rays when other methods of investigation had failed. Dr. M. A. Wilbert of Philadelphia presented a communication entitled "A Comparative Study of Fractures of the Extremities." Dr. Weston A. Price of Cleveland read a paper upon "The Technique Necessary for Making Good Dental Skiagraphs." Papers were read also by Dr. Preston N. Hickey of Detroit on "The Development of the Skeleton Radiographically Considered"; by Dr. Kennan Dunham of Cincinnati, on "The Effects of *X*-rays upon Lower Animal Life"; by Dr. Gordon D. Burdick of Chicago, on "Developers," and by Dr. H. K. Pancoast of Philadelphia on "Exploding Tubes."

**Pathological Society of Philadelphia.**—At a stated meeting, held December 10, Dr. G. P. Müller presented a specimen of pancreatic calculus. The patient died in a few days after admission into the hospital, and nothing of clinical importance could be elicited. After death, however, the pancreatic duct was found occluded by calculi, and the gland itself was greatly atrophied, the islands of Langerhans being preserved. The concretions contained calcium carbonate. The condition is a rare one, and probably dependent upon an infective process. Dr. Jos. McFarland presented a case of xanthoma tuberosum. The patient was an undeveloped boy, eighteen years old, employed in a knitting mill. The condition had been present for five months, and was particularly marked in the hands, following the flexures and furrows in a striking manner. Lesions were present at the flexures of the elbows, near the axillæ, on the knees, and one on the gums below the lower incisor teeth. A full description was given of the histologic changes in a bit of excised tissue. Drs. W. M. L. Coplin and A. G. Ellis presented a cummunication entitled "Trypanosoma—Specimens of the Trypanosoma Lewisi." They traced the history of the knowledge of this parasite and of the diseases to which it gives rise, particularly in rats, in horses,

and in man, and they exhibited specimens of blood from rats caught at the Philadelphia Hospital in which the trypanosome was present. Dr. R. C. Rosenberger read a paper entitled "The Actual and Comparative Resistance of Acid-fast Bacteria to Various Reagents." Dr. D. J. McCarthy presented a communication entitled "Some Recent Contributions to the Pathological Anatomy of the Peripheral Nervous System." He discussed especially the changes in the cells of the invertebral ganglia in cases of hydrophobia, and compared them with the changes induced by other infections and toxic processes. He took up for consideration the subject of the regeneration of divided nerves, with particular reference to its bearing on the neuron theory. He also mentioned the occurrence of optic neuritis as a complication of diphtheria.

**Philadelphia Pediatric Society.**—At a stated meeting, held December 8, Dr. Ellis E. W. Given showed an infant with congenital hæmatoma of the sternomastoid muscle. Dr. D. J. Milton Miller showed a patient with congenital heart disease. Dr. J. P. Crozier Griffith showed (1) a patient with extreme cretinism; (2) a girl of four years with paralysis of the bladder; (3) a child with infectious neuritis of uncertain origin, with a report of a second case. Dr. D. L. Edsall read a "Report on Intravenous Injections of Collargol in Chorea." Dr. A. P. Francine read a paper on "Diastasis of the Recti Muscles in Rickets."

**Philadelphia County Medical Society.**—At a stated meeting, held December 9, Dr. T. L. Coley read a paper entitled "Diet in Enteric Fever." Dr. Barton C. Hirst read a paper entitled "Practical Lessons from an Experience of More than One Hundred Cases of Eclampsia." Dr. G. Morton Illman presented a "Report of a Case of Hydrophobia with Autopsy." Dr. Alfred Gordon read a paper entitled "Myxœdema Complicated by Diabetes."

**Bill to Suppress Degeneracy.**—The Iowa Society for the Suppression of Disease and Degeneracy has prepared a bill, it is said, to be introduced in the coming Assembly, providing for a physician's certificate of examination before a marriage license can be issued.

**German Physicians So Numerous that Law May Limit Their Number.**—Under special correspondence of the *Chicago Daily News*, dated Berlin, November 27, it is stated that physicians and surgeons have become so numerous in Germany that there is talk of nationalizing the profession, making doctors employees of the government, or limiting their number by law, like drug stores and saloons, according to the population of the community. Meantime a concerted movement has been set afoot for discouraging young men from studying medicine. The physician's calling enjoys unusual high respect in Germany and physicians command a dignified place in society. Largely owing to this fact the ranks of the profession are terribly overcrowded. The number of practitioners increased 12 per cent. in 1901, and another 16 per cent. in 1902, without any corresponding increase in the necessities of the people for medical treatment, or anything approaching it. There are to-day 29,200 doctors in the country, or more than double the number practising in 1876, while the empire's population has multiplied only by a sixth in the same period. The result is that thousands of German physicians are unable to make a decent living. In the most favored localities there is one physician to every 1800 inhabitants, but the proportion is far different in the cities—in Berlin, one to every 766 inhabitants; in Frankfort-on-Main, one to 814; in Breslau, one to 731; and in Munich, one to 608. It has been ascertained that 46 per cent. of the doctors in Berlin have incomes not exceeding $750 a year. About a quarter of these earn annually from $180 to $750. An eighth of the number are in receipt of doubtful incomes, while 5 per cent. have no incomes at all. In contrast to these figures, it is stated that 80 per cent. of the lawyers in Berlin earn over $2,500 a year. The system of free medical treatment maintained by the State contributes to making the lot of the German physician discouraging. He is allowed only a pittance for services rendered at the "Krankenkassen" or free clinics. It was owing to their desperate financial plight that physicians in several populous communities went on strike last summer and autumn, their object being to compel the State to raise the rate of remuneration at the "Krankenkassen," to which the masses and employed classes flock instead of hiring their own doctors.

**Great Increase in Suicides in Chicago.**—According to the report of Coroner Traeger, during the year 459 suicides were reported and investigated. Of these, 239 were of married people. Of 225 suicides who died by poison, 169 ended their lives by taking carbolic acid. Next to self-destruction, railroad accidents claimed the greatest number of victims—359. The greatest number of suicides occurred during September, reaching as high as 46. March is also a bad month for suicides, having a record of 44. The greatest number of deaths reported occurred between the ages of thirty and forty years.

**The Manufacture of Radium.**—Richard Guenther United States Consul-General at Frankfort, referring to the "Radium Industry" already developed in Germany and France, says: "Notwithstanding the difficulty in its production, a radium industry has already developed in Germany and France, and although 1 gram is sold at a little less than $2,000, the manufacturers are said to have orders for several hundred grams. The demand for medical purposes exceeds the supply. Radium possesses all the important qualities of the Röntgen rays, in addition to the invaluable property of being ready for use at any time and furnishing its rays without the employment of apparatus. It has been demonstrated that a small glass tube, not larger than a goose quill, containing a little more than a thousandth part of a gram, is as effective as an expensive and complicated electric apparatus for the treatment of cancer—surpassing the best effects of the Röntgen rays. The ease with which radium can be administered locally, as, for instance, in the nose and throat, is an invaluable advantage."

**New York Prisons Condemned.**—According to the *New York Times*, John P. Jaeckel, as President of the State Prison Commission, strongly condemned in his report to the Commission—which has recently been sitting in Albany—the city workhouse and the county penitentiary on Blackwell's Island and the condition of Sing Sing prison. His report on the Tombs prison, with the exception of the women's section in the old part, was most favorable. "Sing Sing," he said, "has been occupied eighty years. It is, therefore, plain that it has outlived its usefulness. It is an axiom that the State of New York has failed to keep pace with the advanced demands of public sentiment in the housing of its criminal classes, and has, no doubt, through a narrow and false sense of economy, tolerated a dangerous condition by continuing in service this old obsolete and inhuman receptacle in which human beings are cast to acquire disease and stimulate criminal tendencies."

**General Miles on the Liquor Feature of the Canteen.**—General Miles, talking of the canteen, recently declared that the army posts were very much better

without it. That element discarded, it would be an injury and a step backward to reintroduce it. He went on to say, "I have visited many posts the last year, and I know the conditions are better now than ever before. At one large post in the West the canteen is so well conducted that it has paid dividends of $1 a month to every man, showing that the canteen can be sustained without the liquor feature. There is no more reason for the saloon at any army post than at any well-conducted college or university."

**Red Cross Society to Aid Butler.**—Clara Barton has offered the assistance of the Red Cross to help in fighting the typhoid epidemic at Butler. A lodging house, with twenty-six bedrooms and a large storeroom in the same block, on Negley Avenue, have been offered for the Red Cross.

**Annual Report of the New York Association for Improving the Condition of the Poor.**—This report, which has just been published, shows that the association's work is constantly increasing in efficiency. A prominent feature in the work of the past year has been the care of the foundlings. The report says that under the old system, by which all foundlings were sent to the City Hospital on Randall's Island, ninety-five out of every hundred died before reaching two years of age. Under the present system, by which the association shares responsibility for their care, only twelve out of a hundred die. The report, likewise, says that the death rate among its foundlings is only 11 per cent., while that of all children in the city is 13 per cent.

**Yellow Fever in Mexico.**—It has been reported from Austin, Tex., that no new cases of yellow fever have appeared at Monterey, Tampico, and other places in Mexico for some days. Dr. Eduardo Liceaga, president of the Superior Board of Health of Mexico, has requested the Mexican Congress to make an appropriation of $100,000, to be used in combating yellow fever on the Gulf Coast of Mexico next season.

**Reports of St. Vincent de Paul Work.**—The annual meeting of the Society of St. Vincent de Paul was held on Sunday night, December 13. The reports read showed that during the year the 1,049 members of the society in the Boroughs of Manhattan and the Bronx, divided into seventy parish conferences, had made 45,578 home visits to the poor, and had given relief to 5,892 families, consisting of 21,279 persons, the total cash expenditures amounting to $62,434. The Fresh Air Committee reported the purchase of a fresh air home at Spring Valley, N. Y., where 1,200 children received a two-weeks' free outing during the season. The total expenditure for the fresh-air work during the year were $26,177.92. Reports were also received for the seventeen boys' clubs under the care of the society in the Borough of Manhattan. The Catholic Home Bureau for placing out dependent orphan children in homes reported that 252 children had been placed in good homes during the year, and that the 497 other children previously placed had each been visited by the agents of the bureau at least twice during the year.

**Diphtheria at Harvard.**—There have been six cases of diphtheria recently at Harvard University, all of which have occurred in the Mount Auburn Street district. It is denied emphatically, however, that there is any epidemic. Dr. Bailey, the college physician, believing that in each instance the disease has been contracted in Boston. One of the cases, that of a freshman, resulted fatally.

**Diphtheria at Elmira College.**—Elmira College has been closed for the holiday vacation, two days earlier than had been planned, owing to the fact that one of the students developed diphtheria.

**The Phipps Institute Lectures.**—The third lecture in the course established by the Henry Phipps Institute will be given in the auditorium of the Witherspoon Hall on Tuesday, December 29, at 8.30 o'clock P.M., by Dr. G. Sims Woodhead, Professor of Pathology at Cambridge University, England. The subject of the lecture will be "The Paths of Infection in Tuberculosis."

**Lectures on Alcohol and Opium Inebriety.**—Dr. T. D. Crothers of Hartford, Conn., professor of mental and nervous diseases at the New York School of Clinical Medicine, will deliver a course of four lectures on "Inebriety from Alcohol, Opium, and Other Narcotics," January 5 and 6, 1904, at 4 P.M. and 8 P.M., in the hall of this school, 328 West Forty-second street, New York City. The public are cordially invited to attend.

**A Crusade against Rats.**—An engineer of Copenhagen has organized an "International Association for the Diffusion of Information Regarding Injuries Caused by Rats," the object being to demonstrate the necessity of concerted action looking to the extermination of rats. Last year, by private subscription and public appropriation, a systematic campaign was carried on in Copenhagen and Fredericksberg. A bounty of three cents each was offered for dead rats delivered to the fire-engine houses. The campaign lasted from August 3 to December 9, and 103,786 of the rodents were killed. The Asiatic brown rat is, however, so migratory in his habits that it is scarcely worth while to wage a local campaign, and it is only by a general warfare that a considerable diminution in the number of rats can be brought about.

**First Aid by Railway Employees.**—The trainmen of the Chicago and Eastern Illinois road are to be given a course of instruction regarding the best method of giving aid to the injured in case of railway wrecks. The plan is to establish schools in the various division headquarters and require the trainmen to attend the lectures and demonstrations which will be given on the subject.

**Alcohol as a Medicine.**—At a recent meeting of the W. C. T. U. in Youngstown, Ohio, a resolution was passed appealing to the physicians of the city not to prescribe whiskey or brandy for their patients under any circumstances.

**Good Samaritan Hospital of Cincinnati.**—An annex to the Good Samaritan Hospital, located on Clifton Avenue, Cincinnati, was formally opened last week by a reception to the physicians of the city. The annex is more or less independent of the main hospital, and is open to receive the patients of any physician, whether a member of the hospital staff or not, who may continue to treat them while in the annex.

**Washington University, St. Louis.**—Dr. H. McC. Johnson has been appointed Clinical Professor of Genito-urinary Surgery, and Dr. E. C. Burnett, Clinical Professor of Genito-urinary Diseases in the Medical Department of Washington University, St. Louis. These appointments are made to fill the vacancy caused by the death of Dr. John P. Bryson.

**The St. Louis Medical Society** adopted a new constitution and by-laws on December 12 bringing these more in conformity with the constitution and by-laws of the American Medical Association.

**The American Association of Obstetricians and Gynecologists** will meet in St. Louis in September, 1904. Dr. Walter B. Dorsett of St. Louis is the president-elect. Dr. Potter retains the secretaryship.

**The Model Hospital** in which the sick and wounded will be cared for on the World's Fair grounds during the St. Louis Exposition, is practically finished, and will be dedicated in a few days. The building is 108x109 feet, and contains besides operating rooms, a dormitory for the matron and nurses.

**Officers of the Orleans Parish Medical Society.**—At the regular annual election of the Orleans Parish, La., Medical Society, held December 12, 1903, the following were elected for 1904: *President*, Dr. M. J. Magruder; *First Vice-President*, Dr. J. A. Storck; *Second Vice-President*, Dr. Wm. M. Perkins; *Third Vice-President*, Dr. O. Joachim; *Secretary*, Dr. S. M. D. Clark; *Treasurer*, Dr. E. J. Huhner; *Librarian*, Dr. Homer Dupuy; *Additional Members Board of Directors*, Drs. E. J. Graner, E. H. Walet, and M. M. Lowe.

**Coeducation at Munich.**—The United States Consul-General at Munich states that the Bavarian Minister of Cultus has opened the doors of the University of Munich to women on the same terms as for male students. For the present it limits its admission of women by regular matriculation to such as possess the "abituria" of a German gymnasium. American women, graduates of recognized colleges, but not possessing the gymnasial abituria, are admitted only as hearers, and although with the consent of the faculty they may pursue a regular course of study and finally come up for a degree, they have not the rights of the German students. It is hoped, however, that the authorities will eventually concede to American woman students the same advantages that are now offered to men who are graduates of recognized colleges in this country.

**Dr. Finsen Seriously Ill.**—It is announced from Copenhagen that Dr. Finsen of that city, to whom the Nobel Medical Prize was awarded recently, is seriously ill.

**An Epidemic of Measles.**—Several hundred cases of measles were reported last week at Plymouth, a mining town near Wilkesbarre, Pa.

**Marmorek's Tuberculosis Serum.**—At a recent meeting of the Paris Academy of Medicine an adverse report was presented on the consumption serum prepared by Professor Marmorek. Drs. Dieulafoy and Le Dentu stated that they had had under observation seven patients with pulmonary tuberculosis treated personally by Marmorek, and of these seven five had since died, the remaining two being unimproved.

**Obituary Notes.**—Dr. ELISHA H. BRIDGES died at Ogdensburg, N. Y., December 9, of acute nephritis. He was a member of the Medical Society of the State of New York, the St. Lawrence County Medical Society, and the Ogdensburg Medical Society. At a meeting of the latter organization, the following resolutions of respect and condolence were adopted:

"Dr. Elisha H. Bridges was one of the earliest members of the Ogdensburg Medical Society, having been associated with it since its foundation in the early sixties.

"He brought to the practice of medicine an unusually vigorous and active intellect and an unswerving devotion to his life's work, which he considered the grandest and noblest of all professions.

"His kindliness toward the younger members of the profession and readiness to aid by counsel and example especially endeared him to them. The profession in general always benefited by his thorough knowledge of medicine, quickness of perception, and lucidness of description.

"*Resolved*, That in the death of Dr. Bridges, this society and our profession of medicine have lost one of their most brilliant and honored members.

"*Resolved*, That we extend to his family our profound sympathy in this, their hour of bereavement. —W. Grant Cooper, Willard N. Bell, Walter L. Ryan, Committee."

Dr. EDWARD FRIDENBERG died of apoplexy on December 9, at his residence, 242 Lexington Avenue, in this city, at the age of forty-eight years, having been born here in 1855. He was graduated from the College of Physicians and Surgeons in 1878, and was for some considerable time house physician at the Charity Hospital, and also served as one of the medical staff of Mount Sinai Hospital. He was a member of the State and county medical societies, president of the Harlem Medical Society and a member of the Alumni Association of Mount Sinai Hospital. At a meeting of the latter society the following minute was adopted:

"Our honored president and companion, Dr. Edward Fridenberg, has passed from among us in the fulness of life and activity. We recall with pride the fame he had achieved in the practice of his profession, and the esteem in which he was held by his patients. We recall his unusual kindness, his generous courtesy, his sweet companionship, his broad fairmindedness, his remarkable breadth of character, his great love of humanity, and above all, his great love for children. His culture and his love of the beautiful dominated his life and thought. His qualities made his life an example which we shall always cherish.

"A copy of this shall be sent to the family and to each of the New York City medical papers.

"SAMUEL M. BRICKNER, M.D.
"EDWIN STERNBERGER, M.D.
"WILLIAM H. LUCKETT, M.D."

Dr. CORNELIUS N. O'LEARY of 560 West One Hundred and Thirty-third street was killed by a motor train at New Utrecht Avenue and Fifty-seventh Street, Brooklyn, on Saturday night, December 12. He was removed, on the following day, to the O'Leary residence, where the funeral services were held on December 14. Dr. O'Leary was born in Ireland, and at the time of his death was sixty-four years of age. After having graduated from the College of Montreal, he attended the University of the City of New York, and graduated from the medical department in 1862. Upon the death of his father in 1864 he succeeded him as professor of philosophy and classics at Manhattan College. In 1870 he was connected with the Board of Health in the capacity of inspector, and resigned that position to become a commissioner of pharmacy. Dr. O'Leary was a writer of some note.

Dr. WILLIAM H. HOLMES of Orange, N. J., died at his home in that city on November 30, at the age of sixty-nine years. He was a graduate of the College of Physicians and Surgeons in the class of 1857, and had practised in Orange for nearly forty years. During the Civil War he served as assistant surgeon in the navy.

Dr. JOSEPH M. HARCOURT died at his home in Brooklyn on November 30, at the age of eighty years. He was born in Ireland, but came to this country over fifty years ago. He was a graduate of the New York University Medical School in the class of 1874.

Dr. ISRAEL B. WASHBURN of Renssalaer, Ind., died in Valparaiso on December 11. He was a graduate of Rush Medical College in the class of 1861, and served as surgeon in the army during the Civil War. Two years ago he was operated upon for gallstones, in Chicago, but the results were unsatisfactory, and another operation was decided upon. This was done, and upon opening the abdomen the operator discovered, near the liver, a forceps, about five inches in length, which had been overlooked during the toilet of the peritoneum after the former operation. Dr. Washburn died a few hours after the second operation.

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

MEDICAL COUNCIL—COLLEGE OF SURGEONS—EPSOM COLLEGE—OOPHORECTOMY FOR PAIN—COMA IN MEASLES—PERNICIOUS ANÆMIA—SPEED OF NERVE IMPULSES—GUY'S HOSPITAL—INCURABLES—CHARITY ORGANIZATION—MR. ABBOTT'S RESIGNATION—ANTIVIVISECTION RESULT—OBITUARY NOTES.

LONDON, November 27, 1903.

THE General Medical Council met on Tuesday and is still sitting. The proceedings so far are not likely to interest you much. The president opened with another of his lengthy statements of what has passed since the last meeting and what is to be done at this. Most of the past occurrences are familiar to all, and those of chief interest I have told you about at the time they happened.

The Dublin Apothecaries' Hall proposes to resume the preliminary examinations it formerly held. The secretary of that body has asked the Council to pay the travelling expenses of its inspectors, but as the act directs the corporations to pay, the Hall will ask in vain for such relief. The president thought that perhaps an inspection might be less frequent than heretofore.

The two royal colleges decline a conference with the Council on their differences. On the invitation of the Board of Education, Sir J. Tuke and Dr. MacAlister were appointed to represent the Council at a conference on the question of "leaving examinations" at schools taking the place of many preliminary examinations.

The Friendly Societies' Alliance has intimated an intention to oppose the Council's Disciplinary bill in Parliament. The Pharmaceutical Society's bill will contain a clause protecting all existing rights of medical practitioners. The subject of death certificates has to be more fully considered, and the Council will press the importance of the subject on the government. Besides all these matters, the finances of the Council have to be discussed, and the judicial duties which have already consumed much of the time of the session must be completed.

The annual meeting of the fellows and members of the Royal College of Surgeons was held on Thursday. The resolutions were passed, and will no doubt prove as useless as heretofore. This conviction is probably the reason that so few members attend to reiterate their claims. At one time the discussions were so uninteresting that many left the room, and some had to be sought for in the corridors and asked to come back to keep a quorum.

Yesterday Lord Roseberry presided over a meeting of the Governors of the Royal Medical Benevolent College, at which it was resolved to change the name of the institution to "Epsom College." The school has long been popularly known by the short title, now made the legal appellation. It has been felt that the word "benevolent" was a distinct disadvantage and really meaningless for a great school such as Eton, Harrow, and others, and which accommodates 500 boys with fifty foundation scholarships for sons of medical men. Lord Roseberry, as president, takes great interest in the school, and very strongly recommended the change. He wondered that the college had prospered so well under such a name. It was as absurd as it would be to add the adjectives to Eton, which had seventy foundation scholars. Having dropped the encumbrance, he prophesied that the change would mark a new era of prosperity and he knew Epsom College deserved it.

The epidiascope is being freely used for demonstrations at societies. Some instances I have already mentioned at the last meeting of the Gynæcological Society, the president (Dr. Heywood Smith) showed with it a section of a large fibroid tumor in a state of calcareous degeneration from a sterile married woman, still menstruating, though fifty years old. The tumor was so permeated with calcareous matter that there was considerable difficulty in making sections.

Dr. Bedford Fenwick, by the same means, demonstrated sections of ovaries removed from a young woman for pain persisting for ten years in both ovarian regions. She made no other complaint, but there was loss of weight, increased weakness, frequent sleepless nights. She was carefully observed for five weeks in the hospital. Then, as a last resource, Dr. Fenwick did laparotomy. Both ovaries seemed scarcely enlarged. The left had some adhesions round it, the right was quite free. To operator and to Dr. Stevens, who assisted him, they were healthy to all outward appearance. But remembering her ten years' suffering and the results of some half dozen other cases, Dr. Fenwick removed both. From the second day after, she has been free from pain and rapidly gained flesh. The sections of these healthy looking ovaries showed that they were literally riddled with cysts, so that little ovarian tissue remained. Moreover the stroma and capsule appear condensed and thickened.

The question of removing ovaries for the one symptom of pain naturally arises. Out of hundreds of cases of severe pain Dr. Fenwick said he had only had the courage to remove five or six ovaries, but in all these cases which were extreme ones marked thickening of the capsule and cystic degeneration were found. In every one the pain was relieved permanently. In one the patient was also cured of maniacal attacks brought on by her pain.

Dr. Parsons, Dr. Hodgson, and the president agreed that the operation was justifiable. The first thought the pendulum had swung too far toward conservatism, and sometimes the surgeon held his hand when operation would cure. Dr. Hodgson mentioned a case of cure after seventeen years of acute suffering, though he had been reluctant to operate, as in one case of the kind the pain did not absolutely disappear. The president on this point said pain did in some cases persist, and suggested the inclusion of a nerve in the pedicle might account for it, but he believed the pain generally disappeared after a time.

Dr. Fenwick, in reply, admitted that he had hesitated to bring forward the case, but he agreed that the tendency was now not to operate so often as used to be done. His patient was only twenty-seven. He had watched her in hospital for five weeks before operating. She is now dissatisfied that she had not been operated on earlier.

Coma in the course of measles is certainly rare, and when it occurs is usually fatal. Dr. Newton Pitt communicated a case to the Clinical Society at the last meeting, which ended in recovery. The patient was a young man of nineteen. On the fifth day of his illness he became noisy and violent, on the seventh collapsed and comatose. There was more or less coma for four days, and for months afterward his memory was defective. Dr. Pitt looked upon the case as due to a local encephalitis, which cleared up and left only a temporary amnesia. Out of 200 recorded cases of hemiplegia in children eleven started in measles. Other cases more or less similar were related in the course of the discussion. It would appear that coma occurs more frequently than might be supposed in children but far more rarely in adults. Bronchitis, or other complication, may precede the coma. Sometimes the rash is delayed, or scanty, supporting a popular belief that a full rash is a favorable symptom.

Dr. Wm. Pasteur then related an unusual case of pernicious anæmia in a man of twenty-four years, who had to leave his work three weeks before admission, on account of weakness and breathlessness. Nearly all the characteristic blood changes were absent, but the case ran a rapid course, ending in death in seven weeks. Double hemorrhagic retinitis was noted. Sections of the liver, spleen, and testes gave the Prussian blue reaction, and chemical analysis showed the iron in the liver amounted to six times the average, exceeding that in the spleen.

Dr. W. Hunter said the sudden onset and rapid course with absence of usual blood-changes suggested a septic origin, and Dr. Norman Dalton related a similar case in which he had found a fistula leading from the gums to the palate. Dr. Pasteur replied that he had not detected any septic focus in his case, and based his diagnosis on the liver and spleen changes found after death.

Dr. Alcock read a paper last week before the Royal Society, in which he reported that in a series of experiments as to the time occupied by nervous impulses in traveling between the brain and extremities. The time being measurable, he wished to determine whether the rate differed in tall and short men. He examined some varying from 1758 millimeters to 1930 (say about 5 ft. 4 in. to 6 ft in height) and found the rate in both about seventy yards a second. So he reckoned, in the journey between the brain or toe, the time occupied would show a difference from the $\frac{1}{100}$ to the $\frac{1}{180}$ of a second. From the elbow to the wrist he calculated the difference as $\frac{1}{1000}$ of a second. The experiments were made by Waller's method, and so far support the popular belief that little men exhibit quicker actions than taller men.

A history of Guy's Hospital, well illustrated, has been issued by the managers, which will, perhaps, help their appeal for funds. The extensions are traced from 1724, when Thos. Guy founded it and endowed it with £220,000. The first building cost £18,000. Nearly a century later William Hunt left it £180,000, on condition that the accommodation for patients should be increased. Much of the money was invested in land, and the depreciation of that security is well known. In 1886 a sum of £100,000 was subscribed to tide over the bad times which, it was fondly hoped, would not continue long. In 1895 Mr. Gladstone's appeal was made and led to the Prince of Wales (now King) becoming president. In 1901 a further appeal for £180,000 produced £103,000, and now a still larger sum is required.

The Duke of Connaught presided recently at a dinner in aid of the Hospital and Home for Incurable Chil-

dren. In an eloquent appeal he spoke of the interest of Queen Alexandra in every effort for the relief of suffering, and Her Majesty's intense love of everything affecting the well-being of children. For this institution, continued His Royal Highness, more room, more air, improved nursing are required, and to carry out the new buildings a sum of £12,000 is necessary, of which half has been promised. Before leaving the chair the Duke intimated that £5,400 had been subscribed in the room, leaving only £600 to complete the sum appealed for.

The secretary of the Charity Organization Society (Mr. C. S. Loch) read a paper in which he proposed the establishment of a board which should associate all our charities and supplement, perhaps supplant, the system of outdoor relief. A registrar and inspector of all charitable institutions was suggested to coördinate them and bring about administrative unity. Perhaps Mr. Loch would prefer the appointment thus proposed to the secretaryship of the Charity Organization Society. There was some little discussion of his project chiefly directed to eliciting more definite information. No resolution was passed.

Mr. F. C. Abbott is retiring from the assistant surgeoncy of St. Thomas's Hospital—much to the regret of his colleagues. He suffers from that curious condition called night-blindness, and as that interferes somewhat with the duties of an operator, he thinks it well to give up his post and devote himself to some other branch of surgery. His case cannot but excite sympathy and good wishes for his success in private practice.

Dr. Bayliss intimates that he will devote the £2,000 awarded him as damages to further physiological research in University College. So the antivivisectionists have the satisfaction of endowing their aversion.

Dr. G. E. Yarrow, until recently a deputy-coroner in Middlesex, died on Wednesday. In addition to many medical diplomas, he was a barrister-at-law, and so highly qualified for the coronership and the numerous medical and sanitary offices he had held. He was for many years superintendent of the City Lying-in hospital, surgeon to the Royal Maternity Charity, and to a division of the police. He was a past president of the Society of Medical Officers of Health, a D. P. H., and had been superintendent of the City Road Workhouse, and served on the Holborn Board of Guardians. He contributed to the journals on Midwifery, vaccination, and allied subjects.

Surgeon-Major H. de Tatham, who died on the 25th inst., in his sixtieth year, took his M.R.C.S. in 1865 and M.R.C.P. in 1877. He served in India, and was Examiner in the University of Bombay. He accompanied the Abyssinian Expedition (1867-8), for which he received the medal.

Surgeon-General A. J. Dale, M.R.C.S. (1852), died on the 24th inst., after four years' illness, aged seventy-three. He served in the Afghan war (1879-80) and retired in 1886.

Fleet-Surgeon Gilbert Kirker died in Hasler Hospital on Tuesday. He was one of the staff, and while performing an operation on Friday pricked his finger. Septic poisoning ensued. He was M.D., R.W.I., 1876; M.R.C.S., Eng., 1877 He entered the navy in 1879. Served as surgeon on the *Iris* during the Egyptian war of 1882, and was awarded the medal and the Khedive's bronze star.

Inspector-General Pottinger died on the 16th inst. in his eighty-sixth year. He qualified in 1838 and entered the navy the next year and saw much service in China, was at the capture of Amoy, and later at the bombardment of Bomarsund. He held the China and Baltic medals.

## GONORRHŒA IN WOMEN.

To the Editor of the Medical Record:

Sir: The letter of Dr. G. S. Scott of Lampoc Cal., in the Medical Record of the 21st ult. was very instructive and suggestive. As the doctor wrote, it is a common error to examine the vagina instead of the urethra in looking for gonorrhœa in woman. He stated that at the moment of penetration the male and female urethræ come together, that such contact is unavoidable. Somewhat in confirmation of this, Garrigues, in his late work on the "Science and Art of Obstetrics," makes this surprising statement: "The writer has repeatedly examined women who, although they had been married for years to apparently strong men, presented untorn, strongly resisting hymens. Sometimes there is an abnormal laxity of the urethra, so that the examining finger of the gynecologist and the male organ during copulation find less resistance there than at the entrance of the vagina, the result of which is, that copulation takes place in the urethra and the bladder." The expression, "Where ignorance is bliss 'tis folly to be wise," may have arisen upon such discovery.

It may be that the gonococcus is abundant in its normal habitat, like the colon bacillus in its, but does not give trouble except under certain circumstances, and from the fact that it is enclosed in pus and epithelial cells, it is often overlooked. The chemical reaction of the vagina is acid. The micrococcus gonorrhœæ seems to flourish on alkaline surfaces, or such as are approximately such, the urethra, the uterus, the Fallopian tubes, and the eye usually bearing the brunt.

In proportion to the number of exposures to the virus—for to the woman it is like a virus—on the part of the male, is the likelihood of a contraction of gonorrhœa. This accounted for the fact that two men may have intercourse with the same infected woman and one contract a virulent clap, and the other escape. One has intercourse several times with her, while the other only once. Doctor Garrigues' observation reminds us of what was anciently taught concerning the uterus, that it receives the penis.

It is possible that the penis does occasionally enter a subinvoluted uterus, or the uterus whose os is softened by gonorrhœal, or other inflammation.

It may be that this sometimes accounts for the cases of gonorrhœa which are obscure as to origin. Physiologically the os has been seen to open under the influence of the sexual orgasm. The present teaching is that the penis goes up behind the cervix, but its excursions are doubtless aberrant.

Thos. R. Evans, M.D.

Fayette Co., W. Va.

## Progress of Medical Science.

*The Boston Medical and Surgical Journal, Dec. 10, 1903.*

**Albuminuric Retinitis.**—Allen Greenwood declares that it is plain that the prognosis afforded by the discovery of albuminuric retinitis in cases of chronic kidney diseases is very grave, and that life is rarely prolonged more than three years. It has been noticed that cases occurring in the better classes live the longest as a result of better hygienic surroundings and care. The writer believes that as we learn more about the body metabolism in such cases and can give them the best diet, and hygienic treatment, we shall be able to retard the progressive decline and materially lengthen life. How much capsulotomy may do in these cases will be told in the future.

**General Peritonitis Complicating Scarlet Fever.**—John H. McCollom and John Bapst Blake, in their paper on this subject, present the following suggestions concerning treatment: If the signs of peritoneal infection are slight in degree and extent, palliative measures alone, such as enemata, turpentine stupes, and rectal feeding, will suffice. If, however, the pulse steadily rises, and pain, tenderness, and spasm increase, the indication for drainage is imperative. The condition of the kidneys is the most definite contraindication to operation, and whenever possible, cocaine should be substituted for ether. The operation should consist of a rapid cœliotomy, thorough irrigation with hot salt solution, and drainage. Unless there are definite local symptoms the incision should be in the middle line. To favor drainage, hot, moist dressings frequently changed are desirable. Salt solution under the breast and by rectum and water by mouth if the patient is not vomiting are all definitely indicated. Stimulation should be free, but alcohol may be contraindicated by the nephritis. Caffeine, strychnia, and digitalis may be used energetically. The prognosis is always grave.

**Rupture of the Tendon of the Extensor Longus Pollicis; Tendon Transplantation.**—C. L. Scudder and W. E. Paul report the case of a woman who fell in such a way that a blow from a stone step partly severed the extensor longus pollicis tendon without external wound. Three weeks later muscular effort completed the rupture of the tendon with immediate loss of function. The first phalanx could not be extended. If the first phalanx moderately flexed and abducted was grasped by the observer the terminal phalanx could be flexed and feebly extended at will. The metacarpal bone could be extended, abducted, and flexed with nearly normal range. For this patient the extensor longus pollicis subserved almost wholly the function of extension of the first phalanx on the metacarpal bone; and the extensor control of the second phalanx was reinforced by other muscles, probably the abductor and short flexor of the thumb. It is likely that in this patient the brevis functioned chiefly as an abductor of the thumb. This case gives support to the opinion that the extensor longus pollicis is the more important of the extensor muscles of the thumb, and perhaps second to no single muscle of the whole hand in functional value. Moreover, according to the writers, the extensor brevis pollicis acting alone has very feeble extensor control over the first phalanx.

*Journal of the American Medical Association, Dec. 12, 1903.*

**Non-Tuberculous Hemorrhages of the Air Passages.**—L. Page discusses hemorrhages due to acute febrile diseases, hemorrhagic diathesis, syphilis, and local causes, such as

septal conditions, tumors of the nose, pharynx, and larynx. Concerning syphilis he says that in the primary and secondary stages hemorrhages are very rare. In the tertiary and hereditary forms they are much more frequent and are often very severe. It would seem that syphilis would play a most important rôle in the production of hemorrhage from the respiratory tract on account of its predilection for these parts and the destructive changes which are so often wrought here by this disease. It seems that the ulcerative processes rarely invade the blood vessels in syphilis.

**Two Cases of Paratyphoid Infection: One Caused by an Aberrant Organism.**—The cases are reported by G. B. Smith. The first case was that of a man aged fifty-eight years, with a moderate fever, frontal headache, abdominal pain and tenderness; no rash. On the ninth day of treatment he had two intestinal hemorrhages. One week later he began to improve, and was discharged two weeks thereafter. At no time was a positive Widal obtained. Various bacteriological tests were made of blood taken from the arm. An organism was isolated, resembling in morphology the B. typhoid. It had no capsule, was not sporogenic, stained unevenly with anilin dyes and was readily decolorized by Gram's method. It was motile, but more sluggish than the B. typhoid. A second case is also referred to with the isolation of a bacillus resembling that from the first case, but presenting certain differences in reaction.

**The Limitations in the Use of Aconite and Veratrum Viride.**—W. B. Hill states that the primary action of these remedies is stimulation of the peripheral nerve endings; causing a tingling sensation, produced either locally or systemically; stimulation of the vasomotor mechanism, resulting in arterial constriction and slight diuretic effect; powerful stimulation of the respiratory center. The secondary action is paralysis of the over-stimulated peripheral nerves, causing anæsthesia; pronounced depression of the heart, which is augmented by the effect on the vagus; lowering of the bloo-dpressure; and reduction of temperature, which is due at least partly to increased evaporation from its diaphoretic action. The therapeutic indications, then, are to relieve pain, reduce temperature, promote diaphoresis, slow the heart, and reduce blood-pressure; but as the analgesic properties of the aconite are not manifest until after the appearance of the secondary or toxic symptom of the drug, it is a dangerous remedy to use, and we have such remedies as phenacetin, which is more powerful and less dangerous. As a diaphoretic it does not compare with Dover's powders or pilocarpin. As an agent to slow the heart it is far inferior to digitalis, strophanthus or spartein, as they slow the heart by lengthening the diastole, thus favoring the recuperation of that organ. The author does not believe that in our present knowledge of the causation of disease we are justified in using them merely for the reduction of fever.

*Medical News, December* 12, 1903.

**Hysteria.**—William B. Young presents the following summary: We must look to the unconscious impressions of infancy and childhood for the etiology of hysteria. The disease primarily is purely a psychosis. The pathology, the writer believes, is located in the adrenal system. The treatment for hysteria *per se* should be psychical. Suitable resorts should be erected for properly treating and caring for the afflicted among the poor. By such treatment hysteria would soon be on the decrease, instead of on the increase, as it has been for years.

**The Home in Its Relation to the Tuberculosis Problem**—William Osler, in his valuable paper on this subject, states that early recognition of tuberculosis can come only from better methods of practice and greater attention to the art of diagnosis. He sums up the essentials of home treatment of consumption in the small towns, country places, and suburbs of our large cities: First, the confidence of the patient, since confidence breeds hope; secondly, a masterful management on the part of the doctor; thirdly, persistence—benefit is usually a matter of months, complete arrest a matter of years, absolute cure a matter of many years; fourthly, sunshine by day; fresh air night and day; fifthly, rest while there is fever; sixthly, breadstuffs and milk, meat and eggs.

**Some Practical Suggestions on Physical Education in the Public Schools.**—Richard Cole Newton calls attention to the fact that medical inspection should not cease with contagious diseases, but should extend to the examination and record of the physical condition of every scholar. The age, height, weight, and lung capacity, and the condition of the teeth, eyes, ears, method of breathing—whether oral or nasal—should be observed and recorded, and a copy of the record should in every case be sent to the parents and to the family medical adviser. At least once in three months this examination should be repeated and the results carefully recorded and compared with the record of three months before, and these reports should go to the parents just as regularly and faithfully as the reports of scholarship. The writer suggests that a number of teachers of the ornamental and superfluous branches may be dispensed with, and the money now used for their salaries spent in hiring the necessary medical inspectors and in buying more apparatus.

*New York Medical Journal, December* 12, 1903.

**The Administration of Antitoxin in Diphtheria by the Department of Health During 1902.**—J. S. Billings, Jr., gives elaborate tables and presents the following conclusions: There is no longer any doubt as to the curative action of antitoxin in diphtheria. Of 15,792 cases injected with antitoxin furnished free of charge by the department of health or by its inspectors, 1,860 died, a case fatality of 11.8 per cent. If the cases moribund when injected (722 in number) are deducted, the case mortality is further reduced to 7.5 per cent. The one fact, important if not new, brought out in this report is the great advisability—the almost imperative necessity—of the earliest possible administration of antitoxin. Of 1702 cases injected on the first day of the disease, only 85 patients died (including moribund cases), a case mortality of 4.9 per cent.

**Some of the More Infrequent Causes of Obstruction of the Common Bile Duct.**—L. J. Hammond relates a series of case histories which go to show that simple lymphatic infection brought to the lesser peritoneal cavity from organs and tissues remote from it, is a cause of some cases of obstruction of the common bile duct; wherein treatment by cholecystotomy and prolonged drainage are all that is required to bring about perfect recovery. Of course, the obstructive lymphatics, with adhesions caused by the infection, must invariably be removed at the time of operation. We should always expect to find in this type of cases obstruction to the duct of Wirsung, as it is at the junction of the common bile duct with the pancreatic that compression obstruction, due to lymphatic enlargement, has been found. We shall, therefore, meet with many cases in which annoying hemorrhage will accompany jaundice due to pancreatic obstruction, and unless guarded against by preparatory treatment will prove troublesome, if not fatal, at the time of operation.

**A Case of Poisoning by Hyoscine Hydrobromide.**—The patient of F. Krauss was a girl of fifteen years with eye-strain, but no serious changes in the eye-ground. To relax a spasm of accommodation which seemed to be present, the author prescribed a solution of the above-named drug, two grains to the ounce, two drops to be instilled into each eye, twice daily. Only one instillation was made, but four hours later the patient began to talk incoherently, suffered from hallucinations of sight, constantly moved her hands as if picking things up, and threw all the furniture and fittings of her room into the greatest disorder. She continued in this state for about four hours, after which she fell asleep and awoke in a few hours as well as ever. Accommodation was normal three days later. The instillations had been made in the evening, and the author states that the first instillation of a mydriatic for the purpose of refraction should be made during the daytime, preferably the morning, instead of the evening, the time usually selected by our patients. A delirium occurring thus in the middle of the night might readily be followed by some fatal secondary accident.

*American Medicine, December* 12, 1903.

**Infections of the Knee-joint.**—I. R. Trimble reports a few cases of infection of the knee-joint, and declares that a most careful diagnosis should be made in all instances of inflammation in or about the joint. When a purulent inflammation is present in the joint it should be opened early in the disease, and means taken to prevent the formation of pockets of pus. In this manner, both the lives and joints of many patients may be saved. A joint that has been injured and infected is liable like an infected appendix, even if it recovers for the time, to be the seat of future trouble. While it is not possible to remove the source of the trouble, as is done in the case of the appendix, yet, by suitable surgical treatment, the likelihood of recurrence of the trouble may be reduced to a minimum.

**Address on Hernia.**—John B. Deaver states that, from the clinical standpoint, hernia is usually classified as reducible, irreducible, inflamed, obstructed, and strangulated. The exceptions to the radical cure he makes as follows: In children under four, in the hope that time will remedy the defect in the abdominal wall. He believes that the percentage of cures in these children who wear a truss, is perhaps two-fifths. In adults, the subject of serious organic lesions of the heart, lung or kidneys, or in those very fat individuals, in whom the intestine and omentum are adherent to the sac. In adults over sixty,

when the hernia can be held in place by a truss. Irreducible hernia is always to be considered as a dangerous condition, even without symptoms indicating that strangulation has taken place. An incarcerated hernia is also a very dangerous condition. In operating on strangulated hernia the writer performs the radical cure in all cases in which such is practicable. The writer then discusses operations for this trouble from various points of view.

**The Relative Importance to the Community of Pneumonia and Tuberculosis.**—Arnold C. Klebs concludes: (1) That the relative economic importance of pneumonia and tuberculosis cannot be estimated by a mere comparison of total mortality figures for each disease. (2) That the apparently high mortality figure and its increase of late, for pneumonia, is produced by the enormous death rate and its increase attributed to this disease, in early childhood. (3) That, therefore, the high mortality from pneumonia and, to a certain extent, its increase is due to a classification of different ill-defined pathologic conditions under one name, while that from tuberculosis represents that of a well-defined morbid entity. (4) That for this reason, and on account of the relative shortness of disabling sickness and frequent recovery in pneumonia, the great length of disabling sickness and infrequent recovery in tuberculosis, the relative importance of the two diseases is so vastly different that a comparison on economic grounds reveals the overpowering danger from tuberculosis. (5) That the steady decrease of the tuberculosis death rate can be explained on the grounds of increasing improvement of hygienic conditions in late years and as the result of specific prophylactic measures. (6) That the increase of the pneumonia death rate, occurring in a time of improving hygienic and sanitary conditions and of a general application of antiseptic principles, shows its independence of these features. (7) That, therefore, and in view of the still enormous mortality from tuberculosis, its demonstrated preventability and the possibility of its arrest only in its earliest stages, the institution of educational measures in regard to personal and public hygiene widely and specifically applied, for the prevention of this disease, seems to be distinctly indicated. (8) That since for pneumonia, as pointed out by E. F. Wells, "the fundamental information on which prophylactic rules may be formulated is not yet at hand," this subject needs further investigation from a bacteriologic and epidemiologic standpoint as well, before "exaggerated and irrational notions in regard to its dangers and its avoidance" are communicated to the public, which, in view of the facts given, are out of all proportion.

*Deutsche medicinische Wochenschrift, November 26, 1903.*

**The Etiology of Membranous Dysmenorrhœa.**—Gottschalk had occasion to observe a case of this nature for a number of years, and thinks he has discovered the cause of the disease. The various theories which have ascribed it to inflammatory conditions, etc., have not been accepted, but the author has found a condition of widespread venous thrombosis in the vessels of the expelled mucous membrane. This makes its separation by a process of dissecting hemorrhage easy to understand, and the sections sufficiently indicate that the mechanism is analogous to that causing premature expulsion of the placenta. The cardiac weakness causing sluggish circulation is at the bottom of the matter, and the author's case was completely cured by treatment directed to the heart after the usual gynecological methods had failed. That the condition was cured was proved by the occurrence of conception.

**The Treatment of Acute Otitis Media.**—Heine reviews the arguments of the two schools of aurists, one of which, headed by Zaufal, seeks to restrict the performance of paracentesis as much as possible, condemning it as unnecessary and meddlesome, while the other adheres to the views of Körner, and believes paracentesis indicated on the first or second day. The author advocates a middle course, though he considers the operation frequently a life-saving measure, and cites a case terminating fatally in which the patient allowed three weeks to elapse before seeking medical assistance. Paracentesis is to be performed immediately if the presence of retained secretion is suspected, owing to bulging of the drum membrane, and at the same time fever and pain are present. If this triad of symptoms is incomplete each case must be judged on its merits. The patients are put to bed with warm applications, but if the pain becomes severe, sleep is lost, or there is tenderness over the mastoid, the membrane should be punctured.

**The Indications and Results of Talma's Operation for Atrophic Cirrhosis.**—Lenzmann believes that the ascites of cirrhosis is to a large extent due to the cardiac insufficiency rather than to portal obstruction through the new growth of connective tissue. Talma's operation by diminishing the ascites enables the digestive organs to functionate more perfectly, general nutrition is improved, and the heart is strengthened and enabled to maintain the circulation, so that a recurrence of the fluid accumulation is rendered less likely. He reports a case in which the operation combined with fixation of the spleen has apparently effected a complete cure. His indications for the operation are: (1) Cases in which a distinct contraction of the liver has not yet taken place, but evidence of portal congestion, such as ascites, is already present. (2) Cases in which atrophy and ascites are both present, but the absence of extensive loss of liver function may be assumed. Jaundice absent or but slight. Unsuitable cases are those: (1) in which extreme jaundice is present. (2) Cases of urobilin jaundice. (3) Cases in which hemorrhages, delirium, etc., indicate extensive abrogation of the bile-forming function of the liver.

*Berliner klinische Wochenschrift, November 23, 1903.*

**Heroin as Anaphrodisiac.**—Becker has found that heroin has marked anaphrodisiac properties, and recommends its use in such conditions as chordee, satyriasis, and after operative procedures on the penis to avoid erections. In contradistinction to Strauss, who has found the remedy useful as an anodyne in painful affections of the genito-urinary tract, the author does not ascribe any analgesic power to it. The dose must be rather large to produce anaphrodisiac effects; viz., one to two centigrams, but as its effect is a protracted one it can be given with frequent intermissions, thus avoiding the toleration which is apt to result on habituation.

**The Avoidance of Disturbances of Parturition after Vaginifixation.**—Dührssen has observed seventy-nine cases in which no disturbance of pregnancy followed vaginifixation, and believes that such never occur when the operation is performed strictly according to his description. The two points of greatest importance are to perform the fixation high up on the uterus with a single stitch of silkworm gut and to suture the incision in the vesico-uterine fold of peritoneum. Done in this way the operation affords permanent correction of the malposition and may be undertaken in women in the childbearing period without apprehension. Not only do pregnancy and labor proceed to an uncomplicated termination, but previous sterility and habitual abortion observed in a number of the cases reported were relieved by the operation.

**Psychiatry and the Side-chain Theory.**—Alter suggests that Erlich's side-chain theory may be made applicable to the study of certain nervous diseases. Ceni has been able to demonstrate in the blood of epileptics bodies which he calls autocytotoxins, and progressive paralysis also affords a promising field for similar investigations. In epilepsy the course of events is particularly suggestive of the phenomena postulated by the side-chain theory. The specific toxin of the disease is formed within the body from sources still unknown and is set free in the blood. Its tendency, like that of tetanus toxin, is to attack cells of the central nervous system, and having combined with these by means of its haptophore, the toxophore becomes active, the cell protoplasm is attacked and damaged, and an epileptic seizure occurs. The aura represents the incubation period of ordinary infections and corresponds to the time required for the union of haptophore and receptor. During the interval between attacks the haptins are combining with the haptophores and neutralizing the toxin until the latter predominates, when the cells are attacked and another seizure occurs. A somewhat similar line of reasoning may be applied to the phenomena of general paralysis, though the details are still unknown.

*Münchener medicinische Wochenschrift, November 24, 1903.*

**Cow's Milk as Infant's Food.**—Soxhlet rehearses the many difficulties underlying the production of a satisfactory artificial infant's food and points out the great inferiority of even the most carefully prepared substitute as compared with mother's milk. But such careful preparation is impossible in ordinary practice, and the results of carelessness are apt to be serious. The question has heretofore been treated mainly as one of providing a suitable albumen substitute, but it is largely a matter of the fatty constituents. The effort to attribute the superiority of mother's milk to obscure biological features, such as the existence of various ferments, etc., is far-fetched, and the proper composition, cleanliness, etc., of the natural secretion are sufficient to explain its advantages.

**Therapeutic Attempts with Fluorescent Bodies.**—Tappeiner and Jesionek, in a preliminary report, describe very encouraging results in the treatment of lupus, carcinoma, condylomata, and specific primary lesions by means of a

combination of eosin and sunlight. The observations that infusoria were killed by sunlight in the presence of various fluorescent bodies which were harmless in the dark, led to an investigation of the action of these substances on enzymes. The results showed that the specific properties of all the saccharifying and peptonizing enzymes examined were almost or quite destroyed by the combination of sunlight, and even very dilute solutions of fluorescent bodies, while the same agents were without effect in the dark. Different fluorescent bodies were found to possess different degrees of this property; thus cells were acted upon by æridin, eosin, chinolin red, hæmalin, quinine; only esculin was inactive. Toxin was strongly affected by eosin, fluorescin, and magdalared, the others were less effectual. Diastase, papayotin, and invertin were susceptible only to eosin, chinolin red and magdalared. For the therapeutic experiments eosin was chosen as being the most widely applicable, and was painted on the ulcerated areas in 5 per cent. watery solution. At the same time the lesions were exposed to the sunlight as much as possible, and in default of this to the electric arc light. Though no complete cures have yet been attained, the processes of growth were in all instances inhibited and repair begun.

**Estimation of the Pressure in the Right Auricle.**—Gaertner describes a procedure by which the hydrostatic pressure in the right auricle may be simply and accurately measured. If the arm be allowed to hang by the side till the superficial veins are distended, and it is then slowly raised, it will be found that at a certain point, which is constant for every individual, the vessels collapse completely. This point corresponds to the level of the right auricle, and the distended vein furnishes an accurate manometer. Observations on patients showed that any condition causing congestion of the right heart raised the point of collapse considerably, the range of increased height being from nine to thirty-seven centimeters above the normal. The method of making the observations is as follows: The patient should stand erect, or if unable to do this, should sit on the edge of the bed with the feet hanging, and a suitable vein, which is found to collapse readily, should be selected on the hand or forearm. Warm applications or muscular movement serve to make the vessels stand out more prominently. The arm is slightly flexed on the elbow and the upper arm gradually raised from the side of the body, the forearm remaining nearly horizontal, till collapse of the vein is noted. The vertical height of the vein at this moment above the level of the upper border of the fifth rib at its junction with the sternum expressed in centimeters forms a means of indicating the intra-auricular pressure. The degree of congestion can thus be determined and measured for comparison during different stages of the illness and to control the treatment. It also forms a quick and easy method of determining the existence of cardiac or respiratory disease when large numbers of patients have to be examined for this purpose.

*French and Italian Journals.*

**Antituberculous Serum and Vaccine.**—Alexandre Marmorek claims that with his serum he has had cases of undoubted cure of tuberculosis and of laryngitis in the early stages. In osseous, ganglional, and vesicular tuberculosis great improvement has been noted; pleurisy has disappeared under repeated injections—in one case as many as fifty-two were required. In Pott's disease there have been several very successful results, the purulent foci having cicatrized completely. Hectic fever is often allayed by injections of antituberculous vaccine.—*Archives Générales de Médecine*, November 24, 1903.

**The Action of Adrenalin on the Blood.**—M. Loeper and O. Crouzon find that the ingestion or the injection of adrenalin produces certain effects on the blood, some of which are the following: Hyperglycæmia, diminution of the blood ferments, increase and then dimunition of the number of red corpuscles, lowering of the amount of hæmoglobin. The number of the hematoblast is greatly raised; leucocytosis is, as a rule, very marked, especially when Addison's disease is present, or when the capsule has been removed. This leucocytosis is at first polynuclear, but rapidly becomes lymphoid with slight eosinophilia.—*La Tribune Médicale*, November 21, 1903.

**The Elimination of Formaldehyde.**—F. Gianilli concludes from his experimentation on animals that formaldehyde is not found in the expired air, nor in the urine, nor has it been demonstrated in the tissues. He considers the special reaction used by Filippi and Motolese and supposed to demonstrate unmodified formaldehyde in the tissues and in the lachrymal secretion to be non-conclusive, (*a*) because the lachrymal secretion may even normally give a reaction which simulates that of formaldehyde, and (*b*) because the reagents used may give the formaldehyde reaction by its own combinations.—*La Riforma Medica*, November 18, 1903.

**The Interruption of Pregnancy During the Course of Internal Diseases.**—G. Zagari holds that in diseases of the heart it is usually advisable to terminate pregnancy. If there be compensation, a first pregnancy may be allowed to go on, unless symptoms of lack of compensation appear and do not subside. In multiparæ, if life has been threatened in a previous pregnancy, or if a long course of medical treatment has previously been undergone to overcome the cardiac condition, pregnancy must be interrupted. It is also to be terminated in cases of mitral stenosis, myocarditis, fatty degeneration, a complicating nephritis, tuberculosis, grave anæmia and carcinoma.—*Rivista Critica di Clinica Medica*, November 21, 1903.

**Gangrenous Appendicular Abscess.**—P. Bégouin reports two cases of a rather unusual form of abscess of the appendix, in which the walls as well as the contents of the sac are black, and infected—in short, completely gangrenous. This gangrene appears to be secondary, due less to the virulence of microbes than to the organic asthenia of the patient. Both of these patients were over sixty years of age, one was a sufferer from albuminuria, and had had two slight attacks of apoplexy, and the other was extremely delicate and feeble. In the beginning the appendicitis seemed to be of the usual type, and even of a benignant nature. Suddenly pain, fever, and vomiting disappeared, but the patients instead of improving were restless and nervous, complained of extreme weakness, and then passed into stupor. Surgical treatment is of course the only resource, but offers little hope of success.—*Journal de Médecine de Bordeaux*, November 22, 1903.

**The Treatment of False Whooping-cough.**—M. Capitan says that any naso-pharyngo-laryngeal irritation may, in persons with an excitable, nervous system, give rise to a cough identical with that of pertussis. Pharyngolaryngeal grippe and tracheobronchial adenopathy are especially liable to induce this cough. In the former case, in addition to the usual treatment for grippe, give the following powder three times a day: powdered terpene, gr. 0.25; benzoate of soda, 0.25; bromhydrate of quinine, 0.20; antipyrin, 0.25. In addition the throat may be gargled frequently with a ten-per-cent. solution of sodium chlorate. The same treatment will be of service in tracheobronchial adenopathy, but it will be best to give the patient one or two teaspoonfuls a day, in a little beer, of the following: Distilled water, gr. 50.00; iodide of potassium, 2.00; iodine, 0.60.—*La Médecine Moderne*, September 30, 1903.

**The Blind as Masseurs.**—I. Matignon urges the adoption of this vocation by the blind, citing the example of the Japanese, among whom it is practical almost entirely by persons thus afflicted. Sight is not necessary for effectual work in this line, providing the operator be familiar with the muscular system and know the art of massage thoroughly. Sweden, Switzerland, and Belgium are following the example of Japan in this respect, and the author describes a class meeting held in Brussels by Prof. G. Daniel for the instruction of about twelve blind persons. Four theoretical lessons are given at the beginning of the course, as to the value of massage and its application. The fifth lesson is devoted to a study of the skeleton, the sixth and seventh to the muscles which move the various portions of the body. Each pupil palpates the muscles on a human subject. The following lessons concern massage itself, and are continued until the pupils are individually well versed in the art. They are then admitted to practice in the clinics and perfect themselves in the vocation by means of which they are afterward enabled to earn their living.—*Journal de Médecine de Bordeaux*, November 22, 1903.

**The Circulation of the Cephalorachidian Fluid.**—P. Cathelin concludes from his investigations that this fluid has a circulation in the same way as the lymph coming from the blood, and returns to the blood by means of the lymphatic vessels. A schema shows (1) the rich afferent blood vessels to the choroid plexuses, *secretory glands*. (2) The arachnoid sac, canal of discharge and reservoir, but not excretory canal. (3) The perivascular sheaths, falsely called lymphatics, which open into the fluid, and serve as connection between the two circulations. (4) The paravertebral lymphatics and their ganglia, by means of which the profoundly modified cephalorachidian fluid returns to the receptaculum chyli and into the thoracic duct to go with it to the left subclavian vein and the stream of the general circulation, and finally to return to the choroid glands by their afferent vessels. The mechanism consists of many factors—the constant pressure of the fluid, the arterial pulsation of the subarachnoid—pia matrian vessels, the expiratory movements, the different positions taken by the body and weight. This circulation is the slowest of all, but, according to the author, is a well-

authenticated fact.—*La Presse Médicale*, November 11, 1903.

**Typhoid Fever in Nursing Infants.**—René Forget says that the clinical diagnosis of this affection is extremely difficult, the only reliable symptoms being a continued fever, without predominant localization, meningeal symptoms, and slight diarrhœa. If to these signs are added the lenticular rose spots, we may affirm that typhoid is present. Its presence in other members of the family will help clear the diagnosis. The Widal reaction will also be of great assistance. Prognosis is grave, the mortality being about 50 per cent. Treatment consists, in the first place, in diminishing feeding, and giving sweetened boiled water to which some barley water has been added. If there is enteritis, various forms of alimentation will have to be cautiously tried. The fever must be combated by tepid baths of five minutes' duration three or four times a day. Intestinal lavage done very slowly and under slight pressure is the best method for obtaining intestinal antisepsis. Injections of artificial serum may be used to relieve blood-pressure. The mouth, throat, and nostrils and skin are to be kept absolutely clean to avoid secondary infection. Ordinary diet is to be resumed only when there is complete defervescence.—*Journal de Médecine de Paris*, November 22, 1903.

## Clinical Department.

### HEMIPLEGIA WITH APHASIA OCCURRING DURING THE COURSE OF TYPHOID FEVER IN A BOY AGED FIVE YEARS.*

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A HEALTHY boy of five years developed, about April 1 last, typhoid fever of moderate severity, in which tympanites was a troublesome symptom. On the morning of April 26 (three and one-half weeks after the outset of the fever) the father awakening about 4 o'clock A.M. observed that his son's bed was soiled, being, indeed, in a filthy condition. Taking the boy up to wash him, he noted that he was paralyzed in the right face, arm, and leg, and that he was unable to speak. This condition of aphasia and right hemiplegia, it seems, was almost or quite complete. The boy's intelligence was unclouded. Improvement was soon noted and has continued up to the present time.

In the absence of Dr. McKennan from the city, I saw the little patient with Dr. H. W. Day of Monesson on August 3, some fourteen weeks after the outset of the attack just described. The boy was then able to walk alone unaided, quite readily, although his right leg was markedly spastic and still partly paralyzed. There was a marked degree of paralysis in the right arm, it having recovered less than the leg, and there was also marked spasticity in this member, several fingers being contractured. The facial palsy was not evident. As to the aphasia, the boy had learned to say only a few words. The tendon-jerks on the right side were exaggerated. I was able to note no impairment of his mental faculties aside from that of his speech defect.

That the boy suffered from typhoid fever Dr. Day feels quite confident; and the symptoms noted, together with the fact that the disease was very prevalent in Dr. Day's town, would seem to bear him out in his diagnosis. The attack of April 26 was, it seems to me, clearly one of cerebral apoplexy (whether of embolism, thrombosis or hemorrhage) in which the lesion was so situated as to involve the left internal capsule.

Curshmann[1] says: "Symptoms dependent upon coarse lesions of the cerebral tissue and its vessels are not frequent" (in typhoid fever); and that they usually occur in the later stages of the disease during the decline of the fever or in convalescence They may even occur after convalescence has been established. He has observed hemorrhage, embolism and thrombosis. He mentions two cases of hemiplegia with facial and hypoglossal paralysis; the autopsies showed that one was due to a hemorrhage in the left lenticular nucleus, the other to embolism of the left sylvian artery. He also observed two other cases of hemiplegia with aphasia accompanied by choreiform movements. The lesion in both cases he believed to be due to hemorrhage; but he was uncertain as to whether it was located in the cerebrum or in the meninges. Indeed, Curshmann holds that the differential diagnosis between hemorrhage and embolism in the hemiplegias occurring during typhoid fever is difficult.

Cases of cerebral hemorrhage occurring in typhoid fever have been reported by Griessinger, Jackson, Benedict, Berger, Nothnagel, and Strümpel.[2]

In the case of a young man reported by Osler, convulsions (more severe on the right than the left side) developed on the ninth day of a mild attack of typhoid fever and continued until death ensued, ten hours later. The autopsy revealed thrombosis of the ascending parietal and parietotemporal branches of the middle cerebral artery. In a second case reported by Osler, that of a man aged forty-six a gradual paralysis of the left side developed during the third week of a moderately severe attack of typhoid fever and led to the death of the patient four days later. The autopsy revealed thrombotic softening in the internal capsule. In two other cases of Osler's hemiplegia occurred suddenly during the course of typhoid fever, one of them exhibiting also convulsions. In neither case did death occur; but the recovery from the hemiplegia was only partial.

Welsh[3] has recorded four fatal cases of thrombosis of the middle cerebral arteries.

Hawkins[4] has collected from the literature seventeen cases of hemiplegia which developed in the course of typhoid fever or during convalescence from it. Of these, two were fatal.

Curshmann[5] speaks of aphasia occurring during typhoid fever as an independent affection in a certain number of cases.

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1. Nothnagel's Encyclopedia, Volume on Typhoid and Typhus Fevers, Page 274 *et seq.*
2. Cited by Curshmann, *op. cit.*
3. Allbutt's Syst. Med., 1899, Vol. VII. London. Quoted by Curshmann.
4. Clin. Soc. Trans., Vol. XXVI. Quoted by Curshmann.
5. Johns Hopkins Hospital Reports, Vol. VIII.

*A clinical report read before the Allegheny County (Pa.) Medical Society.

**Occurrence of Epistaxis at the Onset of Acute Rheumatism.**—Hamilton Graham Langwill reports two cases of epistaxis occurring with acute rheumatism—in the second case it occurred at the onset of three separate attacks The author queries whether these instances of epistaxis are, as it were, links to the allied hemorrhagic conditions associated with the rheumatic state described sometimes as purpura rheumatica, the mucous membranes here being the site of the bleeding instead of the cutaneous tissues. Whether or not the condition may have any *prognostic* significance it is impossible to say, from the scantiness of the evidence adduced, but it appeared to the author that the notes of the two cases were sufficiently striking to warrant their publication. Moreover, in view of the increasing body of evidence which is being accumulated in favor of regarding rheumatism as being closely allied to the infective fevers, it is interesting to note this additional point of similarity with such diseases.—*The Scottish Medical and Surgical Journal.*

# Society Reports.

## NEW YORK COUNTY MEDICAL ASSOCIATION.

*Stated Meeting, Held November 16, 1903.*

ALEXANDER LAMBERT, M.D., PRESIDENT.

**Milk in Reference to Infant Feeding.**—Drs. WILLIAM H. PARK and L. EMMETT HOLT were the authors of this paper, which was read by Dr. Park. The object of the paper was to compare the feeding of infants in summer and winter, to note the bacteriological character of the milk, and to determine the importance of the care of the infant as a factor in the results. As a rule, the various groups of children were observed for a period of about ten weeks, and each observer had under his care about fifty children. The bacteriological examinations were made once or twice a week. There were altogether 632 infants under nine months of age. There were 239 varieties of bacteria isolated from the milk, and these were divided into thirty-one classes. These bacteria came chiefly from outside of the udder and the milk ducts. The term "milk bacteria" was found to be very indefinite, and milk carefully protected from contamination was, as a rule, found to contain very few bacteria of any kind. For the most part, specimens of milk from different localities showed differences in the character of the bacteria present. Cleanliness in handling of the milk and the temperature at which the milk was kept were very important factors in determining the character and number of bacteria present in the milk. Cultures of various bacteria from the milk were fed to healthy kittens, but in only one instance was any poisonous effect noted. This, of course, did not prove that the same bacteria might not prove harmful to infants. This failure to discover definite pathogenic bacteria had forced them to rely upon the clinical observations. Most of the children observed lived in the densely populated lower east side of the city. At the outset it was noted that a comparatively small number of the tenement-house children in this district were bottle-fed, a fact which was in striking contrast with the common experience that the dispensaries were crowded with sick children, most of whom were bottle-fed. This seemed to indicate that the breast-fed infants were not often sick. It had been found that, not only in the tenements, but even in institutions for children, it was a common practice, even when care was taken to secure good, pure milk, to add bad cream to it, thus greatly augmenting the bacterial content.

As a result of this investigation, it was found that, in the summer, the store milk gave bad results in 44 per cent., condensed milk in 40 per cent., good bottle milk in 39 per cent., while the best bottled milk gave no bad result. Bad results were noted in 25 per cent. of the breast-fed infants. Practically the same percentages obtained in the winter season. The large percentage of good results in winter from all sorts of feeding was a surprise. In summer the heat and humidity seemed to play the most important part, particularly the former. The general conclusion of those who made these clinical observations was that one of the most important factors in infant feeding was intelligent care. Frequently repeated personal contact with the tenement-house people was essential if much good were to be expected from the distribution of printed directions.

**Effect of Heating Milk.**—To observe the effect of heating the milk, half of the babies were fed after a certain date with the same milk that they had been getting before, with the exception that the milk was raw, while the other half of the number under observation were given the same milk heated as before. The infants were observed carefully for three months. In the first trial, twenty out of twenty-seven infants developed more or less severe diarrhœa within a very short time. Of those on pasteurized milk, 75 per cent. remained well throughout the summer. During the next summer a similar test was made. Of the twenty-four infants, ten took raw milk all summer without bad result. Of those on pasteurized milk, five out of twenty-one had severe diarrhœa. Sixteen out of twenty-one did well throughout the summer. The authors felt justified in the conclusion that during the summer, even when a comparatively good milk was used, there was less sickness when the milk was pasteurized. During the cool weather the death rate and the morbidity among the infants was not appreciably affected by the quality of the milk and the number of contained bacteria. In warm weather the children taking condensed milk and cheap store milk did the worst. The effect of bacterial contamination was very marked when the milk was taken without heating. The number of bacteria which might accumulate before the milk became harmful to the infant depended upon the character of the bacteria, the age of the milk, and the temperature at which the milk was kept. After the first twelve months of life the infants were found to be less affected by the bacterial content of the milk, and when from three to five years old they often seemed to thrive even upon milk containing enormous numbers of bacteria. Of the methods of feeding now in vogue that of milk from central distributing stations unquestionably possessed the greatest advantages; it was a method which deserved to be much more extensively employed, and even carried out by the municipality in the absence of private philanthropy.

Dr. W. P. NORTHRUP emphasized the importance of *intelligent* care as a factor in infant feeding, citing several cases occurring among well-to-do people. Several of these cases were instructive as showing how common it was among the better classes to disturb the children and rack their nerves until they became pitiable examples of true nervous prostration.

Dr. CHARLES G. KERLEY said that he was surprised at the statements made in the paper regarding the large proportion of breast-fed infants in the east-side tenements, because his own records in dispensary work showed that, on an average, about 12 per cent. of the infants under six months old were breast-fed, and after that age most of them were bottle-fed. As a matter of fact, it was impossible to obtain good, safe milk in this city for six or eight cents a quart, and, hence, safe milk was certainly not within the reach of the poor. In a series of 912 infants, treated in the out-patient department of the Babies' Hospital, a little over 3 per cent. died. It was, therefore, possible to obtain good results by properly instructing the mothers. It was his custom to give more dilute food in the hot weather, and to have all of the milk heated almost to the boiling point, or until a film began to form on the surface of the milk. When the mother was not supplied with ice and an ice-box it was necessary to feed the baby on canned condensed milk. It was also useful as a sick diet when used for a short time only. It was a useful stepping-stone between barley gruel and ordinary milk diet. When so used it should be combined with some cereal gruel.

Dr. AUGUST SEIBERT said that in 1888 he had read a paper on the relation between the weather and diarrhœal disease in New York City, giving metereological data for ten years, three observations each day. In this paper 8,036 cases of infantile diarrhœa were studied in dispensary practice. For this period of ten years the mortality statistics of the city were also studied, and it was noted that upward of 32,000 infants died in this time. In his paper he showed that about June 15 in this city gastroenteritis became epidemic every year, and ceased to be epidemic on or about October 15 of each year. This was because on or about June 15 the lowest temperature was at night, and was at 60° F. or higher, and remained at this level until about October 15. The question of humidity had also been considered by him. Heat and humidity acted just as powerfully upon the breast-fed as upon the bottle-fed; the cardinal difference between the

two classes of children was that the one had sterile food and the other had food contaminated with dirt and bacteria. He did not think the problem of infant feeding would be satisfactorily solved until some one found a way of feeding infants with sterile milk—not sterilized or pasteurized milk.

Dr. R. G. FREEMAN said that the results in infants fed on condensed milk tallied well with the experience of many physicians, and showed that the babies fed on condensed milk did about as badly as those fed on store milk teeming with bacteria. Many physicians who formerly employed sterilized or pasteurized milk were now returning to the use of raw milk, and hence, he was glad that the point had been emphasized in the paper of the evening, that, in the summer, infants fed on good raw milk did not do as well as those fed on heated milk. It should be remembered that the sterilization could be effected at a low temperature, one which should not materially change the digestibility of the milk. Commercial cream found in this city was often exceedingly bad, and stale, and this, when added to pure milk, accounted for some of the troubles in infant feeding. Breast milk was often spoken of as sterile milk, but such was not the case; in a considerable proportion bacteria, mostly pyogenic, were found in the milk ducts, and then the the infant received many bacteria from the mother's nipples. Pure pasteurized milk in pint bottles could be obtained from the Strauss laboratory at the rate of six cents per quart.

Dr. WALTER M. SEWARD remarked that a good deal had been said about intelligent care; hence, it was obviously important to give the mothers simple and explicit directions. These he considered more important than the prescribing of medicines.

Dr. PARK, in closing the discussion, said that in winter the bacterial content of the milk in the stores often rose far above that of the milk fed to children in summer, and yet it had been found that many of these children were apparently not harmed by the use of such contaminated milk in winter. The explanation was probably to be found in the lowered resistance of the children during the heated term. He would rather feed an infant on breast milk containing a million bacteria than on cow's milk containing only 20,000 bacteria. The evil effect of hot weather upon infants could not be explained only by its influence in increasing the number of bacteria.

**Cases of Appendicitis with Unusual Symptoms.**—Dr. FREDERICK HOLME WIGGIN presented two specimens of appendicitis. The first one had been removed from a man, about thirty years of age, at the City Hospital, who gave a history of having suffered from attacks of colicky pain in the abdomen, followed by nausea and vomiting for three months past. On examination, his pulse was 104, respirations 28 and temperature 104° F.; the abdomen was distended and he complained of pain on the left, but not on the right, side. Exploratory laparotomy revealed a greatly enlarged, inflamed, and adherent appendix on the left side. The man subsequently developed symptoms of beginning post-operative pneumonia, but these all subsided under the hypodermic use of ergot. The man recovered.

The second case presented symptoms pointing rather to movable kidney, but an inflamed appendix was found and removed.

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**An Anomalous Case of Myxœdema.**—H. Batty Shaw reports a case in which there were two features of special interest, viz., incomplete effect of thyroid treatment and the occurrence of pigmentation. It is well known that in certain cases of myxœdema, and especially in persons of advanced age, the psychical disturbances are rebellious to thyroid treatment, and the patient gradually passes into a condition of dementia of a melancholic type, and later may develop delusions and die extremely wasted. It might, perhaps, be well in these cases to combine parathyroidal with thyroidal treatment.—*Edinburgh Medical Journal*

## NEW YORK ACADEMY OF MEDICINE.

*[Stated Meeting, Held December 3, 1903.*

ANDREW H. SMITH, M.D., PRESIDENT.

**German Hospital Library Fund.**—The physicians of the German Hospital and Dispensary, having disposed of their library to the Medical Society of the County of Kings, donated to the Academy the proceeds of the sale, three thousand dollars, on the condition that the same shall be known as the German Hospital Dispensary Library Fund.

**The Cleaning of a Great City and the Handling of Its Waste.**—Dr. JOHN MCG. WOODBURY, Commissioner of Street Cleaning, discussed this topic, illustrating his remarks with lantern slides. He first showed the former condition of Hester street and other highways on the east side, with the throngs of people and push-carts which made it utterly impossible to clean those streets. The first step was to restore these streets to the purpose for which they were intended, and this was easily accomplished by moving the fish-mongers to a free market place made for them under the approach to the new Brooklyn Bridge. With regard to the cleaning of the streets, Dr. Woodbury said that the mechanical sweeper would sweep many miles of macadamized streets or thoroughfares in which there was not much traffic, but it could not be used on streets having heavy traffic; in the latter the cleaning must be done personally by the sweeping brigade. There were 1076 miles of streets in this city to be swept once, or sometimes twice, a day. Large portions of the boroughs of Brooklyn and the Bronx were swept by means of the sweeping machines, which, as they worked, were preceded by a sprinkling cart in order to lay the dust. When the temperature was above 45°F., many parts of the city were flushed with a hose. There was no way of cleaning asphalt, removing the gum from it, when the temperature was above 50°, except by the use of the hose. This had been found out by the French many years ago. Even this very day, when the temperature at noon was 38°F., a hose was made use of to wash down some of the streets and remove the snow in the Bowery and various other places on the east side. Sometimes tanks were used in which, by means of compressed air, water was discharged through a hose under a pressure of about 28 atmospheres. The nozzle of this hose discharged the water upon the asphalt pavement at an angle of about 25°, and directed the stream toward the gutter. Another form of wagon was provided with an air compressor, run by a gasoline engine. This would give a pressure of 100 or 120 atmospheres, and would, therefore, clean much more rapidly and efficiently. He had tried various forms of covered carts, but most of them had proved disappointing. The Department had just received three covered carts of a new and very excellent design. The carts have steel covers of the general type of a roll-top desk.

Turning to a consideration of the disposal of refuse, the Commissioner said that the city waste should be divided into four classes: (1) Garbage; (2) ashes, and (3) rubbish. By contract, the garbage was taken to Barren Island reduction works. By garbage was meant swill or kitchen waste. All the garbage was handled by a belt conveyor, and was carried to a series of digesters. In these digesters it was exposed to a temperature of 300°F., and to a steam pressure of 80 or 85 pounds. The digested mass was then subjected to hydraulic pressure. The dried sweepings of the streets constituted the best fertilizer known, and had been used with much satisfaction for this purpose in Central Park and by certain railroads for covering over the sides of cuts and slopes.

A number of photographs were exhibited to show how the shores of Coney Island and other nearby seaside resorts were formerly littered with the rubbish of the city, which had been dumped out to sea. This sea dumping had been entirely stopped since last March. The residuum was very rich in phosphoric acid, and had practically re-

habilitated Central Park. By separating the rubbish from the ashes, the latter became useful for filling in land at Riker's Island. On February 14, 1902, there was a wooden crib around the southwestern part of this island, with water between the drib-line and the island. This had all been filled in with the city ashes, thus actually making sixty-three acres of land. Dr. Woodbury said that when the rubbish was towed to sea and dumped there it cost $300 per week; now, the city rented the privilege of picking over the rubbish on the belt conveyor for $250 per week, and $50 for labor. As the rubbish, which could be sold, produced, when burned, 250 horse-power per hour, it was calculated that there was a gain of about 400 per cent. on the twenty thousand dollars invested in the plant.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION ON SURGERY.

*Stated Meeting, Held December 4, 1903.*

SAMUEL LLOYD, M.D., CHAIRMAN, PRO TEM.

**Varices with Osseous Deposits.**—Dr. CARL BECK presented a skiagraph of this kind.

**Costal and Thoracic Resection for Pyothorax.**—Dr. CARL BECK read a paper on this subject. He said that if the case were of long duration, or there was evidence of complications, resection of a small piece of rib was insufficient, and a multiple resection was demanded. In 55 per cent. of his cases of pyothorax solid masses were found in the abscess cavity, showing that in these instances, at least, aspiration would have been futile. There was no way of determining the presence of such masses except by making a free opening, and when this had been done there was no reason why the masses should not be removed. Aspiration should be reserved for exploratory purposes, when the patient was extremely exhausted or when the thoracic effusion was of the serous type. The suction method had many and great disadvantages, and should be reserved for temporary use in cases in which the patient was greatly debilitated. Modern surgery required that the opening into an abscess cavity should be made as broad as possible, and that the cavity should be so exposed that its walls could be inspected and palpated, and, if need be, the lining membrane removed. He saw no reason why a pyothorax should be treated on different principles from those laid down for abscesses elsewhere. Never in children, and seldom in adults, were the intercostal spaces sufficiently wide apart to permit of the introduction of the palpating finger. The operation of rib resection was not at all difficult, and, as a matter of fact, the intercostal artery was more often injured in connection with the operation of simple incision than in rib resection, for in the latter operation cutting instruments were not employed after the periosteum had been reached. In the majority of cases the ribs came together after simple incision, thus putting an end to drainage. There were no contraindications to rib resection in cases of old pyothorax. In old cases with the patient in bad condition, a preliminary operation might be done, and the resection postponed until the following day. Cures were sometimes effected in cases appearing most desperate. In view of the absolute hopelessness of tuberculous pyothorax if left alone, rib resection was not only justifiable but absolutely demanded. The surgeon would be on the safe side if he operated upon all purulent accumulations in the thoracic cavity, whether tuberculous or not. Schede's principle that the thickened and almost osseous pleura should be removed was undeniably correct; nevertheless in practice the operation was a most formidable and bloody one. The probe was an altogether unreliable instrument in determining the topography of the thoracic cavity. In 1894, the speaker said, he had first made use of exploratory resection. The rule should be to resect the rib lying approximately in the middle of the roof of the cavity. No particular attention should be paid to the shape of the flap, as this must depend more or less upon the particular shape of the cavity. Having determined the location of the thin portion, where the pulmonary pleura joined, it was then possible to finish the dissection with blunt instruments. Great credit was due to Fowler for the ingenuity of his procedure, nevertheless in most cases resection of the chest wall must be added. Only when the cavity was of small extent would he allow full surgical anæsthesia in these operations. He preferred to operate by the method of Schleich, employing cocaine before the puncture. He did not like the use of either chloroform or ether anæsthesia in these cases. Immediately after the operation the cavity should be tightly packed with iodoform gauze, and later on the packing made more loosely. In the after-treatment stress was laid upon the early use of gymnastics, particularly the use of dumb-bells.

Dr. Beck then presented a little boy who, four years ago, had been operated upon for the first time by another surgeon. The boy improved for a while, but a fistula persisted, and about two years later he had come under Dr. Beck's care. Although four ribs were removed and a portion of the left scapula, together with the costal pleura, there was practically no deformity.

Dr. H. D. COLLINS said that if pus cavities could be treated sufficiently early the more extensive operations described in the paper would not be required. The operation of Schede had always seemed to him too extensive, and the same object had been better accomplished by Dr. Beck. Dr. Collins incidentally referred to a case of extensive pyothorax due to an appendicitis.

Dr. A. A. BERG thought most surgeons would agree with the reader of the paper as to the necessity of primary resection in acute pyothorax, but there were a certain number of early cases which could get along without primary rib resection, and surgeons should not lose sight of this comparatively small number of early cases. He thought the pathology of acute pyothorax was a little different from that of abscess cavities in the soft parts. An acute pyothorax in the early stage was not truly an abscess cavity in every instance. The pleural cavity might contain pus and yet not be converted into an abscess cavity, and the same was true of the peritoneal cavity. Surgeons knew very well that the presence of purulent fluid in a serous cavity did not at all mean that there was present there a true abscess formation. Many of these purulent exudates were simply manifestations of a particularly severe pneumonia, either present or past. When it was purely an exudate, aspiration or an intercostal incision would invariably cure the case, just as when a purulent accumulation in the peritoneal cavity was cured without making use of extensive drainage. Even the presence of fibrin did not necessarily mean that extensive drainage was demanded, because it was well known that fibrinous masses in the peritoneal cavity were often absorbed without such interference. Dr. Koplik had told him that since he had resorted to intercostal incision in desperately sick children, such as were seen in his hospital service, he had had much better results than when he had uniformly resorted to rib resection. The speaker said that he personally agreed with Dr. Beck that in most cases rib resection was required. He thought the DeLong operation was ideal when the pyothorax was accessible; on the other hand, if the pyothorax were confined to the apex of the lung, and especially if it were on the left side, this operation did not seem to him appropriate. He had not had the courage to peel away dense masses from the veins about the neck. For such cases the old Estlander operation was preferable.

Dr. JOHN F. ERDMANN said that it was not his habit in children to excise a rib at the primary operation. He usually picked up the skin, and, without anæsthesia, nicked it and plunged sharp-pointed scissors into the pleural cavity, and so secured drainage. After a month or more, during which time the condition of the child improved, he was willing to resort to the more extensive operation if this were required. Very often the second operation

would not be needed. Even when there were large masses of fibrin, the introduction of a small drain would secure complete recovery in a short time. He had never made use of the incision of Schede or Estlander, preferring to use the straight incision down the median line of the axilla, as this greatly diminished the hemorrhage. The DeLong and Fowler operation was certainly a most admirable procedure, and was one which he had employed with great satisfaction. He never made use of anæsthetics for the primary operation in children; for the secondary operation he would use ether in preference to chloroform.

Dr. SAMUEL LLOYD said that for some years past he had been accustomed in the very acute cases to make an incision between the ribs and drain; but the very large majority of the cases seen by the surgeon were already examples of chronic pyothorax, and in such it was better to make the rib resection at once. It should not be forgotten that the lung was held down by adhesions, and would only expand to a limited extent; consequently a cavity remained between the pulmonary and parietal pleuræ and filled up constantly with fluid. Under such circumstances the operation of Estlander, of Schede, or similar procedures, were required. When the parietal pleura had not yet become hard a good deal could be accomplished by deliberately breaking up the adhesions between the pulmonary pleura and the parietal pleura by the finger. The old theory that the lung would collapse when a large opening was made in the chest was now known to be incorrect. It was true just so long as complete anæsthesia was kept up. His custom was to resect the rib, then stop the ether and incise the pleura. The operator then passed the finger in and broke up the adhesions. This gave rise to a cough, and the lung immediately expanded. He believed in this way the necessity for a more radical operation was averted. Operating in this way, it was no longer possible to make use of the long drainage tube and as a substitute the "spool drainage tube" of rubber, with flanges, was devised. He believed when there was a thick pleura and pus was present, the large incision recommended by the reader of the paper was proper. The conservatism practised by the pediatricians would be all right if it were confined to the acute cases.

**New Instruments.**—Dr. FREDERIC GRIFFITH presented several instruments. The first was a mallet. He said that the vibrations produced by surgical mallets, made of various materials, were quite diverse, and after a study of the subject he had come to the conclusion that the best metal for this purpose was aluminum. A wooden mallet, in which the head and handle were of a solid piece, was then presented as an improvement on the ordinary surgical mallet. In appearance it resembled the household potato-masher.

The next device exhibited was a drip-cup and retainer for irrigator tips. It was made of metal, could be readily sterilized, and was a convenient attachment to the irrigator stand. The last instrument shown was a metal hanger for use on glass-shelved instrument cases.

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**A Simple Method for the Quantitative Determination of Salicylic Acid in the Urine.**—F. Zeigan has devised a method of a color reaction depending on the violet hue of salicylic acid, ferric chloride solutions. Thirty to 50 c.c. of the urine are shaken up with one c.c of dilute sulphuric acid, and 50 to 80 c.c. of ether. The urine is allowed to settle and the ether which now contains the salicylic acid is removed with a pipette and placed in a separating funnel. It is then shaken up with 2 per cent. ferric chloride solution till no further change occurs. The iron solution is placed in a glass vessel having parallel plane sides, while a second similar vessel containing 2 per cent. ferric chloride solution is placed beside it and 1 to 1000 salicylic-acid solution added from a burette till the colors of the two solutions correspond. The number of milligrams of salicylic acid contained in the urine can then be read off directly from the burette.—*Centralblatt für innere Medicin.*

## NEW YORK ACADEMY OF MEDICINE.

SECTION ON PEDIATRICS.

*Stated Meeting, Held December* 10, 1903.

HENRY HEIMAN, M.D., CHAIRMAN.

**Hypertrophic Cirrhosis of the Liver in a Child of Six Years.**—Dr. SAMUEL M. EVANS reported this case and presented the child. He could find no cause for the cirrhosis so far as the history was concerned, except the use of coffee. There was no history of tuberculosis or of syphilis, but the child was at present on anti-syphilitic treatment. His own opinion was that the cirrhosis was the result of an autointoxication from the intestine.

**Case of Henoch's Purpura, with Necropsy.**—Dr. WILLIAM L. STOWELL reported two such cases. He said that when the hemorrhages chiefly involved the gastrointestinal tract the disorder was spoken of as Henoch's purpura. The first case reported was that of a child of three years, who had frequent and profuse hemorrhages, and died three weeks after coming under observation. The second child was bottle-fed, and was only two weeks old. Bloody stools appeared and lasted for four days, and this was followed by a purpuric eruption. A few weeks later the child became œdematous and died. The diagnosis of dysentery having been made, a bacteriological investigation was conducted by Dr. W. H. Park, who succeeded in positively excluding dysentery. The autopsy showed ecchymotic spots on the pericardium. The heart was normal. The kidneys and spleen were congested. The liver was unusually dark. There were a few small spots of ecchymosis in the stomach and intestine. The lower part of the ileum, as well as the colon and rectum, were especially dark and congested. Goodhardt and J. Lewis Smith had both reported very similar autopsy findings. Many writers on the diseases of children made no mention of this disorder, under this or any other name. At the present time, observers were disposed to believe there was an infectious cause. Da Costa stated that the blood in these cases was alike that of secondary anæmia, but in the last case reported by the speaker the examination of the blood showed it to be normal. These cases were not very common, and there was much confusion in the classification. The microbic theory received some support from a report from Ireland to the effect that a pig and a cow, and two members of the family caring for these animals, were all affected with purpura. Dr. Stowell said he had learned that purpura was comparatively common in swine.

Dr. L. E. LAFETRA said that the second case just reported, was especially interesting, and it seemed to him that it would be hard to differentiate it from those cases in which petechiæ were present in badly nourished children. These petechiæ might occur on almost any part of the body, and sometimes the petechiæ, instead of being very fine, were quite large. In a recent case, seen by him, there was an accumulation of blood looking like a blood clot in the vessels of the subcutaneous tissue. Œdema of the feet occurred quite regularly in these cases. In the case referred to, one of the little masses was excised, and it was thus learned that the blood was fluid, and was confined in a vein. The case was one of marasmus occurring in a breast-fed baby.

Dr HENRY HEIMAN said that examinations of the blood had been made repeatedly by many observers in cases of Henoch's purpura, and the blood had been found perfectly normal. We should, therefore, look either for a microbic origin, or for an anatomical lesion in the blood vessels. There might be, for example, a deficient intima.

Dr. H. KOPLIK remarked that in two of his own cases, and in one reported by Dr. Heiman, repeated blood cultures, made by an acknowledged expert, gave negative results.

Dr. Stowell said he recognized the force of the criticism made by Dr. LaFetra, and perhaps he should have made

it more clear that his case was not one of those in which petechiæ appear in ill-nourished children.

**Symposium on Lobar and Bronchopneumonia in Infants and Children.**—The following papers and discussion constituted this symposium:

**Pathology.**—Dr. DAVID BOVAIRD, Jr. presented the pathology. He said that the pathology of lobar pneumonia in infancy and childhood presented no striking differences from that of later life. There was regularly a red or gray hepatization of one or more lobes of one or both lungs. While there might be shadings of the color of the exposed surface, the section was usually quite uniform, a characteristic which, taken in connection with the granular appearance, was fairly distinctive of the lobar type of inflammation. It was more common in children than in adults to see a partial consolidation of one lobe, or a distinctly lobular type. The amount of pleurisy seen varied greatly; most frequently there was only a haziness or slightly granular appearance of the pleura. Not uncommonly, however, there was a yellowish or greenish plastering over of the pleura. In some cases of lobar pneumonia the infiltration of the lung was so intense and the degeneration so advanced as to give a very granular appearance and a pale yellow color to the cut surface like that seen in a caseous pneumonia in adults. From time to time, small abscesses might be seen in the consolidation of lobar pneumonia, and at times there might be more or less extensive gangrene. In the early stages congestion was marked, and there was much blood in the exudation; later, the blood disappeared and the other elements of the exudate increased. The general connective tissue of the lung was swollen. The most important associated lesions were found in the pericardium, the meninges, and the peritoneum. These were due to general infection with the pneumococcus.

Bronchopneumonia was met with in about 40 per cent. of all the autopsies at the New York Foundling Hospital. In general, three distinct types were recognized, types which represented stages in the development of the process. In all three stages the process was regularly bilateral, and, for the most part, symmetrical. The posterior parts of the lung usually showed more extensive consolidation than the anterior. In the first stage, the beginning bronchopneumonia or capillary bronchitis, there would be found rings of deep congestion, and, on opening the bronchi, the appearances of a bronchitis were present. Microscopical examination would show the smaller bronchi full of an exudation from the walls of the bronchi, and these walls appeared swollen and infiltrated with leucocytes. The air cells immediately about the bronchus were filled with cells exfoliated from the walls, with leucocytes and a very little fibrin. In the second stage, areas of consolidation were scattered throughout the lung, but having between them pulmonary tissue approaching the normal more or less closely. The third stage was that known as pseudo-lobar bronchopneumonia. Here, the previously disseminated areas of consolidation merged into one another, but there was not present the granular appearance found in lobar pneumonia. Owing to the branching of the bronchi the areas presented a more or less stellate arrangement. Frequently the small bronchi broke down, giving rise to abscesses. With a bronchopneumonia involving the greater part of a lobe there was usually some pleurisy. He had been impressed by the frequency with which empyæmia was associated with bronchopneumonia. This was rather in contrast with the findings in later life.

The bacteriology of lobar pneumonia was well established. In about 95 per cent. the pneumococcus was the causative agent, although it might be associated with other microorganisms. Recent investigators found general infection of the blood in an increasingly large proportion of cases. The disease should prabably be regarded as a general infection with a local lesion. In about 50 per cent. of the cases of bronchopneumonia the pneumococcus was the infecting agent. The tendency of the present time seemed to be to diminish the importance of the local lesion and increase the importance of the general infection and the powers of resistance of the infected individual.

**Symptomatology and Diagnosis.**—Dr. WILLIAM P. NORTHRUP discussed this aspect of the subject. He said that a runabout child when stricken with pneumonia would refuse food, look pale and drowsy and would sometimes vomit. Nurslings would cry and cough, and nurse with difficulty because of the nasal obstruction; they would also have fever and vomiting. The onset, therefore, was abrupt. In a few hours the physician would notice evidences of toxæmia; the child would be drowsy, chilly, and irritable at first, but in a short time would be flushed and feverish, with a pulse of 140 and respirations one-third as fast. When the pulse-respiration ratio departed from the normal, one to four, and approximated one to three, one should always look for a lesion in the lungs. Dr. O'Dwyer had first called his attention to the great practical value of this rule, and his own experience had abundantly confirmed this. Soon there would be diminished respiratory murmur over the affected lung, harsh breathing, bronchial voice and breathing, and bronchial whiff. The cough was so inconstant as to be of little value in primary pneumonia of the pneumococcus type. The symptoms of toxæmia were usually proportionate to the amount of consolidation, although there were exceptions to this rule. It must not be forgotten that pneumonia was an acute infectious disease, with its most prominent and characteristic lesion in the lung; also that there was a characteristic bacteriæmia or septicæmia. The primary pneumonias were usually due to the pneumococcus. The stupor was often so deep as to lead to erroneous conclusions. It was not uncommon, too, for the neck of the pneumonia patient to be rather stiff, but both shoulders and arms resisted as well. In meningitis, particularly of the tuberculous variety, the face was described as "mask-like." The disturbed pulse-respiration ratio almost surely pointed to a pulmonary lesion. In nearly all of the cases seen outside of hospital the nurse did not think it worth while to take a baby's respiration-rate. Another confusing, and not uncommon, symptom was a diarrhœa with the discharge of mucous stools. He was inclined to think that this was an eliminative process. He thought that the cerebral and abdominal symptoms were due to the same infection. The most common mistakes in diagnosis were in confounding meningitis and diarrhœa with prostration with pneumonia. Occasionally pneumonia and appendicitis were confounded by very good clinicians, and, at times, it was not easy to differentiate between pneumonia and mastoiditis.

**Treatment.**—Dr. J. E. WINTERS opened the discussion of this topic. He said that the first thing to consider was the individual peculiarity of the little patient; the second consideration always should be the prognosis. Speaking of lobar pneumonia, he said that this disease had, almost without exception, a favorable prognosis in infants and young children; almost every case would recover without treatment. It was highly important, therefore, that there should be no treatment which would disturb the patient. The child should be kept in a warm bed in a room having a temperature of at least 72° F. He based this on the belief that a cold skin meant contraction of the cutaneous vessels, and this, in turn, meant interference with heat elimination and increased work thrown upon the heart and increased congestion of the weakened vessels of the diseased lung. If the body temperature demanded attention the effort should be made to secure free dilatation of the cutaneous vessels. The physiologists told us that about 78 per cent. of the heat loss of the body was by conduction from the cutaneous vessels, and 10 or 20 per cent. by evaporation from the same surface. About 90 per cent., then, of the heat loss was by conduction, radiation, and evaporation from the

cutaneous surface. If, therefore, contraction of the cutaneous vessels were allowed it would interfere with the escape of heat from the body surface. It was also found that whatever contracted the cutaneous vessels, as, for example, the use of cold, caused the internal temperature to rise. This fact should not be lost sight of. The use of cold to the body surface not only caused a rise of the internal temperature, but caused an intense excitement of the nervous system. To unnecessarily excite agitation and resistance on the part of the diseased infant was to interfere very seriously with the recovery of the child. Four-fifths of the heat of the body was produced in the muscles; hence, anything which produced resistance on the part of the child tended to increase the fever. He doubted very much if a physician who attempted to treat sick children by cold applications could keep the confidence of the best families. The child suffering from pneumonia in private practice should be wrapped in flannel and should be placed in a warm room, with the crib in a part of the room where there was no possibility of exposure to a draught. If the child were restless, it should be soothed by small doses of Dover's powder, and by this he did not mean the unauthorized powder sold by druggists under that name, but the powder made according to the original formula of Dr. Dover, *i.e.* opium, ipecac, and sulphate of potassium, and not sugar of milk. The original Dover's powder was an excellent diaphoretic; the modern preparation going under that name, and containing sugar of milk instead of sulphate of potassium, was sickening, constipating, and worthless. Aconite was strongly indicated under the conditions found in the lungs in the early stage of pneumonia. Another method of increasing diaphoresis was by giving full doses of niter—that is, twenty drops every hour to an infant of one year. This would cause free perspiration, which should be kept up for the first three or four days. It was also important not to urge the child to take much food. Milk should not be offered until the child's thirst had been completely satisfied by water. Great care must be taken to keep the stomach and bowels in proper condition; if there were much abdominal distention in a child with pneumonia the little one would almost surely die. Alcohol should be avoided in the early stages, and should be used with caution in the later stages. Children with pneumonia did not die of cardiac failure, as did adults; the cause of death was respiratory, not cardiac failure. In the rare cases in which alcohol was required, as, for example, at the crisis, it should be given in fairly large quantities, preferably by the rectum and with hot water. In bad cases of pneumonia in which there was grave sepsis, oxygen was valuable almost from the beginning; on approaching the crisis it was equal in value to whiskey and strychnine. When demanded, it should not be given for a few minutes at a time, but continuously, if need be, day and night. It would often save children who would die if only given alcohol and strychnine.

Dr. R. G. Freeman thought the diminution of the respiratory murmur as a valuable early sign in pneumonia should be emphasized, and that, at the same time it should be noted that when this occurred later on in the disease it was a most valuable hint of the beginning of a pleuritic exudate, probably an empyema. Another fact needing emphasis was that a pneumonia might run its course not infrequently in early life without any distinct physical signs of that disease, although the vital signs made it very evident as to what was the true nature of the disorder. Sometimes the physical signs would become manifest later on. The treatment of pneumonia in early life was the treatment of the gastrointestinal tract and of the heart. As Dr. Winters had said, abdominal distention was exceedingly grave. Later on, the strengthening of the heart action was important. The use of alcohol should be postponed until the late stages. Nitroglycerin was particularly valuable when the extremities were cold, because of its action in dilating the arterioles. Digitalin was valuable, but because of its irritating action should be given hypodermically. In some cases, when it was almost impossible to give any drug, oxygen would be found of very great value in strengthening the heart.

Dr. C. G. Kerley said that his first step in the treatment of pneumonia in an infant or young child was to establish a sick-room régime. The child should be kept in the crib, and not on the lap, and the temperature of the room should be about 70° F. In the morning and toward evening the child should be removed to another room while the sick-room was aired for half an hour and then warmed to the proper temperature. There should always be a direct communication between the outside air and the sick-room, which was easily secured by means of the "window board." He did not make use of any protective dressings for the chest, such as oil-silk or sheet wadding jackets, because it seemed to him that they made the child uncomfortable and irritable, were certainly unclean, and rendered the little patient sensitive to exposure during convalescence. That pneumonia was a general infectious disease was now generally admitted, and exposure probably played a much less important rôle in its causation than we had been led to believe. The digestive capacity of the child ill with pneumonia was always considerably diminished, and, hence, the strength of the food should be invariably reduced. In runabout children diluted gruels and broths should constitute the diet, and an enema should be given regularly if there were no movement of the bowels after twenty-four hours. The nurse should be instructed to keep the child's feet warm. Much harm might be done by unnecessary drugging. He used drugs and therapeutic measures only when positively indicated. He rarely used digitalis as a heart stimulant unless given hypodermically. Alcohol was given when the powers of assimilation were bad, and as a stimulant when other means of stimulation failed. He used it for as short a period as possible, because, like digitalis, it interfered with the digestive functions. Antipyretic measures were employed only when reduction of the temperature improved the heart action, quieted delirium, and produced sleep, regardless of whether the temperature was 103° or 106° F. In his hands, the cold pack had been a most satisfactory means of reducing the temperature. A large bath towel afforded a convenient means of applying the pack. Dr. Winters objected to the cold pack because it made the child restless; his own reason for employing the cold was that it did just the opposite, *i.e.* it made the child quiet. The body and upper half of the thighs should be included in the pack, the arms and legs being kept out. If the child were entirely wrapped in the pack shock would be produced and the child would be made worse. The pack should be at first at a temperature of 90° or 95° F., and the temperature then reduced to 80°, 70, or 50° F. by the gradual addition of water at the proper temperature. One could soon learn what degree of temperature was indicated for the individual case. Should the temperature of the patient reach 101° F., the pack should be removed and reapplied when necessary. A continuous pack of 70° F. had recently been required in a boy of three years to keep the temperature below 104° F. As soon as the pack became warm the child would himself ask to have the cold water applied to the pack, and when this was done he would fall asleep. The patient should be rolled from side to side and the pack moistened as required, thus avoiding any special disturbance.

In the management of bronchopneumonia, all of these suggestions were appropriate, but in this disease one must use measures which might be considered of a curative nature, for the disease did not terminate by crisis. The first rule should be to keep on good terms with the gastrointestnal tract. The speaker recommended counterirritation to the chest and medicated steam inhalations. The application of a jacket, made of one part mustard and two parts flour, to the skin, keeping it on until the

skin was thoroughly reddened, was often of great service. This should be repeated at intervals of about four hours. It was of special value in the early stage. In the use of steam inhalations of creosote in bronchopneumonia, we had a therapeutic measure that excelled all others. Twenty drops of creosote should be added to one quart of water, and the child should be steamed for thirty minutes at intervals of an hour or an hour and a half. Oxygen was often useful, but it should be given intermittently; its continuous employment had not proved advantageous in his ands. The pneumonia patient should be disturbed as little as possible, particularly at night—a fact which should be borne in mind in arranging the time for applications and medicines.

Dr. H. KOPLIK said that the physician should ever bear in mind that pneumonia was a self-limited disease of an infectious nature; therefore, the nearer the physician approached the work of the skilful nurse, with the brain of the physician, the better. Some cases ran their course insidiously without fever. When Dr. Winters said that cold was very detrimental to children he simply echoed the sentiment of most physicians who had much to do with children. Some patients did very well with a temperature of 104°F., while others did not stand this temperature well, and required some interference. The chief points were the management of the temperature and of the heart, and the avoidance of complications. In the management of the temperature the mainstay of the physician was hydrotherapy, although occasionally a dose of phenacetin and caffeine would prove very beneficial. As a rule, little children did not react well to cold, and he, therefore, could not agree with Dr. Kerley. If a bath were used, the child should be placed in a warm one, and the temperature should rarely be reduced below 80°F., even though frictions were kept up. More commonly a sponge bath with lukewarm bath would be employed. The use of the wet pack at 85°F., or over, was especially useful in cases of bronchopneumonia running a temperature not over 104°F. He was disposed to think that aconite and strychnine would do more harm than good in the hands of the young practitioner in the treatment of infantile pneumonia. He considered alcohol a valuable drug as well as a food in the treatment of pneumonia. Inhalations he never used, because they excluded the fresh air, allowed the air of the room to become full of moisture and excited cough. He objected to poultices because of the weight upon the chest. When a little fluid was found in the chest after a pneumonia had lasted some days the question arose as to whether this fluid should be removed. He usually advised leaving it alone at this stage.

Dr. WILLIAM L. STOWELL said that the same plan of treatment would not work equally well in hospital, dispensary, and private practice. Theoretically, crupous pneumonia should be benefited by steam inhalations. Practically, he found that it was so benefited, and also that bronchopneumonia, was also benefited by such inhalations, although, theoretically, it should not be. Under the necessarily simple and apparently inadequate treatment carried out in the tenement-houses he had obtained just as good a mortality rate as in hospital or private practice under more elaborate methods.

Dr. WALTER LESTER CARR said that frequently in children there was a cough, or at least an expiratory effort, present in pneumonia. In the majority of cases of lobar pneumonia there were gastrointestinal symptoms present. He was glad to note that the consensus of opinion was against the use of cold applications in young children, especially in the form of the plunge. Lobar pneumonia required very little treatment, and in this respect it presented a marked contrast to bronchopneumonia.

Dr. Kerley explained that he did not use any great degree of cold, and that it was always employed cautiously and to meet indications.

Dr. S. H. DESSAU emphasized the point made by Dr. Bovaird, that lobar pneumonia was an infectious disease with a local lesion. He had personally found that a bad or good prognosis could be based upont he greater or lesser amount of albumin present in the urine.

Dr. Winters said that aconite should never be used except in the first twenty-four or forty-eight hours of the disease. It was a very bad practice to make use of strychnia early and throughout the course of pneumonia. It should only be used at the crisis. He had omitted to say that in endeavoring to subdue the nervous excitement of a child suffering from pneumonia and high fever, it was sometimes most useful to apply a long, narrow ice-bag, bandaged in a towel and wrapped around the neck so as to cover the large vessels of this region. This bag should be filled with very finely chopped ice. This method of applying cold was entirely unobjectionable, as it did not interfere with the cutaneous circulation.

Dr. BOVAIRD said that from certain recent experiments, made by Dr. Augustus Wadsworth, the conclusion had been reached that both lobar and bronchopneumonia were infections with the pneumococcus, and that the production of one or the other form depended upon the relation between the virulence of the infecting organism, and the powers of resistance of the animal so inoculated This seemed to indicate that not so much stress should be laid upon the anatomical distinctions between the two forms.

## New Instruments.

### THE TREATMENT OF LACRYMAL STRICTURE.*

NEW METHOD—NEW RESULTS. PRESENTATION OF NEW INSTRUMENTS.

BY J. WILKINSON JERVEY, M.D.,
GREENVILLE, S. C.

THE common occurrence of lacrymal stricture and its attendant inconvenience, and even danger to the ocular integrity, combined with its frequent intractability to treatment, often make this affection a source of great anxiety to the patient as well as to the ophthalmologist. The accepted method of treatment for the last few years has been to split the lower canaliculus almost or quite down to the sac, and then to pass through the split canaliculus, sac, and nasal duct, at intervals of about forty-eight hours, a series of solid probes. These probes, only one passed at one sitting, range in diameter from ½ to 4 mm. An effort is made at each sitting to pass a larger size than that used at the previous visit. Antiseptic syringing and collyria are generally used.

Authorities differ as to the limit of size to which the duct can wisely and safely be probed, and the force to be applied in the attempted passage. Theobald (Norris and Oliver's System of Diseases of the Eye) uses for his largest dilatation a No. 16 probe, 4 mm. in diameter. He says that in using the large sizes of this instrument he occasionally finds it necessary to utilize the strength of both hands in order to effect a passage. The Professor has made his reputation, and is doubtless privileged to exercise certain liberties; but, pray let me counsel those among us who still may aptly style ourselves the Great Unknown, to take no such chances with their reputations or their patients. If you have never attempted this heroic measure, heed me when I cry out, "Don't!" If, on the other hand, in the exuberant enthusiasm of youth you have already transgressed, as I have, my counsel is superfluous, I'm sure.

My experience has taught me that if the luxury

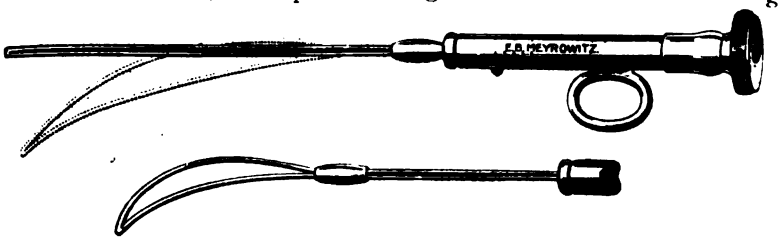
*Read before the Tri-State Medical Society of Georgia, Alabama, and Tennessee, at the meeting in Atlanta, Ga. October 13-15, 1903.

of the apparently triumphant moment of a false passage has been indulged in, the patient may be dismissed at once as incurable. The chances of a cure thereafter are infinitesimal. Thenceforth the length of palliative treatment is to be limited only by the length of the patient's purse and patience.

Some surgeons believe certain strictures to be amenable to cutting, and for this purpose is used a delicate, long-shanked knife. The use of this instrument is preceded by the passage of small probes, and is followed by that of larger ones. When it is necessary to split the canaliculus, the incision should lie well to the inner side of the lid, otherwise a bad cosmetic effect is produced, and, even worse, bad drainage, or none at all, will result.

One of the most objectionable features of lacrymal probes of large calibre, such as Weber's conic probes, and Theobald's high exaggerations of Bowman's, is that necessarily by their use the entrance of the canaliculus into the sac is tremendously dilated. Besides, the splitting of the canaliculus for its entire length is necessary as a preliminary. These conditions are undesirable for two important reasons, first, that capillary suction and drainage are apt to be interfered with; and second, that the large orifice permits easy entrance of foreign matter into the sac. The little instrument here illustrated is designed to remove, at least partially, these objections, and in addition it seems to possess original advantages.

I shall not recite histories; too often their effect is soporific. Let me say, however, that in my own practice this dilator works like a charm. I may seem enthusiastic; doubtless I am. But when, in case after case, an ophthalmologist is enabled




to cure, so far as he can see, in anywhere from two to ten sittings, a distressing affection which he has had dragging along unsatisfactorily for months and even years, some extenuating circumstances must be granted. True, I have had barely four months' observation of the treatment, but thus far it has been all that could be desired and more than might have been expected.

The principle of the instrument is simply that of a wire bent double upon itself. When traction is exerted upon one free end, the other being held firm, a buckling results. This buckling accomplishes the dilation. The instrument can be introduced as easily as a No. 1 or No. 2 lacrymal probe, and when *in situ* can be dilatated to any desired extent, thus avoiding the trauma and irritation necessarily involved in forcing a large solid dilator into the passage. The greatest pressure of dilatation occurs at the point of the greatest resistance in the canal, which, of course, is the location of the stricture. While the instrument is in place and the wires are separated the passage is open for syringing, or even for applications by means of a cotton-tipped probe. This is possible with no other form of dilator hitherto devised. By this means, with every fold and crevice of the mucous lining on the stretcher, the entire surface is accessible to flushing and medication.

With this instrument it is often feasible to dilate lacrymal strictures to any desired extent without splitting the canaliculus. In this way the surgeon can avoid many of those unfortunate cases in which even after the stricture has been relieved by the old method, epiphora persists on account of the lost power of capillary attraction and suction due to splitting of the canaliculus. Were this last the only advantage the dilator possessed it would still be of inestimable value to the ophthalmologist.

The instrument is provided with a sliding collar which can be pushed down to the punctum lacrymale in those cases in which splitting is unnecessary, so preventing the possibility of rupturing the punctum or canaliculus in the process of dilating the remainder of the canal. The wire part of the dilator is slightly malleable and can be bent to any desired curve. The instrument is manufactured by E. B. Meyrowitz, New York. I wish, here, to thank Dr. W. M. Norwood, a dental surgeon of my city, for most important suggestions and material aid in the preparation of the original model.

In using the dilator, I practise the following technique: After instilling adrenalin and cocaine into the eye, the attempt is made to pass through the lower canaliculus a No. 1 or No. 2 Bowman's silver probe. If this cannot be done after repeated trials, the punctum is incised for about 2 mm., and another effort is made to pass the small probe. If this be still impossible, then the canaliculus must be split in the usual way. With a small syringe and silver cannula adrenalin, cocaine, and boric acid, in separate or mixed solution, are injected into the sac and as far down the canal as possible. This has the valuable triple effect of antiseptic flushing, production of anæsthesia, and often enlargement of the lumen of the passage by lessening the mucous vascular engorgement.

After a wait of five minutes for these agents to take effect, the dilator, with a little simple aseptic or antiseptic lubrication, such as carbolated or borated vaselin, is passed through the canal, the way having first been gently explored by the small Bowman probe. The dilator being held by ring and barrel with the left hand, the right hand turns the thumbscrew to spring the wires apart. The amount of dilatation can easily be gauged while the instrument is in position by means of a small scale on the barrel.

The dilatation should be effected slowly, and a little at a time, with waiting intervals between the turns; when it is done slowly and gently, little pain is caused. Having been sprung to the desired extent, the amount of spreading being increased a little at each successive sitting, these being about forty-eight hours apart, the instrument should be allowed to remain in the passage for ten or fifteen minutes, stretching it open. Then the thumbscrew is rapidly reversed, the instrument is withdrawn, and the passage is syringed with some suitable antiseptic solution. In the intervals between sittings, the patient is given the usual antiseptic wash for the eye.

125 South Main Street.

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**Tonsillar Hemorrhage.**—Lawrence R. Ryan reports several cases of severe tonsillar hemorrhage, and from his experience he tabulates the plans of operation in the following order as productive of the most danger: (1) Removal by the bistoury, a plan which is almost absolete. (2) Removal by the tonsillotome, which elevates the tonsil. (3) Removal by the flat tonsillotome (McKenzie). (4) Removal by the galvanocautery snare. (5) Removal by the cold snare. (6) Dissection, or tonsillectomy by the galvanocautery knife, requiring several sittings.—*Illinois Medical Journal.*

## A CHEAP AND SERVICEABLE INSUFFLATOR.

By E. J. KEMPF, M.D.,
JASPER, IND.

THE therapeutic value of medicated powders has always been recognized, and their use can be greatly increased if a little common sense be used in the home production of apparatus for the use of the powders.

Take an ounce quinine bottle, perforate the cork in two places, insert glass tubing which can very easily be bent over an alcohol flame, and to the end of the tube which is the longest in the bottle and shortest without, attach an ordinary atomizer bulb that can be bought at any drugstore for twenty-five cents.

The cost of this powder-blower need not be over thirty-five cents and a little labor, and it will be the equal of any powder-blower ever made. I have used it for the last fifteen years with the greatest satisfaction to myself and patients. The article in the MEDICAL RECORD of November 21, 1903, on a new form of insufflator, by Sayer Hasbrouck, M.D., induced me to call the attention of the medical profession to an instrument easily made, and at almost no expense. Try it.

## Medical Items.

**Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending December 12, 1903.:**

| | Cases. | Deaths. |
|---|---|---|
| Measles | 505 | 6 |
| Diphtheria and croup | 428 | 41 |
| Scarlet fever | 249 | 3 |
| Smallpox | 2 | ... |
| Varicella | 106 | ... |
| Tuberculosis | 266 | 166 |
| Typhoid fever | 68 | 15 |
| Cerebrospinal meningitis | ... | 7 |

**A Systemic Affection and Febrile Symptoms with Rontgen Dermatitis.**—Guido Holzknecht denies many symptoms often reputed as following or accompanying the use of Röntgen rays, but states that a definite and clearly defined secondary constitutional illness may follow Röntgen dermatitis. These symptoms do not appear in connection with each attack, but are rare, occurring at the rates of 1 to 1000 or less in cases of this dermatitis. This is the clinical picture. There are evening intermittent fevers, with considerable rise of temperature (30.5° C. or more), appearing, as a rule, when the reaction has reached or passed its height. There are mild chills followed by feelings of heat. The temperature rises to about 39° C., sleeplessness, concentrated urine. Irritating urination appeared in one case. The fever generally lasts a few days or a week, usually stopping when the stage of desquamation or new epidermization begins. In one case it lasted three weeks, but here there were several reactions at different times, and the edges of the patch had long been covered, while the center was still a reddish blue. The appetite remains good, there is no headache, no loss of strength. In a group of five cases there was a universal or a partial exanthema over the body—in form of a small papular dermatitis, crowded in some places, presenting an erythematous surface. The eruption appeared with the first rise of temperature and faded out within a week. It was entirely gone in a few weeks. In two cases it was mistaken for scarlet fever. In one case it was mistaken for septicæmia, with the excoriated Röntgen dermatitis as the point of entrance. The likeness was perfect except for the continued well-being of the patient.—*Archiv für Dermatologie.*

**The Climate Cure in Consumption.**—S. A. Milliken suggests that the medical profession establish a chain of sanatorium settlements extending from the woods of Maine to the deserts of Arizona, from the mountains of New York to the beaches of Florida, from the pine-groves of Washington to the orange groves of Southern California, and from the gulches of Colorado to the plateaus of Oaxaca, with the organization of a corps of student workers whose business it should be to dig and delve, to explore and investigate, to study and experiment, to arrange and classify, to select and digest and to apply for the good of the sufferer the knowledge gained. There should be such arrangements made that each patient could be sent to the place best suited to his needs, and changed from one place to another as necessary. The scheme may sound Utopian, but, according to the author, is perfectly practicable. It should start with the establishment of headquarters at a point deemed most suitable for a receiving and distributing center, with a few tents and cottages at other points offering varied conditions as regards altitude, temperature, humidity, etc., and such provision for attendance that the patient in the remote tent in the mountains should have the same skilled supervision and the same care, in so far as he needed it, as the patient in the home settlement. Extension would follow in time.—*The Alkaloidal Clinic*, November, 1903.

**Pneumothorax in Children.**—David Bovaridi reports two cases of this disease produced by the rupture of areas of bronchopneumonic consolidation occurring as complications of measles; two cases produced by the rupture of small abscesses of the lung, the clinical history of which is not known, and a fifth case, which was probably due to the rupture of an emphysematous vesicle. From the limited number of cases reported in literature, it would appear that pneumothorax in children is most liable to occur in the diseases which are characterized by their tendency to bronchitis, bronchiectasis, and branchopneumonia; namely, measles, diphtheria, and whooping-cough. It occurs also in association with tuberculosis of the lungs, but apparently not with the frequency noted in adult life. As only four of the eighteen cases collected, recovered, pneumothorax in childhood must be considered a very grave complication. Experience is too limited to attempt to formulate any rules for the treatment of the affection, but the extensive displacement noted in one of the writer's cases, and the evidences found of resulting interference with the function of the heart, suggest the advisability of withdrawing the air from the pleura, or, in the event of the failure of this procedure, making a free incision into the pleura.—*Archives of Pediatrics.*

**Chorea; What Is It?**—Charles J. Aldrich divides chorea into two classes: (1) Chorea of Sydenham. (2) Secondary or symptomatic chorea, including (*a*) chronic progressive, or Huntington's chorea; (*b*) prehemiplegic disorders of movement; (*c*) post-hemiplegic disorders of movement; (*d*) congenital chorea, more properly congenital athetosis; (*e*) chronic chorea. A satisfactory presentation of the pathogenesis of chorea in the present state of our knowledge is impossible. It is evident that we have to deal with an abnormally susceptible nervous system and the action of some toxin or toxins which are the result of bacterial infection. The belief is growing that the disease is due to irritation of the motor mechanism, most probably the cells of the cerebral cortex, by some irritant of infectious origin. That individual predisposition usually exists is certain, and that the rheumatic diathesis, particularly when associated with degenerative types and precocious development of the mental and psychical functions must be considered important causative agents, is positive. Indeed, it must be regarded as a disease of neurotic stock, a stock too finely organized to undertake safely the competition, the overwork, anxiety, and successes, as well as the failures of school life; unable to withstand successfully the changes of adolescence as well as early pregnancies—in fact, anything which produces a lowering of the normal physiologic resistance.—*Archives of Pediatrics.*

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## Original Articles.

### MORS OF THE PONTO-MEDULLO-CEREBELLAR SPACE. ACOUSTIC NEUROMATA. CENTRAL NEUROFIBROMATOSIS.)*

By JOSEPH FRAENKEL, M.D.,
AND
J. RAMSAY HUNT, M.D.,
NEW YORK.

DER the above title will be considered a group of es characterized by a local or regional manifestan of neurofibromatosis. This consists in the mation of tumors (single or multiple) on one or re cranial nerves. The acoustic nerve is most quently thus affected and next in order the geminus. How often and to what extent the ner cranial nerves become implicated in the urofibromatous process is not definitely settled.

The pathological occurrences on the cranial rves are identical with those of generalized urofibromatosis of the cerebrospinal and sympaetic nerves. The two types are not infrequently und associated.

One of the first cases belonging to the group der discussion was reported by Foerster[1] in 62. In 1900 Von Monakow[2] reported three es in which the anatomical and clinical peculiares were accurately stated. He called especial tention to the surgical possibilities of the contion. Since then Henneberg and Koch,[3] Hartan[4] and Sternberg[5] have made valuable contribuns to the subject.

The condition is by no means a rare one. The ajority of the recorded cases are found classified der the various headings of intracranial tumors mors of the posterior fossa, tumors of the rebellum, pontine tumors, etc.). Our contribun consists of the report of five cases with autops. Three were cases of tumors of the acoustic; e a case of bilateral tumor of the acoustic, and e a case of tumor of the trigeminus. Four of the es were observed by ourselves and for permission publish the fifth we thank Dr. B. Onuf.

*Etiology.*—The underlying causative factor in all es is a teratological one. The rôle played by umatism, frequently mentioned in the histories these cases, is apparently of no greater importance d is as uncertain as in cases of brain tumor in neral.

*Pathology.*—Regarding the frequency of neuromatous involvement of the cranial nerves, it necessary to emphasize that we consider here rticularly the involvement of the intracranial gment of the respective nerves. The acoustic ows a marked predisposition and is most frelently involved, rather rarely on both sides. e trigeminus is next in order, but rarer. The cial is believed by some to be occasionally the t of these tumors; its proximity to the acoustic rve renders pathological decision difficult.

The neurofibromatous involvement of the other nial nerves, which has been reported, was mostly extradural. It is also to be noted that the neurofibromata found on the other cranial nerves were usually associated with generalized neurofibromatosis, and rarely of clinical significance. The fibromatous growths of the acoustic are of rounded form, varying in size from a cherry to a hen's egg, of fibrous consistency and distinctly encapsulated. The surface is nodular and irregular. Care in the examination will usually demonstrate their attachment to the atrophic nerve trunk. A small remnant of the nerve trunk, a few blood vessels and loose meningeal adhesions form the only connections of the tumor with its surroundings; hence it may be lifted with ease from its attachments, leaving a corresponding excavation in the structures composing the ponto-medullo-cerebellar space.

Sometimes the growth diffuses itself along the acoustic nerve, penetrating the meatus auditorius internus. Histologically these tumors are neurofibromata. Medullated nerve fibers may be demonstrated by the Weigert method in the peripheral and central portions of the tumor. Very commonly, in the more advanced stages, the growth assumes a sarcomatous nature. The cells become enlarged, proliferate and show mitotic changes; increased vascularization with hemorrhages are also observed.

In a limited number of cases glia tissue has been demonstrated in these tumors, and gliosarcomatous degeneration has taken place. Myxomatous and cystic degeneration is also noted.

One of our cases was accompanied by curious changes in the cerebral cortex, consisting of protrusions and minute herniæ, attached to and sometimes perforating the dura. These appeared as minute tufts and excrescences, which, when the dura was stripped off, left depressions with sharply demarcated boundaries. Histologically these herniæ were formed of brain substances, composed largely of ganglion cells of the spindle type and of glia cells. The outer portion is fungoid and structureless. There were no evident vascular or inflammatory changes observed.

Interesting cortical findings in cases of fibromata of the acoustic were reported by Henneberg and Koch. They reported hyperplasia and hypertrophy of the glia cells of the cortex, especially in the deeper layers. In some areas these changes could be observed with low power. Another associated pathological change was found in one case reported by Henneberg and Koch and in one of our cases; namely, endotheliomata and psammomata of the dura mater. Cases are recorded which were complicated by the presence of sarcomatous tumors within the substance of the brain. These changes may all be cited as further evidence of a congenital tendency to teratological conditions.

The point of origin of the tumors under discussion is still an undecided question. The subject is somewhat complicated by the occasional heterogeneous structure of the tumors (fibrosarcomata, gliosarcomata.)

For a short but variable distance, prolongations of the glia accompany the nerve trunks after they pierce the fibrous sheath. This would afford an

*From the Montefiore Home and the Pathological boratory of the Cornell University Medical College. ad before the American Neurological Association, y 13, 1903.

explanation for the occurrence of glia elements in the growth.

Another attempt to explain the origin and nature of these tumors is made by Sternberg on the basis of developmental peculiarities. Sternberg believes that these tumors arise from embryonal rests of the so-called dorsal cranial nerves. Of these the trigeminus, acoustic, facial, glossopharyngeal and vagus arise from the so-called neural ridge, while the other cranial nerves are outgrowths of the original cerebral vesicles.

The neural ridge appears at an early embryonal date, when structural differentiation has not yet taken place. This affords an explanation of the presence of groups of atypical cells, which subsequently take on fibromatous, sarcomatous, or gliomatous proliferation.

*Symptomatology.*—This group of tumors courses under the clinical picture of tumors of the posterior fossa of the skull. The essential feature distinguishing these tumors from those originating within the substance of the brain-stem or cerebellum, is the early appearance of symptoms referable to a single

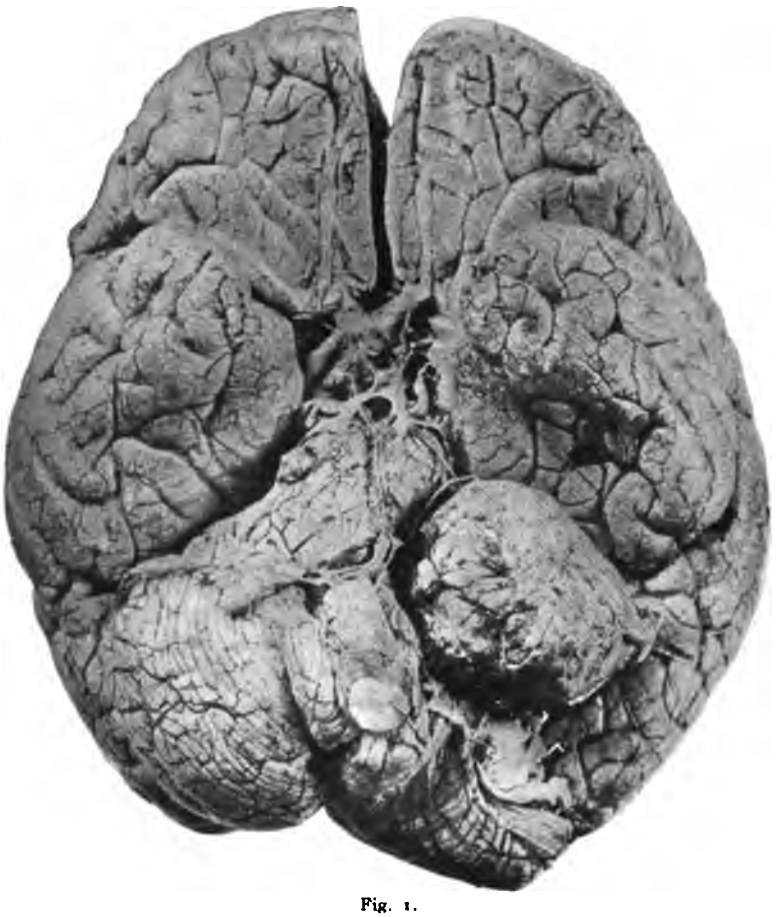

Fig. 1.

cranial nerve. These, because of the benign character and slow growth of the tumors may precede for a considerable time, any other focal or general symptom. As stated above, the nerves most frequently thus affected are the eighth and the fifth; hence tinnitus aurium with progressive diminution of hearing; attacks of Ménière's syndrome (aural vertigo) in the one case—obstinate and atypical attacks of facial neuralgia in the other case, will prove points of diagnostic importance.

With the further progress of the disease, structural changes of the fibers occur with objective clinical evidences. Because of histological peculiarities which these tumors possess in common with the neurofibromata of the spinal peripheral nerves, the conductivity of the fibers is not always completely abolished. Thus it happens that even in advanced stages, the affected nerves still preserve some of their functions.

With the increase in the size of the tumor, the neighboring parts, pons, cerebellum, medulla and basal nerves, show evidences of pressure: Peduncular ataxia, tendency to deviate or fall to the same or opposite side, cerebellar ataxia, nystagmus, irregularities in size and reaction of pupils, paralysis of associated movements of the eyeballs, dysarthria, dysphagia, homo- and contra-lateral and crossed paralyses of the extremities, paralysis of the facial or abducens of the peripheral type, motor disturbances of the palate or tongue, circulatory, respiratory, vasomotor phenomena and attacks of Adam-Stokes' syndrome.

*Diagnosis.*—The diagnosis of the condition rests upon the symptom complex of tumor of the posterior fossa of the skull, preceded by well-marked and long-continued symptoms, referable to disease of the fifth or eighth nerves. Naturally, many other pathological conditions in the posterior fossa may produce symptoms simulating quite closely those of the primary neurofibromata of the fifth or eighth nerve. (Aneurysm of vertebral artery, primary disease of the structures of base of skull or meninges.)

From the standpoint of differential diagnosis, the chronological relation of the neural symptoms to the general symptoms, the relative intensity of the neural and the other central symptoms, are determining factors.

*Prognosis.*—Owing to the proximity of vital centers these tumors share the fatal prognosis with other [illegible] lesions of this locality. The favorable features are the extreme chronicity of the condition, which, however, may at any time be interrupted by a sudden rapid proliferation of the growth, or by its to sarcomatous or other malignant change.

*Therapy.*—Removal of the growth by operative procedure offers the only hope. Because of the loose attachment of these tumors to their surroundings, we may hope, that in spite of the unfavorable location, a perfected surgical technique will improve the prognosis.

Case I.—Female, fifty-one years old. Disease began six years ago with headache, vomiting, vertigo, progressive left-sided hemiplegia. Static ataxia, falls toward left, paralysis of left seventh with changes of the electrical reactions, left-sided hemiparesis and hemiataxia, choked disk, left-sided deafness, nystagmus, left-sided abducens palsy, increased salivation, stupor, somnolence.

*Autopsy.*—Solitary neurofibroma in left ponto-medullo-cerebellar space. Left fifth adherent to surface of growth. Left eighth is not demonstrable.

C. M., a married Russian Jewess, entered the Montefiore Home July 6, 1894. The mental condition of the patient at the time of admission was such as to yield only meagre and unreliable data of her previous history. Dr. R. Abrahams of this city, who directed patient to the hospital and who had observed her for some time previously, kindly furnished the following notes: About one and one-half years ago, patient began to suffer from paralysis of the left side of the body, beginning in the leg, gradually ascending to the arm and finally invading the face of the same side. Speech was difficult; vision

and hearing of left side were impaired; memory was imperfect and vomiting was an occasional symptom.

During the patient's stay in the institution the following notes were taken: Family history: No definite information obtainable. Previous personal history: No definite information obtainable. Cause of present illness: Not definitely known; no history of traumatism or previous infectious disease. It is said to have begun about five years ago. The initial symptoms were occasional attacks of severe generalized headache, rarely accompanied by vomiting. The intervals between the attacks grew shorter, the attacks became more severe, and were more frequently associated with projectile vomiting. Since about one and one-half years left sided hemiplegia with slight speech disturbances. At time of admission, the patient complained of severe continuous headache, not particularly localized, vertigo, vomiting, impairment of sight and hearing, and annoying increase of salivation.

*Examination* showed: Static ataxia; swaying with closed and open eyes; inclines and falls toward left side; hemiplegico-atactic gait; pupils unequal, right smaller, all reactions present; when eyes turn toward left, the left eyeball stops at middle line;

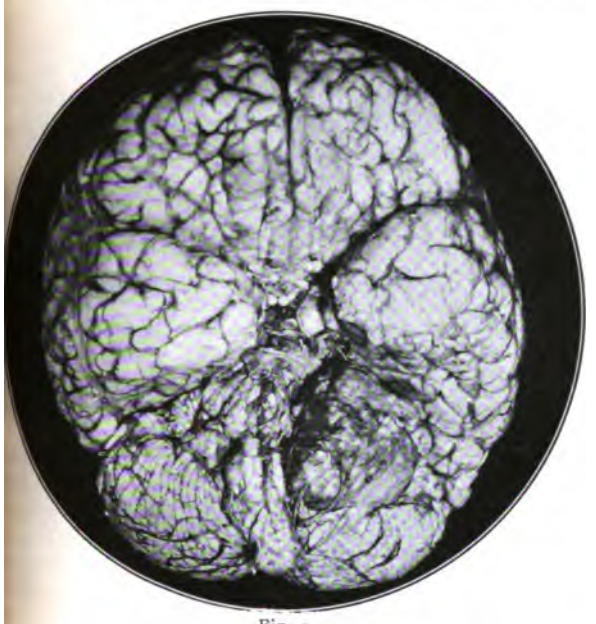

Fig. 2.

when turned toward right and upward, marked nystagmus (abducens palsy); paralysis of left facial with quantitative changes of electrical reactions; hearing impaired on both sides, particularly on left; moderate paralysis of left sided extremities with increased tendon reflexes; left sided hemiataxia; choked disk.

Up to time of death in May, 1895, these symptoms grew worse. Patient suffered particularly from headache and incessant drooling. Frequently serious attacks of somnolence were noted.

*Autopsy.*—Brain only was removed. A tumor the size of a bantam's egg was found in the left ponto-medullo-cerebellar space (Fig. 1). The growth was of firm, fibrous consistency, having a nodular surface. The attachments to the base consist of a few meningeal adhesions and blood-vessels. The left fifth is adherent to the surface of the growth. The tumor is readily removed, leaving a deep excavation on the pons, medulla, and cerebellum. The root of the eighth nerve could not be demonstrated, and was evidently torn away. Microscopically the growth presented the characteristics of a neurofibroma. The other cranial nerves were normal.

Case II (Dr. Onuf's case).—Male, forty-one years old. Onset: Headache, aural vertigo, tinnitus, later choked disk, facial neuralgia. Ataxia, deviation to right side, left-sided facial tic, left-sided deafness, choked disk, nystagmus, exaggeration of reflexes.

*Autopsy.*—Neurofibroma in the left ponto-medullo-cerebellar space, probably originating from the left acoustic. Curious cortical depressions.

S.I., Forty-six years old, janitor, born in the United States, was admitted to St. Catherine Hospital May 2, 1902. No specific history. Family history: No data of importance. Previous personal history: No venereal infection; no history of traumatism. Present disease: Began in the winter of 1902.

The first symptoms were headache in left occipital and left temporal regions, shooting pain with tinnitus and curious noises "like a steam pipe" in the left ear. The latter was particularly noticeable in recumbent position. In March, 1902, attacks of severe vertigo, with disturbances of equilibrium and vomiting, lasting from three to five minutes and recurring two to three times weekly. In April, sharp pain in both upper jaws, which persisted after removal of some defective teeth. At same time vision began to fail, and within two weeks only quantitative light perception was left. No diplopia.

*Status præsens:* Static and locomotor ataxia. Deviates to right side. Mentally excited and irritable. Dulness of olfactory sense on both sides. Choked disk, more marked on right side. Pupils widely dilated. No reactions. Rotatory nystagmus, also during ophthalmoscopic examination. No ocular palsies. Motor and sensory portion of fifth undisturbed. Occasional clonic twitchings in left facial musculature. No facial paralysis. Deafness on left side. No motor or sensory paralysis. No defects of coördination. Fine tremor of hands. Tendon reflexes not elicitable on upper extremities. Knee-jerks variable. In the early stages left knee-jerk weaker than right; later both knee-jerks exaggerated, especially right. Bilateral ankle clonus. Abdominal, epigastric, cremasteric reflexes absent. Plantar reflex exaggerated, flexion type.

Death occurred from typhoid fever.

*Autopsy.*—Brain only removed. In the left ponto-medullo-cerebellar space a firm tumor was found, enclosed in a smooth, glistening capsule, approximately the size of a hen's egg (Fig. 2). The surface is broken by irregular nodulations. On removal from its attachments a deep excavation is exposed, corresponding to the junction of pons, medulla, and cerebellum. This depression is 1½ inches long and 1½ inches wide. No nerve trunks can be demonstrated microscopically, passing into the capsule of the tumor. The left fifth nerve has been compressed by, but not incorporated in the tumor. The left sixth, seventh, and eighth nerves could not be demonstrated, having been torn off in removal. All other cranial nerves were normal. The tumor presented quite extensive areas of cystic degeneration with hemorrhages and necroses. Histologically the tumor is a neurofibroma; no evidences of sarcoma were noted.

By the Weigert method a nerve trunk is demonstrated entering the capsule of the tumor. At this point a network of nerve fibers courses around the periphery. A few scattered medullated nerve fibers are also situated centrally. The pyramids, lemniscus, fasciculus longitunalis posterior, posterior columns, showed no evidences of degeneration. The ascending root of the left fifth nerve showed slight evidences of atrophy.

The cerebral cortex was the seat of curious microscopical changes (Fig. 3). One similar spot was

observed in the upper part of the vermis-cerebelli. These consist of small depressions with a very sharply demarcated boundary. The larger number have the size of a pin's head; some are smaller,

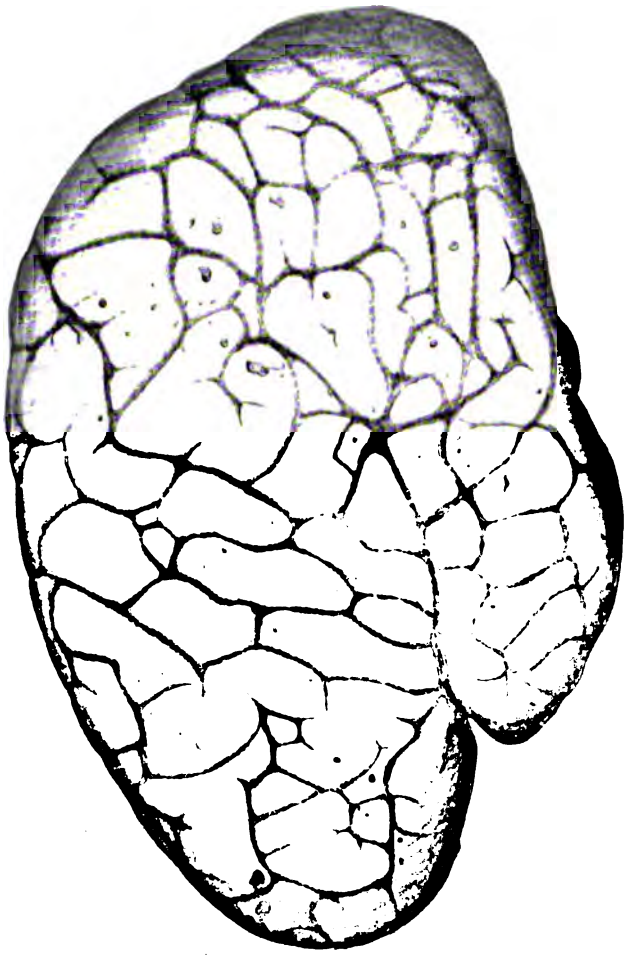

Fig. 3.

some larger. Many of them have projecting from the interior, a small fungoid tuft, which is adherent at the base, but unattached to the rim.

Many of the depressions contain no such tufts, they having apparently been torn away in the removal of the dura, as these projections were not only attached to the dura, but often perforated it. They were noted at the base of the brain, but more particularly over the temporal and parietal lobes.

No special abnormality was noted in the region of the Pachionian bodies; from which the tufts were easily distinguishable.

Histological examination by the Nissl and Van Gieson methods: In general these depressions correspond to the tip of a cortical medullary column, from which wave-like groups of spindle cells pass through the various layers of the cortex to the external surface. Here the cells protrude as structureless tufts seen macroscopically. The general cell type is fusiform with large oval nuclei and nucleoli of the ganglionic type. The cortical cells immediately enclosing and surrounding these plugs of spindle cells are normal in character and distribution. There are no evidences of inflammatory reaction.

Case III.—Russian, female, forty years old. Disease began about five years ago with attacks of headache. Static and locomotor ataxia, deviation to right side, paralysis of right seventh with changes of the electrical reactions, right-sided facial tic, hypæsthesia of right side of face tonus and reflexes variable, choked disk.

*Autopsy.*—Gliosarcoma in right ponto-medullo-cerebellar space, apparently originating from right fifth. Small tumor on left fifth nerve.

F. C., a Russian widow, forty years old, entered the Montefiore Home, October 11, 1898. Family history: No reliable data obtainable. Previous personal history: Negative. Onset and first symptoms of the disease were uncertain. Began about five years ago with attacks of severe headache apparently frontal. Some time afterward vomiting accompanied the headache. About one and a half years ago vision began to fail. Since December, 1897, inability to walk. The patient complains of loss of vision, attacks of headache and vomiting, almost constant and annoying pain in left half of body, particularly in left upper extremity.

The patient is of medium height, somewhat pale, poorly nourished. Skin flabby, markedly inelastic; a skin fold is slow in disappearing. The entire attitude of patient is strikingly immobile. Patient answers questions correctly in a very slow and monotonous fashion. All motor functions are executed in the same slow way. Patient is unable to stand or walk without assistance. Inclines and falls toward the right side (Fig. 4). Attitude hemiplegic. Gait hemiplegico-attactic.

*Head.*—Skull is not tender to percussion. Percussion note is dull on left side. Patient is unable to keep head balanced, it falls to right side like a dead weight. Face is covered with beads of perspiration on both sides; pallor and flush alternate; mechanical irritation of face evokes a long lasting vasomotor reaction. Lateral excursions of head are fairly normal; movements in antero-postero direction are limited and apparently painful. Mentally the patient is dull and apathetic, frequently going into a semi-stuporous state. Speech is slow and monotonous. No other decided mental defects.

Fig. 4.

*Cranial Nerves.*—Sense of smell is apparently dulled on both sides. The olfactory nasal reflex present, though very sluggish. The right optic nerve seen with difficulty. Contour cannot be traced. Corneal opacity. General optic reflex whitish. The left optic nerve much more easily seen. Contour indistinct. Central artery divides quickly above and below into small and very tortuous branches. Spots of hemorrhage are found here and there. Both retinæ very red; vision entirely gone.

Ocular axes are not parallel; no stable position of eyeballs; palpebral fissures are frequently varying in width, changing from position of semi-ptosis to one of normal width or even stare. The right palpebral fissure usually narrower than left. Pupils somewhat dilated, left somewhat wider. Direct pupillary reactions perverted; illumination dilates the pupils still further. Pain reaction present; other reactions cannot be tested. When patient is asked to move eyes in different directions, it is noticed that she moves eyeballs upward and downward normally, but less so to right and left—in fact, hardly any to left. Now and then the eyeballs twitch when turned in lateral direction. The conjunctival sacs are filled with purulent secretion, particularly on right side. The opticopalpebral reflexes are absent. The conjunctival reflexes are present, diminished, particularly on right side. Patient permits flies to promenade in right conjunctival sac.

Motor portion of fifth nerve is apparently normal. Sensibility on right half of face apparently dulled.

Total paralysis of right seventh nerve, including the upper branch. The face drawn to left side. Fibrillary and tonic contractions of musculature of right half of face frequently observed. Mechanical irritability of right-sided facial musculature is increased, but the response is very slow and vermicular. Faradic response of right facial musculature absent; with the galvanic current a partial degeneration reaction is obtained.

Sense of hearing is diminished on both sides, particularly on right.

Innervation of soft palate apparently normal and equal on both sides. No dysphagia. Pharyngeal reflexes absent. Tongue shows heavy coating, limited to right half; on protusion it deviates markedly to right side. The right half is flabbier, the electrical response of this half is markedly vermicular. Sense of taste is considerably impaired in anterior two-thirds of right half of tongue; in the posterior third and in the pharynx gustatory paræsthesias exist.

*Upper Extremities.*—The musculature is flabby, interdigital spaces sunken, particularly on right side. Marked hypotonia, particularly on right side. General motor weakness of both upper extremities. No incoördination. Tendon reflexes not elicitable. The muscles respond to stimuli, voluntary, mechanical and electrical, in a curious slow, almost vermicular, fashion. Sensibilities, as far as could be ascertained, unaltered.

*Lower Extremities.*—The position, attitude, and volume were without noteworthy features. General motor weakness. Marked hypotonia, particularly on right side. Patellar tendons soft. Knee and Achilles jerk cannot be elicited. Plantar reflex present; slow, flexion type. Slight ataxia; no evident disturbances of sensibility. Muscular responses the same as in the upper extremities.

*Trunk and Abdomen.*—No motor paralysis. Respiration superficial; intercostal functions fairly normal; diaphragmatic, weaker. Abdominal reflexes absent on left side. Neck is well formed. Thyroid gland not palpable. No demonstrable abnormalities of visceral organs. Sphincters occasionally derelict. Marked constipation. Urine negative. Pulse 96, temperature 97, respiration 6.

*Course.* — October 16, 2.40 P.M.: Patient is perspiring profusely, drools, passes urine involuntary.

October 18: Complains of severe pain throughout left half of body, particularly left half of face and left upper extremity; the latter is uncomfortable in any position.

October 20: Attack of profuse perspiration, increased salivation.

October 25: Ocular excursions normal. Knee-jerks present on both sides, exhaustible and intermittent on right, always demonstrable on left. Achilles reflex ditto.

October 30: Lateral ocular excursions limited; normal in other directions. Achilles and knee-jerks obtainable.

November 6: Ocular excursions to right side limited and accompanied by nystagmus. Knee- and Achilles jerks not obtainable.

November 12: Complains of pain in left eye and left upper extremity, severe occipital headache. Knee and Achilles jerks not obtainable. Ocular excursions normal. Considerable ataxia in both upper and lower extremities of left side. Marked diminution of motor power of left lower extremity. Now and then a knee-jerk is obtained, vermicular without locomotor effect. On right, Achilles jerk is present, intermittent; also on left.

November 21: Patient is semi-conscious; does not recognize any one; profuse perspiration. Temperature 97°, pulse 100, respiration 8. Patient is restless, throws arms and legs about; this condition lasted half an hour.

November 28: Patient complains of pain in left upper extremity. Knee-jerks elicitable, varying in intensity; so also muscular tone. Achilles jerk not elicitable.

From now until the middle of January the state of the tendon reflexes and muscle tonus of the lower extremities were examined daily. This examination revealed the following facts: (1) The inconstancy of these phenomena, varying daily even in a short time during the same examination. (2) The constant diminution of the right-sided tendon jerks and muscle tonus. (3) The occasional exaggeration of both tendon jerks and muscle tonus on left side; on this side a spurious ankle clonus was frequently observed.

January 14: Patient complains of general weakness and pain in eyes, particularly in right. Neuroparalytic keratitis of right side. Right palpebral fissure smaller. Right-sided extremities show hypotonia; left sided, hypertonia. Left knee-jerk strong; right, diminished and exhaustible. Right-sided Achilles jerk present; on left side, ankle clonus.

February 15: Right eye considerably congested, cornea hazy, showing a number of abrasions; conjunctival reflexes present, diminished on right side. Deep sensibility of upper lids preserved. Ocular excursions show irregular deficiencies, are jerky. The excursions of each eye, separately and in conjunction, show weakness of the superior oblique; all ocular movements are slow, hesitating, interrupted, and jerky. Pain sense considerably diminished on right half of face. Left knee-jerk present; slight left-sided ankle clonus; right-sided tendon reflexes weaker.

March 7: Tendon reflexes of lower extremities not elicitable. A few minutes later left knee-jerk present and left-sided ankle clonus. Reflexes on right side absent.

March 9: Patient is comatose; does not answer questions. Rectal and vesical incontinence. Both patellar reflexes lively. Both Achilles jerks absent; both plantar reflexes absent.

May 25 : Both lower extremities drawn up. Acute decubitus.

June 8 : Patient is again in stuporous condition. Respiration 8, irregular; pulse 120°, temperature

Fig. 5.

100°. Both knee-jerks are present. Ankle clonus on both sides.

Patient died in this condition June 9, at 4 A.M.

*Autopsy.*—Post-mortem examination revealed the presence of a tumor in the right ponto-medullo-cerebellar space. (Fig. 5). The tumor was about the size of a walnut, nodular, of firm consistency; the

Fig. 6.

pons is pushed to left, the medulla is slightly pressed upon.

There were absolutely no traces of the right fifth nerve demonstrable. The tumor was loosely attached to the surroundings. On the left side the root of the fifth nerve is converted into a spongy mass four to five times the size of a normal root. This tumefaction is made up of loose areolar tissue, containing large blood-vessels and ganglion cells.

It is difficult to identify the eighth nerve of the right side. Microscopically the tumor showed the structure of a gliosarcoma. Fillet and pyramidal tracts unchanged. In the upper cervical region there are evidences of old ascending degenerations, of the columns of Goll and Burdach, and of the anterolateral tract. Marked degeneration of ascending root of right fifth. Nerve roots and nuclei of medulla normal.

CASE IV.—Early deafness, since fifteen years of age. Onset: Headaches and aural vertigo; later, dimness of sight. Deviates to right side; static and locomotor ataxia, inequality of pupils; paresis of right abducens; paralysis of right seventh with changes of electrical reaction; choked disk; deafness on both sides; hemiplegia cruciata, exaggerated reflexes of left lower and right upper extremity, left-sided Babinsky.

*Autopsy.*—Multiple endotheliomata of dura mater (10 ocounted), bilateral neurofibroma of acoustic nerves.

S. B., forty-two years old, a Russian woman, was admitted to the Montefiore Home on May 5, 1900. Family history (obtained from daughter): Patient's mother died suddenly from unknown cause; her father, four sisters, and two brothers are all living and well. Previous personal history: Had typhoid fever at age of seven; became suddenly deaf at fifteen; gave birth to twelve living children and had two miscarriages. Five children died in infancy from infectious diseases; the others are well. Present disease is said to have begun two years ago. The first symptoms were headache and attacks of severe vertigo, which made the patient fall to floor without loss of consciousness. Five minutes after an attack patient got up and continued about her housework.

She gradually became weaker and more helpless, and at the end of one year was unable to move without assistance. Vision began to fail about eight months ago. Patient vomited only once during the entire course of the disease.

The patient is below medium height, rather poorly nourished, muscles very flabby, particularly the right-sided ones. Marked static and locomotor ataxia. Patient has a tendency to fall toward the right side. Patient is totally deaf and almost totally blind, and therefore the examination is in many respects insufficient.

*Head and Cranial Nerves.*—Excursions of head limited in all directions. No tenderness of skull. Sense of smell considerably diminished on left side. Bilateral choked disk going into atrophy. Convergent strabismus. Marked weakness of right external rectus. Pupils unequal; right larger. All reactions present. Paralysis of all branches of right facial nerve with partial degeneration reaction. Tongue deviates to right and shows slight fibrillary tremor.

*Upper Extremities.*—Considerable diminution of motor power of right upper extremity; slight ataxia of left upper extremity; moderate contractures in both, particularly of the right.

Patient usually favors the right upper extremity. Reflexes in both upper extremities lively, particularly right sided. No sensory disturbances. No atrophies.

*Lower Extremities.*—Considerable motor paralysis of left lower extremity. Considerable contracture of right lower extremity. Patellar reflex is lively on both sides, particularly on left. Achilles reflex lively on left, diminished on right. Plantar reflex present, flexor response, bilateral pes cavus. No incoördination. Loss of deep sensibility in both lower extremities.

May 21, 1901: Patient drinks large quantities of water. Complains of thirst and of frequent micturition. The examination of the visceral organs is negative.

The picture remained unchanged until patient died of respiratory paralysis August 4, 1901.

*Autopsy.*—Only the brain was removed. The dura mater was found to be the seat of multiple tumors of various sizes, from a split pea to a cherry (Fig. 6). The larger ones produced depressions on the cortex. One hundred individual tumors were counted, but there were many more.

The larger ones were found: (1) On the mesial surface of the left frontal lobe. (2) Just anteriorly to the right para-central lobe and in the middle of the right Rolandic area. (3) Over the left calcarine fissure. (4) The entire falx was a tumor mass the size of a hen's egg, pressing on the mesial surface of the hemispheres. Only here were there evidences of retrograde metamorphosis.

The fifth, sixth, seventh, and eighth nerves of the right side were pressed upon.

A tumor was found in each ponto-medullo-cerebellar space. (Fig. 7). These tumors were of firm consistency; the surface nodular. They were approximately the size of a plum; the right was larger than the left.

The third, fourth, and fifth nerves of the right side were not found.

The right sixth nerve showed a nodular swelling the size of a split pea, and the left sixth nerve was the seat of minute swellings and tortuosities. Similar varicosities were also noted on the seventh, eighth, ninth, and tenth nerves of both sides.

Histologically the tumors of the ponto-medullo-cerebellar spaces and the varicosities and tumefactions of the basal nerves, showed the typical characteristics of neurofibromata.

The dural tumors were psammomata of the fibrous and alveolar variety; the first showing typically fibromatous structure, and the others groups of round cells, separated by an alveolar network. Nowhere evidences of sarcomatous degeneration. The pyramidal and sensory tracts of pons and medulla were unaltered. The processus cerebelli ad pontum showed atrophy and sclerosis.

Case V. (Preliminary report.)—Male, forty-two years old. Disease began six years ago. Tinnitus in left ear and occasional headaches. Later impairment of vision and uncertainty of gait. Static and locomotor ataxia; deviates to left side; left hemiasynergia and hemiataxia; exaggerated reflexes; deafness of left ear; paresis of left seventh; paræsthesias in left fifth; choked disk; operation by Dr. Geo. Woolsey. Removal of tumor from left ponto-medullo-cerebellar space. Death.

Patient was a Jewish pedlar, aged forty-two years. No syphilitic history. Eight years before head trauma (struck with fist). Six years before annoying tinnitus in the left ear; later diminution of hearing. Past four years subject to occasional occipital headaches and vertigo. During past year headaches and vertigo much worse, with cloudiness of vision. For the last six months there has been unsteadiness of gait.

*Status Præsens:* Watch tick not perceptible in left ear. Tuning fork vibrations very faint to aërial and bone conduction on the left. Paresis of left seventh nerve, more apparent in upper branch—with slight quantitative electrical changes. Paræsthesia in sensory distribution of left fifth with objective sensory disturbances. Moderate dysarthria. Pupils unequal, left wider than right. Reactions present. Amblyopia. Choked disk. A slow nystagmus in extreme positions. Hemiasynergia and hemiataxia of left side. Station: falls to left. Progression: deviates to left. Tendon reflexes active. Knee-jerk exaggerated; the left more than the right. No ankle clonus. Skin reflexes present. No Babinsky.

Operation May 7, 1903, by Dr. George Woolsey.

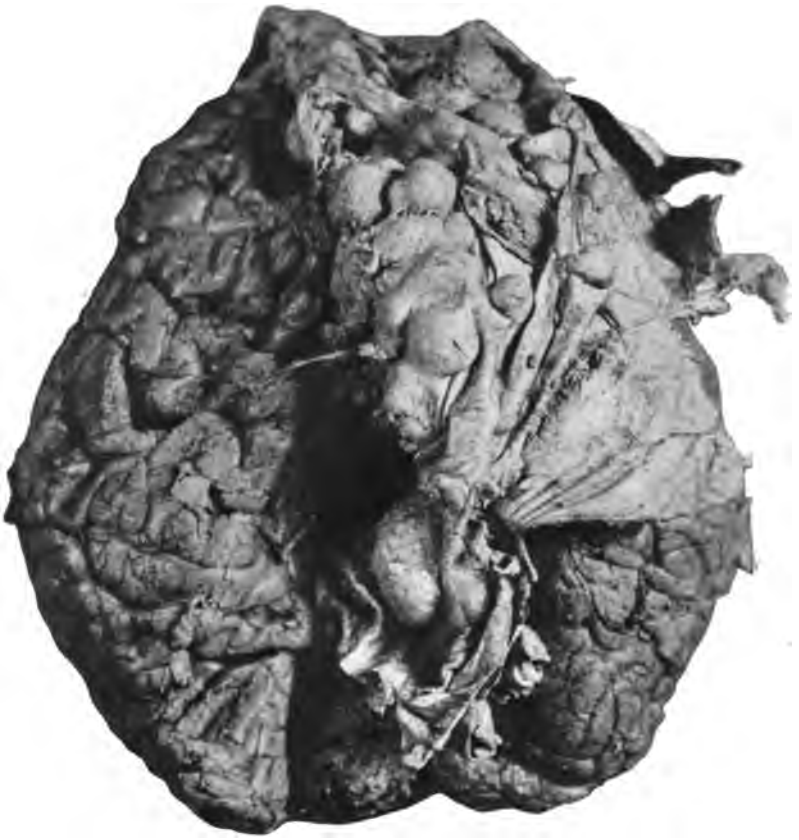

Fig. 7.

The occipital bone was trephined on the left side on its postero-inferior surface. The finger passed along the under surface of the cerebellum located a nodular growth in the left ponto-medullo-cerebellar angle about the size of a hen's egg. The tumor was broken up by gentle manipulations with the index-finger and removed in fragments.

Patient died twelve hours later, never having reacted, with symptoms pointing to implication of the cardiac and respiratory centers.

Histologically, the tumor was a neurofibroma.

*Conclusions.*—The foregoing cases show a common origin from cranial nerve trunks. Their pathological structure is of a kindred nature—neurofibromatosis, pure or in various stages of metamorphosis and transformation. The locality is almost identical—the angle formed by the junction of pons, medulla, and cerebellum. Their symptomatology, because of this localization, is, in the essential features, analogous,

The certainty of localization, the essentially benign nature of the growths, their loose attachment to the meninges and nerve trunks, distinguish this group of intracranial tumors as a most favorable one for surgical interference.

In view of all this, we find justification for the suggestion to assign a separate place to this syndrome in the group of intracranial tumors.

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## THE PRESENT STATUS OF THE TREATMENT OF LATERAL CURVATURE.

BY JACOB TESCHNER, M.D.,
NEW YORK.

MULTIFARIOUS papers exploiting ideas and opinions upon the question of treatment of lateral curvature appear from time to time, showing the unsettled state of affairs regarding the proper treatment and result in this condition. The late Dr. A. M. Phelps says:[1] "Lateral curvature of the spine arises before us each year like a specter. From every clinic in the country the orthopedic surgeon is deluging societies and medical journals with literature upon the subject. It is interesting to note that from the earliest records we can find upon the subject down to the present time the positive position of the author is only to be retreated from a year or two later."

It is high time in the writer's opinion concisely to lay before the general practitioner especially the true status of the treatments to which their patients are subjected and what they can expect in results.

Ten years ago our faith rested upon mechanical supports which we gave our patients in the shape of braces of all varieties of construction, plaster, and leather corsets, etc., and supplemented their uses by suspension and Swedish movements or some other show of exercise. The mechanical apparatus was to act as a retaining appliance, and the little exercise, which was supposed to act in a corrective direction was absolutely nullified by the retaining or supporting device. Some few began to hope for benefit in forcible redressment, and added that form of treatment to the one before described.

In 1895, after exhaustive experimentation and study, the writer published his paper on "The Treatment of Postural Deformities of the Trunk by Means of Rapid and Thorough Physical Development,"[2] in which he demonstrated beyond a doubt the superiority of the method of treatment devised by him, in that the results were not conjectural, but visible and rapid.

In that paper the author was the first to state, against the concensus of opinion of orthopedic surgeons, that rotation, even when bony and ligamentous changes had occurred, could be overcome. He strictly forbade the use of any retaining, immobilizing or supporting, apparatus of any kinds, because "each and every one will, to a greater or lesser extent, interfere with the mobility of the spine, and in that manner deprive the back, chest, and abdominal muscles of that perfect freedom of action which is a necessary and powerful adjunct in the treatment by gymnastics."

Since 1894 the results, even in the severe forms of curvature, have been uniformly good in hundreds of the author's cases.

How was this method received by orthopedists? What have they done since? What opinions do they hold, and what are they doing now? And what are their objections to carrying out this method in their practices? Writings and publicly expressed opinions supply some of the answers.

The method was looked upon as novel and amusing by some, too troublesome and taxing in its application by others, and still others saw its value but remained discreetly silent. Since then much has been written showing the trend of opinion that braces should be avoided whenever possible, surgeons gradually depending more and more upon exercises indifferently taught by incompetent persons.

In 1900 an indefatigable worker, Dr. Robert W. Lovett of Boston, with the collaboration of Prof. Thos. Dwight of Harvard Medical School, and Professor Hollis of Harvard University, gave the subject of "The Mechanics of Lateral Curvature of the Spine"[3] his closest attention, studying the mechanics upon the cadaver and artists' models. Drawing his conclusions, under the caption of "Treatment," he says: "Of course, theoretical conditions such as those given above are of value only in so far as they may influence prophylaxis and treatment." Under this caption, while he states that "the writer has endeavored to deal only with the broader aspect of the question and to avoid generalizations from clinical experience," his only reference to clinical experience is the following, viz., "It is easy to see from this point of view why symmetrical gymnastics such as those described by Teschner,[4] are of so much value; and it also explains, what many of us have found out empirically, that it is desirable to hold and exercise the spine in positions of extension." He further says: "By calling upon the intrinsic property of the spine to reverse in extended positions the rotation acquired in flexed positions, it would seem that we were pursuing a most rational course." Under the caption of "Gymnastics," he says: "Safety lies in prescribing only exercises of which one can estimate the anatomical effect."

That his conclusions are correct there can be no doubt; then why not carry out the deductions and apply them in practice in the treatment of patients?

In 1901, in an article[5] upon the treatment of fixed scolioses, he advocates forcible correction as preliminary only to gymnastic treatment, and he "would not wish to be understood to advocate the use of corrective plaster jackets except as a temporary means to secure a better foundation for better gymnastic or, if necessary, mechanical treatment." In arguing in favor of forcible correction and retention in plaster he says that "forcible correction is admittedly in its experimental stage."

Dr. E. H. Bradford[6] of Boston, in speaking of fixed cases, says: "This difficulty makes corrective treatment of advanced cases of scoliosis impossible, as osteotomy is not feasible in lateral curvature, and the amount of pressure necessary for altering the shape of grown bones in the trunk is so great that correction becomes impossible. . . . The surgical indications for treatment of lateral curvatures are now well understood. It is generally agreed that when the muscles are weak, and a faulty atti-

tude favored by weak muscles, the muscles should be developed."

Upon this follows the statement that "during the growing period faulty attitudes should be prevented by retaining apparatus if necessary. . . . In other words, the practitioner needs to consider: (1) Measures to promote flexibility in a localized position of the spine. Means for the greatest possible rectification of errors. (2) Gymnastic exercises of such muscles as may be needed in given cases to maintain corrected attitudes. (3) Appliances preventing faulty positions of the spine. (4) Means of recording condition and progress of the case.

"In practice the cases may, for convenience, be classified as follows: Cases needing correction, demanding considerable pressure and the use of a removable jacket, with or without exercises. Cases requiring flexibility and passive exercises, conducted by the surgeon or nurse. Cases suited for flexibility exercises done by the patient. Cases needing developing exercises measured by graded work and strength tests. Cases needing measures for improvement in carriage recorded by measure and photograph, to be kept under observation. . . . In the treatment of cases coming under his care, the surgeon will find the greatest difficulty in his attempts to increase the flexibility of the spine, as the development of muscles is pretty well understood.

Then follow the descriptions of devices for acquiring flexibility. "For means of muscular development, dumb bells can be made to answer every requirement under proper guidance. The use of heavy exercises with the addition of heavy bars is of the greatest assistance, as has been shown by Teschner and Erich."

In the second edition of Bradford and Lovett's "Orthopedic Surgery"[1] mention is made of heavy gymnastics, and they say: "This has been thoroughly carried out by Teschner of New York."

Fig. 1. Back of patient, showing severe rotary-lateral curve with a very deep depression under the right scapula, and marked elevation of the left hip October 4. 1898.

Fig. 2. Back of patient showing improvement in the curve—obliteration of the depression under the right scapula, the widening of the entire back, and the equalization of the hips. May 27, 1899.

After reading Dr. Lovett's second paper and the above-mentioned one of Dr. Bradford, where should one look for the cause of such an indefinite attitude?

Neither of the gentlemen has ever seen a demonstration by the author of this method, and as no one can be expected to obtain results by it unless he has not only seen it but has also been properly trained in its application, the cause is obvious.

Had he had the necessary training Dr. Lovett would never have advocated forcible correction and retention in plaster jackets as a foundation for gymnastic treatment, knowing that such a preparation must necessarily weaken the muscularity of the patient and give a very poor foundation. When one sees what has been accomplished in reducing a deformity in a case of severest type in a very short time (Figs. 1 and 2) by the author's method, why should a case be subjected to forcible correction which is "admittedly in its experimental stage"?

As an illustration of what has been accomplished in a case of the severest type of fixed rotary-lateral curvature, an example of the class of cases in which Dr. Bradford says that correction becomes impossible, reproductions of photographs of a patient of this class, whose spine was thoroughly rigid and who, by reason of his deformity, suffered from dyspnœa, cyanosis, and impaired cardiac action, are shown before and after the author's treatment by heavy gymnastics.

After this patient had been under treatment for a short time, his cyanosis and dyspnœa disappeared and he was equal to extraordinary physical exertion without the slightest sign of distress or fatigue.

The statements made by Dr. Bradford are hardly compatible with his eminence as an orthopedist. After stating that corrective treatment of scoliosis is impossible, he then says that the indications for treatment "are now well understood and that the muscles should be developed." That "during the growing period faulty attitudes should be prevented by retaining apparatus, if necessary." Faulty attitudes should be corrected during any period, and a retaining brace will only weaken the already weak muscles, without attaining the proper attitude.

How can any one "promote flexibility" in any "localized position of the spine." without promoting it in the entire spine? Why should "such muscles as may be needed in given cases to maintain corrected attitudes" be selected for gymnastic exercises, when all the muscles of the trunk and lower extremities coördinately control attitude? What appliance have we that has the virtue of "preventing faulty positions of the spine"? If there be such an apparatus the whole question of treatment is solved.

In his classification, for convenience in practice, he mentions "cases needing correction demanding considerable pressure," when he previously stated that correction by pressure was practically impossible. He mentions cases requiring flexibility exercises done by surgeon, nurse or patient.

All cases require increased flexibility, and why if, as he states that "the surgeon will find the greatest difficulty in his attempt to increase the flexibility of the spine, as the development of the muscles is pretty well understood," should it be left to the patient or nurse? Is either of them more competent than the surgeon? Is the fact that "the development of muscles is pretty well understood." a barrier to the acquirement of flexibility?

He also mentions cases "needing developing exercises" and "cases needing measures for improvement in carriage recorded by measures and photographs," etc. Does he mean to imply that the

following photographic reproductions of his schematic outline drawings (a part of his paper) are true or proper records of cases?

All the cases he refers to need development exercises, and they all need "measures for improvement in carriage," which are simply development and education of muscles whether they be recorded or not.

Fig. 3. Side view, showing the marked antero-posterior deformity, October 4, 1898.

Fig. 4. Side view showing reduction of the antero-posterior curve, and the development of the chest. May 27, 1899.

He does say, however, "The use of heavy exercises with the addition of heavy bars is of the greatest assistance, as has been shown by Teschner and Erich" For this we must give him due credit.

Whitman, in his work on Orthopedic Surgery,[8] says: "One of the most effective systems of treatment of lateral curvature is that advocated by Teschner of New York." Dr. Whitman has seen demonstrations of the system and has taken advantage of opportunities to see patients treated and has been shown results. Hence his statement.

How many cases to which he has given his personal attention, as the author does in his cases has he treated by this system? It is reasonably certain that the answer will be, not one. And why? Not that the results could not be obtained, but because of the frequently expressed opinions which make this method impracticable. (1) It is laborious and taxing—mentally and physically—in its application. (2) The inability to demand and receive a sufficient fee for the time expended with a patient. (3) The time to be devoted to a proper training. (4) And the greatest drawback to its adoption being the supposed moral effect that it would produce upon the laity, of a physician of high standing falling to the level of an instructor in gymnastics.

Are these objections tenable? The answer is, decidedly not.

As for the moral effect upon the laity, the dignity of a physicians in no way impaired by any plan of treatment which he may personally apply, providing that he himself have a sufficient amount of skill properly to apply that plan of treatment in an intelligent and thorough manner.

There are several orthopedists in this city and elsewhere who, pinning their faith to the method described by me, attempt it without the slightest knowledge of its proper application, and generally through the medium of a masseuse or Swedish gymnast who knows still less than the physician who orders it.

It is a very common occurrence to have a woman call upon me with a card or letter of introduction from a prominent orthopedist, announcing that she is a gymnast in charge of Dr. Blank's curvature cases, and that he would be indebted, if this person could be shown how to treat these cases by the system of heavy gymnastics. In the paper before alluded to I distinctly say: "This system of work should only be applied by the physician, and he must himself have been trained to the work, to intelligently guide those whom he seeks to benefit. The work must be careful, systematic, and regular. Perfunctory work will not do."

The author has not retreated from the opinions he held in 1895 as to the value of his method in the treatment of curvatures and kindred deformities,

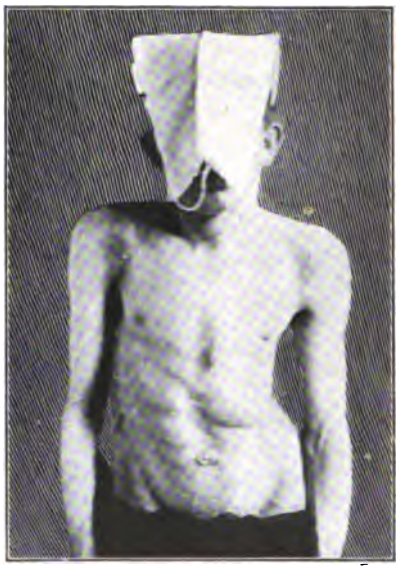

Fig. 5. Front view, showing flat chest, prominent left hip and twisting of the abdomen, with the prominence of the lower ribs on the left side. October 4, 1898

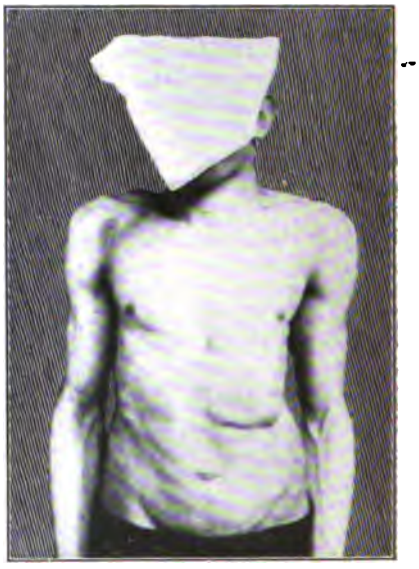

Fig. 6. Front view, showing chest development, reduction of the costal prominence, of the left hip and the straightening of the trunk. May 27, 1899.

but has become more and more enthusiastic as to its value by reason of his results and their rapidity, and is firmly convinced that it will in time be the only mainstay of physicians who treat scoliosis.

Under these conditions, does the general practitioner do his full duty toward his patient by shifting

the responsibility of the case from his shoulders to those of the orthopedist to whom he refers it, when he (the orthopedist) and most of his colleagues admit that they are at sea as to proper corrective treatment?

Or does the physician who believes in exercise do his duty when he advises that a patient be sent to a gymnasium where the work is almost always in-

Fig. 7. The same patient, showing muscular development, and one of the exercises which assists in straightening out the curve.

different or worse? Or, when he sends him to an institution where complicated and highly polished machinery imposes itself upon him and blinds his mental vision to the futility of its purpose?

These questions can be answered by the practitioners themselves if they will examine the cases which they so referred several years ago and see

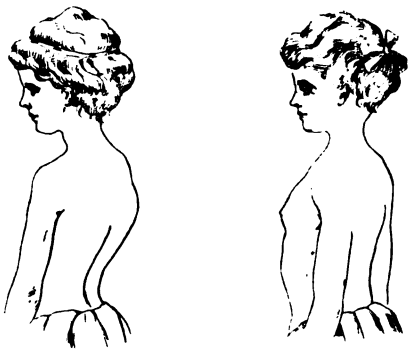

Fig. 8.

what has been left undone. The method comprises a rational rapid development and education of the muscles, and an ability of the patient to correct his or her own deformity by his or her own muscular efforts, and is purely physiological.

In closing, it might be well to direct the attention of the general practitioner to the necessity of carefully and understandingly examining the children whose posture and gait are faulty, to advise the proper treatment for them, to explain the difference between ordinary gymnastics and the proper treatment and to do it early when a few months' care

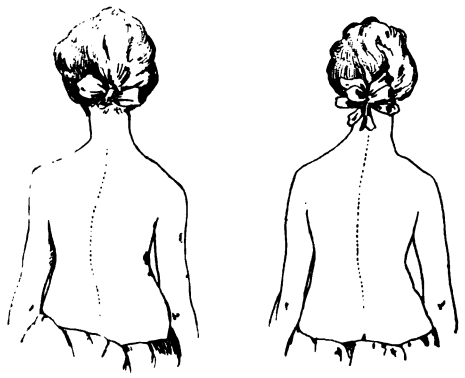

Fig. 9.

would suffice to bring about an improved carriage and a stimulation to proper growth and development

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# INTESTINAL FERMENTATION, AS IT INTERESTS THE SURGEON.*

By ROBERT T. MORRIS, M.D.,
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Cases in which there is an evident surgical factor in the production of an undue amount of intestinal fermentation are not the ones under consideration in this paper. Cases of intestinal fermentation that are commonly treated by medical means, and in which the surgical cause is usually overlooked are so frequently met with in practice that it may be well to classify some of them. They are cases in which the trouble is lightly set down as due to "faulty digestion" or "constipation," but we must go back of that in order to start right in comprehending the situation.

At the outset we may define the cases under consideration in a general way as ones in which there is an apparent functional neurosis of the digestive apparatus, with irritation of the intimate sympathetic ganglia of the bowel wall (Meissner's and Auerbach's plexuses) secondary to irritation of the larger sympathetic ganglia of the abdomen, and these primarily irritated through reflex from a peripheral cause. As a result of the functional neurosis the digestive process is incomplete, and saprophytes destroy the legitimate pabulum for the secretions of the alimentary tract. The round of autointoxication and of metabolic fault then follows. Our study therefore consists in noting not the symptoms alone, but in arranging them in such order that they point toward the primary and fundamental cause for the disturbance; and the peripheral irritations act so

*A paper read at the meeting of the Society of Alumni of Bellevue Hospital, November 4, 1903.

insidiously that the very nicest diagnostic acumen is called into play. These patients tell us of trips to the famous baths of Europe, of stomach lavage, of Christian Science, of treatment at the hands of vibrationists—to say nothing of the inevitable favorite prescription, and all without permanent benefit, excepting while treatment is persistently maintained.

In enumerating a list of the peripheral irritators it will be noted, I think, that the ones which most closely affect the great sympathetic ganglia are those resulting in the greatest degree of intestinal fermentation. Let us take for the first group of peripheral irritators the peritoneal adhesions, and it will be noted that adhesions in the pelvis do not cause so much reflex as adhesions about the appendix and cæcum. These, in turn, are less disturbing than adhesions about the gall-bladder, and returning to a distance from the great ganglia we find comparatively little reflex from adhesions about the sigmoid flexure of the colon. Peritoneal adhesions occur most frequently, I believe, in the regions enumerated, and in the order in which the sites are noted.

In making a search of the abdomen for adhesion causes for intestinal fermentation we are apt to discover any adhesions in the pelvis or about the appendix readily enough. Adhesions about the region of the sigmoid are not often discovered, excepting at post-mortem examination. Adhesions which are most often overlooked, and yet which are among the very common ones, are those about the gall-bladder, resulting from infective cholecystitis. This particular subject is a very new one and one that has recently been elaborated in a path-making paper by Dr. Musser of Philadelphia. This paper will probably in the end be held to rank with the paper of Fitz, in 1886, on the subject of appendicitis. Infective cholecystitis, with or without the presence of gallstones, is apparently one of the commonest of abdominal disorders. The cases are apt to be ascribed to "acute indigestion," and to as many things as we used to find in place of appendicitis.

I have at present under treatment two cases that had been treated at length as cases of dilatation of the stomach by careful diagnosticians who had no explanation for the dilatation, and yet, on operation for the purpose of taking up the stomach wall by suture, it was found that the trouble was wholly due to the presence of gall-bladder adhesions which inhibited peristalsis at the pylorus. The adhesions were from overlooked attacks of subacute infective cholecystitis.

One of the commonest groups of cases of intestinal fermentation in which the cause is overlooked depends upon the presence of the appendix vermiformis in the process of undergoing normal involution. It is only very recently that our attention has been attracted to this factor, but a knowledge of its influence increases the satisfaction of modern practice of medicine. The appendix is apt to undergo normal involution changes which result in the replacement of the lymphoid and mucous layers with connective tissue. The connective tissue contracts and irritates terminal filaments of entrapped sensory and sympathetic nerves, which apparently disappear more slowly than other structures of the appendix. The reflex irritation from this peripheral cause sets up a train of symptoms generally classified as "intestinal fermentation." On account of my interest in this particular form of appendix trouble the appendices are in some quarters given my name, but they should preferably be called "scar appendices" or "involution appendices," for the reason that they were described by Senn and Ribbert before I took up the study of the symptoms that they produced.

It is not very difficult to make a diagnosis in these cases by the association of symptoms of persistent discomfort in the appendix region, a hard appendix on palpation, and intestinal fermentation which responds to treatment, only to return promptly when treatment is neglected.

Many cases of intestinal fermentation center about the presence of a loose kidney, or of general enteroptosis, but such cases are worked out pretty regularly nowadays by the good diagnostician, and the ones that are suitable for surgical treatment soon lose their intestinal fermentation, mucous colitis, or whatever functional neurosis was dependent upon the peripheral irritation.

A very large group of cases of intestinal fermentation is dependent upon eyestrain. These cases are perhaps quite as often overlooked as any others, but as soon as we have all become familiar with the external signs of eyestrain, fewer of the cases will get to the surgeon with the diagnosis of some abdominal disorder. The ones that I see are sent to the office most often with the request to have the appendix examined, because the distension of the cæcum is apt to cause more pain than distension of other parts of the bowel, and attention is attracted to this region. If there are external evidences of eyestrain these cases are referred to the ophthalmologist, along with my cases of "nervous dyspepsia" and "gastric neuralgia," and some of the most brilliant results that I have observed in any kind of medical practice have come out of the treatment that was instituted.

The different kinds of cases of intestinal fermentation so far under consideration appear chiefly after adult life has been reached, but one very large group marked by "chronic constipation since childhood," depends wholly upon the presence of hypertrophic rectal valves. It is a new revelation to most of us who have not previously been familiar with this subject when we look into the rectum with a properly constructed speculum, and see a large swollen rectal valve occluding the passage of fæces, and know that the patient has carried this congenital defect all of his life, but out of sight of those of us who are so busy that we are in a hurry to get to the next case.

I am curious to know what proportion of cases of intestinal fermentation are really medical cases, and not curable by surgical resources. Even so-called lithæmic cases of intestinal fermentation may clear up, lithæmia and all, so soon as the primary cause is out of the way. Patients whose intestinal fermentation is said to be due to "improper food" often find that they can eat freely and indiscriminately of almost anything in the way of food once their intimate ganglia of the bowel wall are free from irritation.

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**Some Effects of Tobacco.**—J. A. Henton White reports several cases in which the poison from smoking produced symptoms which were concentrated on either the respiratory, the cardiac, or the alimentary system. These exaggerated symptoms all occur in a modified form in seasoned and seasoning smokers who exceed their dose. They also all point to there being such a condition as hereditary incapacity to smoke. In subjects whose alimentary canal is upset, the pain is described as being of a peculiar grinding character. Neuralgia of the thoracic and humeral varieties is another symptom, produced especially by Havana cigars, whether these symptoms are due to a neuritis or a more central affection is disputed—possibly both may occur together or separately.—*The Birmingham Medical Review*, September, 1903.

# THE SUBMUCOUS RESECTION OF THE NASAL SEPTUM.*

By FELIX COHN, M.D.,
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It is an achievement of the last ten years in rhinology to have called attention to the importance of anomalies of the septum in their relation to the condition of the mucous membrane of the nasal passages. Nor is it only the marked deformities which tend to maintain the continued catarrhal changes with all their annoying consequences to the individual; on the contrary, frequently circumscript deflections, an anterior deviation, a dislocation of the columnar cartilage, a moderate curvature of a portion of the septum, high up—for instance, opposite the middle turbinated and interfering with normal aëration and drainage, or causing states of rarefaction which in their turn produce hyperæmic conditions of the mucous membrane—are sufficient causes for pathological changes which seemingly appear to resist all ordinary treatment. The relief to the patient upon the attempt at treatment of such changes in the nasal passages is only short-lived and temporary. The hypertrophied turbinated, in spite of having been cauterized or snared, becomes again turgescent; the frequent colds, extending to the nasopharynx and tonsillar region, return. As soon as the attention in these cases is directed to the cause, and even an apparently slight septal deformity is corrected, the subjective discomfort of the patient vanishes like a flash, the pharyngitis, the hawking, the endless recurring attacks of coryza and tonsillitis cease, and the patient is permanently cured.

To American rhinology belongs the credit of having achieved the most brilliant results in this direction, in the first place by calling the attention of the medical profession to the anomalies of the septum as a causation of the pathological condition of the nasal mucous membranes, and in the second place, by introducing a number of simple surgical measures for the removal of such existing anomalies, as spurs, angular deviations, exostoses, etc. I need only refer to the introduction of the saw by Dr. Bosworth, the use of the surgical drill and trephine by Goodwillie, Jarvis, Curtis, and others, and finally the ingenious and simple operation of the late Dr. Asch for the correction of such septal changes as were beyond effective treatment by the methods just referred to. All these procedures have been adopted on the continent. The electrical trephine is used abroad almost more than in this country, and its use has even been extended to aural and general surgery. Its introduction on the continent was due to an incidental conversation with Prof. M. Schmidt of Frankfurt while visiting his clinic in 1891. Professor Schmidt showed me some cases of deviation and exostosis which he had been treating by electrolysis. On investigation I found that the removal of a small spine took several weeks and appeared to be accompanied with unnecessary complications and inconveniences to the patient. I informed Professor Schmidt that the American rhinologists in such cases made use of an electric trephine and that the patient was completely cured by these means in a very short time and without any or, at least, with trifling danger. Dr. Spiess,[1] the associate of Professor Schmidt, adopted the suggestion and published in the *Archiv für Laryngologie*, an article upon the use of electric trephines, burrs, and saws for the removal of spurs, deviations, etc. There is hardly a laryngologist to-day in even the smallest towns of Europe who is not equipped with a complete electrical outfit, the development of which is a product of American ingenuity. Thanks to the efforts of the late Dr. Asch, the importance of correcting deviations of the nose has been brought to the notice of the general practitioner, and the correction of septal deviation to-day is a recognized and important operation. No doubt, however, most rhinologists have met cases which are not fit subjects for the various operations which have been proposed, a number of which, too, have been almost superseded owing to the unsatisfactory results which they give in their application. I refer, for instance, especially to the transfixion operation with the needle, the punch operation, etc. It is not, therefore, the object of this paper to recommend submucous resection of the septum, in opposition to the other recognized operative procedures, but to recommend the operation for those cases in which experience has led us to know beforehand that the results obtainable by the simpler methods, as the use of the saw, the drill, or even the "Asch" operation, are not good. Doubtless most of the gentlemen who have employed the Asch operation will have met some cases in which it does not cure the conditions permanently, or even if during the treatment, and the employment of the tubes in the after-treatment, the deviation appears to be corrected, a gradual return of the septum to its former deviated position occurs within a few weeks or a few months. It is these cases especially which are absolutely cured by the submucous resection.

Before entering upon a short description of the operation, some digression in reference to the classification of anomalies of the septum may be permissible. That the untold irregularities almost prevent an exact scientific classification is almost obvious. If we follow the customs of the anatomists to include under deviation the many protuberances of the septum running either in a vertical or horizontal direction, involving either part or the whole of the septum, that is the large group of exostoses and ecchondroses, we may in a broad way divide the anomalies of the septum into three groups: (1) Exostoses and ecchondroses, that is circumscribed deviations from the median line; (2) Displacements of the whole or greater part of the septum itself from the median line in the course of either the sagittal or the horizontal axis, or in both planes; (3) Displacements of the septum combined with various forms of exostoses. It is hardly necessary to state that the anomalies of the first group, or many of the third group—as for instance, angular deviations with considerable thickening at the point of deviation—may be excluded from our consideration, as these anomalies are more easily remedied by simpler operative procedures. It is therefore the anomalies of the septum comprised in the second group which are to be considered in connection with the submucous resection. The displacements referred to in the second group have usually been divided into the C-shaped deviation, or in the compensatory form, the so-called S-shaped variety. Usually these anomalies are more rounded, scoliotic in character, the curvature either involving the greater part of the septum or confined to a portion of it. Occasionally, however, a combination of the C- or S-shaped deviation, occurring either in one plane or a number of planes, may cause anomalies of most irregular shape. The recognition of these more irregular forms of deviation, belonging to the third group is important, as in some of them the curvatures of the septum may be so great as to exclude the use of the saw, chisel, or trephine, so that at times even

*Read before the Academy of Medicine, Section on Laryngology, October 28, 1903.

apparently angular deviations, which generally are amenable to the saw or drill, may necessitate a submucous resection in order to accomplish a successful result. Although the resection of the septum had been recommended by Hartman[1] and Petersen[2] in 1883, it is really to Krieg of Stuttgart that the credit belongs of having most systematically described and recommended the submucous resection for the purpose of correcting and removing successfully septum-deviations. The principles involved being the same, it would be idle for me to take up your time in describing the various procedures employed by Petersen, Hartman, Krieg,[3] Cholewa,[4] and others. Frequently the various procedures are only variations of slight moment, either the use of a chisel, saw, or in the use of the cautery or knife for the incision of the mucous membranes. Krieg published his method in 1886. My attention was first called to the operation by Dr. Frederic Lange, who in principle followed the method of Krieg, employing, however, the modifications of scooping out the cartilage with a sharp spoon after having separated the mucous membrane. In some cases the use of the sharp spoon gives excellent results and abbreviates the length of the operation. My personal experiences with the submucous resection dates from 1888, and I shall take the liberty of briefly describing the methods which I have generally followed:

In the earlier cases, the operation was usually performed under general anæsthesia, later on almost entirely under local narcosis. Since the introduction of adrenalin, a combination of a weak cocaine solution and adrenalin has usually sufficed in most cases. Instead of employing the sitting posture, as recommended by Krieg, I have usually placed the patient on the table on his back with the head slightly raised and the chin depressed, the head slightly turned away from the deviated side. The nostrils being held back by retractors, an incision slightly convex is made through the whole length of the mucous membrane as near to the point of greatest convexity as possible and only through the mucous membrane. Care in not cutting through the cartilage at the first incision is of value in enabling a more rapid separation of the mucous membrane from the cartilage. The mucous membrane is then held back by a small sharp hook, and the cartilage, after being exposed as far as possible, is nicked and then gradually separated from the mucous membrane on the other side. After the cartilage has been freed as far as possible, especial attention being paid not to dislocate it, an incision above is made parallel to the ridge of the nose in order to prevent an external deformity, a second incision made below, and the cartilage finally dissected out posteriorly; the first piece removed usually embraces the greater portion of the protuberating cartilage. The still protruding pieces must be removed piece by piece, working from before backward, and, if necessary, even removing the bony portion with a small bone forceps. An occasional revision and replacing of the mucous membrane is the best guide as to the the amount which must be removed. In suitable cases with large noses and anterior deviations, the operation may be finished rapidly, in some cases twenty minutes sufficing for the whole operation; in more difficult cases the operation may take as long as two to two and a half hours. After the cartilage has been removed the mucous membrane is carefully replaced; if it has been torn and forms a flap, one or two sutures may be added to keep it in place. The nares are then lightly packed with gauze and the patient kept in bed for a day or two. Ice applications over the nose and change of dressing every twenty-four hours for two or three days is usually the only treatment required. After that, the patient may be discharged; no further *after-treatment* being necessary except the use of an ointment or an oil spray to prevent formation of crusts until the mucous membrane has regained its normal condition.

The description of the operation refers to ideal cases in which a complete subperichondral resection is actually accomplished. Sometimes it is impossible to obtain an absolutely perfect result from the standpoint of the operator. Smaller and larger perforations are likely to occur partly on account of the difficulty of the technique in the separation of the delicate mucous membrane from the cartilage, partly owing to the fact that the mucous membrane of the concave side is frequently atrophied and so thinned that it tears in the separation, or occasionally sloughs away after a few days. The borders of the perforations in those cases in which a perforation has been unavoidable, however, always epidermize so that the perforation itself does not in any way produce a further inconvenience. The perforations vary in form from a mere slit to an oval or rounded opening. A further cause for possible perforations are the continual hemorrhages during the operation which interfere greatly with the stripping of the mucous membranes from the cartilage. It has always been my experience that the perforations are caused by the endeavor to take away a little more than is necessary, and a lack of patience in shelling out the small pieces of cartilages that remain between the layers of the mucous membrane. The use of a scoop instead of scissors hurries the operation, but frequently entails loss of mucous membrane which adheres to the cartilage, especially in the posterior portion where we are guided more by touch than sight. The use of the electric head-illuminator is almost indispensable in the removal of the posterior portions of the cartilage, and I have, therefore, usually performed the whole operation under artificial illumination. The use of adrenalin decidedly improves the chances of avoiding perforations. Complications, such as secondary hemorrhages, I have never observed, and the necessary severe manipulation of the mucous membrane during the operation usually helps to prevent loss of blood after the operation. My experience in this respect differs somewhat from that of Krieg and others who have observed severe secondary hemorrhages. The selection of suitable cases in operating only upon youthful subjects and patients otherwise perfectly healthy, is the best safeguard to the avoidance of severe hemorrhages. I have never observed sepsis or a complicating otitis. Occasionally during the first or second week a follicular tonsillitis occurs, probably in not more than 5 per cent. of the cases. I make it an invariable rule to warn the patient of the possibility of an attack of tonsillitis. In some cases the remaining portions of the septum are slightly swollen for a few days, so that the patient does not obtain the desired relief until a week or two after the operation. It is also advisable to inform the patient before the operation of the possibilities of an ensuing perforation, as it is impossible to tell beforehand in which cases a perforation may be prevented. In regard to perforation, for those laryngologists who hold the opinion that perforations are a detriment and a subsequent annoyance to the patient, it is advisable to refrain from the operation, as statistics show frequent perforations in cases of submucous resection of the septum. For my part, however, I have absolute conviction that a perforation is harmless. In those rare cases, for instance, in which the vomer is deviated to such an

extent that even after the removal of the anterior deviation breathing on the narrowed side is still interfered with, relief can only be obtained by producing a perforation, even if technically it can be avoided.

Contraindications for the submucous operation are the same as for other nasal operations: Atrophic conditions of the mucous membranes, systemic disturbances, nephritis, etc., or advanced age which might endanger the life of the patient through the ensuing hemorrhage. It is not advisable to perform the operation on children under ten, as the septal changes during that time of life might render a too early operation futile. The most suitable range is from ten to thirty years. It is hardly necessary to formulate the indications for the submucous resection. The operation will be indicated in all cases of scoliotic conditions of the septum, and those forms of deviations which are not amenable to the usual operations by means of the saw, chisel, or electric drill, etc. A broad angular deviation, for instance, with thickening of the protruding septum may be far more easily operated on by the Bosworth saw, or the use of the electric trephine. The results obtained when some care is considered in the selection of the cases, are uniformly excellent. The remaining layers of the mucous membrane gradually attain a rigidity which almost forms a new septum. No doubt a production of cartilage from the chondroblasts of the perichondrium, which is intimately connected with the mucous membrane is the anatomical explanation for the formation of such a rigid partition. The only apparent drawback to some rhinologists possibly might be the frequency of perforations. Heyman,[5] in his handbook, reports perforations in nearly 70 per cent. of the cases. In my experience, which embraces about seventy-five cases, the statistics are much too high, as I have met with only about 20 per cent. of perforations. An ensuing perforation, however, in my judgment, is perfectly harmless. In healthy individuals the loss of that part of the mucous membrane neither affects the patient subjectively, nor does the nasal mucous membrane show any further changes on inspection by the physician. I have no doubt that with care in the selection of cases, and in a more universal adoption of the operation by the profession, by a choice of proper instruments, and improvements in technique, it will be possible to overcome even this apparent draw-back, an unintentional perforation of the septum. I have referred to unintentional perforations, because there is one condition in which a submucous resection may be performed which necessitates a perforation. I refer to those cases which are not as rare as was at one time supposed, the complete displacement of the vomer and quadrangular cartilage, accompanied in such cases by atrophy of turbinated bodies on the deviated side, and complete atresia. Some patients under this condition suffer annoyances because they have not the subjective feeling of air through the affected nostril. If the annoyances are so great as to warrant an operation, the patient can only be relieved by a perforation of the septum for obvious reasons.

A natural question in connection with a formulation of more precise indications is what cases should be selected for the submucous resection. That all those cases which can be operated by simpler measures with the knife, saw, chisel or drill, for instance, should be excluded, is obvious. A more important question which should be considered, is, should we, in cases of deviations not amenable to the methods above mentioned, consider the orthopedic operations, as the "Asch" operation, for instance, or should we enlarge the scope of the submucous resection at the expense of orthopedic surgical interference? As the object of this paper is merely to recommend an operation which has not been as widely adopted as it deserves, I would rather leave it to the future and to the judgment of the individual to decide this point.

That the results of the submucous resection are uniformly excellent, that an after-treatment becomes entirely unnecessary, the operated septum usually taking care of itself, and that last and most important, that the cure is permanent, a closer examination of the seven cases which I had the honor to present to you will clearly prove.

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**Adenoids in the Adult.**—The paper of J. E. Logan is summarized in the following propositions: (1) The necessity of the early recognition of adenoid growths in children by the general practitioner. (2) Prompt removal is called for when so extensive as to interfere with the development of the child, and especially when the patient has been exposed to any of the exanthemata. (3) When present in patients suffering from the above eruptive diseases, attention must be directed to proper disinfection of the pharyngeal vault. (4) In patients exhibiting enlarged faucial glands there generally exist hypertrophies in the vault—the reverse condition does not always obtain. (5) Hypertrophy of the pharyngeal glands in adults is *not* a rare condition, and as a rule it is dependent upon pathological changes during childhood, and not developed after puberty. (6) Operative interference is warranted in every instance not only to relieve existing dependent conditions, but to prevent impending complications.—*Laryngoscope.*

**Principles in Drainage.**—C. H. Mayo holds that aseptic operations in regions rich in lymphatics, where the lymph circulation is but little disturbed, will not require drainage—as ligation of vessels in the neck, Alexander's operation and hernias in the inguinal region. Aseptic operations in these regions in which the lymph system is removed require capillary drainage from four to six days as auto-drainage is temporarily abolished. In regions rich in lymphatics, where operations for septic conditions must necessarily be made, we open fresh areas for absorption of toxins, and our endeavor should be to use upon the incised surface strong antiseptics, such as carbolic acid, followed by alcohol, chloride of lime as a caustic, or in mild cases glycerin to prevent or inhibit the action of the absorbents, and maintain the disease as a local infection. This is markedly shown in operations for the removal of bone necrosis. In aseptic operations of the abdomen involving considerable bruising or denuding of the peritoneum the pelvis should be elevated by raising the foot of the bed, the gravity acting as an aid to auto-drainage, the peritoneum being capable of absorbing from 3 to 8 per cent. of the body weight in an hour. In septic diseases, on the contrary, drainage is secured by elevating the head of the bed and the upper extremity of the patient to gravitate to the pelvis, whence delivery may be made through glass tubes. The diseased or septic focus should also be quarantined by a gauze pack through a separate incision, should the condition of the patient warrant the increased operative interference —*The Medical Herald.*

# MEDICAL RECORD:

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## CAISSON DISEASE AND DIVER'S PALSY.

IN this age of engineering, and especially of bridge building and tunnelling, the use of the caisson is universal. Divers, too, ply their calling much more frequently than even a few years ago. Therefore, it is only natural that investigations should take place to probe the causes and to devise measures of prevention of the affection which so often attacks men who work in those steel cylinders under the water, and out of which the water is kept by means of compressed air. Diver's palsy is a condition which has been known as long as divers themselves have existed, many thousands of years, and resembles in most of its symptoms caisson disease.

Mr. Leonard Hill, lecturer on physiology at the London Hospital, and Mr. J. J. R. Macleod, professor of physiology, at the Western Reserve University, Ohio, have been for some time conducting researches into the physiology, pathology, and cause of caisson illness and diver's palsy, and have published the results of their experimental study in the *Journal of Hygiene*, October, 1903. The article —valuable as it is—can be commented upon, but somewhat briefly here, owing to lack of space, and caisson disease will be only considered. Caisson disease and miner's palsy never attack men when under pressure.

Pol and Watellel,* who went down into a caisson themselves, in 1884, had sixty-four men employed in a caisson on the banks of the Loire at +3¼ atm. The men were compressed in fifteen minutes, worked for a four-hour shift, and were, according to the rules, decompressed in thirty minutes.

The physiological effects observed in compressed air were very slight—pains in the tympanic membrane—relieved by opening the eustachian tube; slowing of respiration and diminution of thoracic expansion; slowing of the pulse; increase of urinary secretion; a feeling of resistance to movement, owing to density of the atmosphere; inability to whisper attributed to the resistance of the compressed air to the finer muscular movements of the tongue. On decompression Pol and Watelle felt a lively sensation of cold and a certain degree of breathlessness, while the pulse was accelerated. The cold is due to expansion of the air.

As to the pathological effects these same authors said: "There were forty-seven men out of sixty-four who stood the work in caissons more or less well; twenty-five were discharged owing to sickness; two died. The slighter attacks were fourteen, and the serious attacks sixteen in number.

**Ann. d'hygiene et de méd. légale*, 1854.

"With regard to the manner in which compressed air exerts its injurious influence on animal life, Pol and Watelle are of the opinion that pulmonary and cerebral congestion are the chief results of compressed air. Just as a lowered atmosphere pressure brings blood to the exterior and causes hemorrhages, so does compressed air congest the viscera." The brain and spinal cord, according to Babington, shut up in their osseous cavities, are not able, like other elastic parts, to accommodate themselves quickly to changes of pressure. Bouchard advanced this extraordinary theory. As the gases of the intestine are compressed, the abdominal wall becomes concave, and as the abdominal wall resists this distortion it converts the abdomen into a kind of cupping-glass. This leads to congestion of the abdomen during compression, and the reverse on decompression. Dr. A. H. Smith is the principal exponent of the mechanical congestion doctrine. He deduced "the law that under high atmospheric pressure the centers will be congested at the expense of the periphery . . . and that firm and compact structures will be congested at the expense of those more compressible."

Messrs. Hill and Macleod state that Paul Bert was the first to point out the real cause of caisson sickness. He conducted a series of remarkable experiments in 1878, by which he proved that the true cause of the affection is the effervescence of gas in the blood and tissue juices. Others, such as Hoppe, François, Rameau, and Bacquoy, had drawn the same deductions, but had generally put this cause down as subsidiary to mechanical congestion.

Messrs. Hill and Macleod have themselves carried out a series of experiments, the results of which confirm Bert's conclusions, and in addition they present considerations drawn from the results of their own experiments and investigations. Snell has a strong belief in the good effects which follow free ventilation of caissons. He says, "An increase of $CO_2$ from .04 per cent. to .1 per cent. at thirty pounds pressure is the forerunner of much illness. Messrs. Hill and Macleod say that as matters stand at present it is not easy to explain Snell's ventilation results, and it is urgently required that they should be confirmed.

Increased rate of ventilation did not seem to affect the writers' animals, in the experiments undertaken, with regard to the dangers of decompression. They concluded, from the records of caisson sickness and from their own experiments, that the men selected for high-pressure work should be small men, of spare and wiry habit, not older than twenty to twenty-five. The men should be total abstainers and abstemious in all their habits. The men should be tested at low pressures first, those who suffer from symptoms should be discharged. The following may be considered safe rules for working: The longer the shift, the greater is the saturation of the body fluids with gas, and the slower, therefore, should be the decompression. The higher the pressure, the shorter should be the shift, and the longer the decompression. The following times are suggested as safe for working in caissons:

| Atm. | Lbs. | Shift. | Dp. |
|---|---|---|---|
| +2..... | 30 | 4 hrs. | 30′–1 hr. |
| +3-4 ..... | 45–60 | 4 hrs. | 1–2 hrs. |
| +5..... | 75 | 1 hr. | 1–2 hrs. |
| +6–7 ..... | 90–105 | 30′–1 hr. | 2 hrs. |

To prevent men breaking the rules, the decompression chamber should be provided with one cock only, which will allow decompression to take place in the given time. A separate lock should be provided for the rapid passage of material. The decompression chamber must be artificially warmed, so that the temperature does not fall below 60° F., and it must be thoroughly ventilated during decompression. The ventilation of the caisson or diving apparatus should be very free, and the temperature of the air should be about 60° F. The men should remain quiet for an hour or so after decompression and be recompressed on any sign of sickness. Paul Bert recommends that oxygen be supplied to the decompression chamber to hasten the diffusion of nitrogen. This, think the writers, is no doubt a means by which the period of decompression might be shortened, but it introduces the danger of oxygen poisoning. They are of the opinion that by proper choice of men and regulation of the shift and decompression period, work could be carried on without loss of life at a depth of even 200 feet, *i.e.* about 7 atm. or + 100 pounds pressure.

Summarizing some of the chief points in connection with caisson sickness, the writers say: The circulation is unaffected mechanically by compressed air. The cause of caisson sickness is the escape of gas bubbles in the blood-vessels and tissue fluids on decompression. An animal exposed for four hours to 8 atm. of air and quickly decompressed is like an opened bottle of soda water. The fluids of the body generally effervesce. The varying symptoms of caisson sickness are due to the varying seat of the air emboli. Young men escape caisson sickness, sowing to the elasticity of their tissues and greater facility for collateral pathways of circulation. Animals can be safely exposed to 8 atm. of air for 4 hours, if 2 hours be spent in gradual decompression. Such experiments can be safely repeated three times a week.

The above information respecting caisson disease is of much practical value, as well as of being of scientific interest. There is no country in which these contrivances are so largely used as in America, and if measures can be put into force whereby sickness consequent upon staying in compressed air for some hours, may be avoided or even lessened, the cause of humanity will have been greatly helped. The conclusions arrived at by Messrs. Hill and Macleod are founded upon the results of careful experiments and investigations, both by themselves and others, and if the suggestions made in the *Journal of Hygiene* are carefully followed, there would seem to be no reason to doubt that the conditions under which workers in caissons live would be greatly improved.

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## SUDDEN DEATH AND STATUS LYMPHATICUS, ANÆSTHESIA AND INFECTION.

In the *Bulletin of the Johns Hopkins Hospital* for October, Dr. George Blumer discusses the relation of the status lymphaticus to sudden death, death under anæsthesia, and in connection with infection. Sudden death in all three classes of cases is important and interesting from the professional and medicolegal standpoints. Thus, a number of cases are on record in which nurses or relatives have been accused of suffocating or fatally maltreating infants, when the autopsy has revealed status lymphaticus as the cause of death. Noted by Bichat in 1723, the association of sudden death with enlargement of the thymus was revived in 1888 by the work of Grawitz in Germany, and Jacobi in this country. Paltauf and the Vienna school have shown that the thymus enlargement is only part of a general lymphatic hyperplasia. The school named believes that it is possible to diagnose the status before sudden death reveals it. Escherich states that they usually have a pale, thin skin, a pasty complexion, and a good pad of subcutaneous fat. Frequently rachitic or scrofulous signs are present. The superficial neck glands, especially those of the neck and axilla, are enlarged. There is hypertrophy of the tonsil, of the circumvallate papillæ of the tongue, and the pharyngeal lymph apparatus (adenoids). The spleen is often palpable. Daut adds that a percussable thymus may develop later. And Ewing's work strongly suggests that an increase in the lymphocytes of the blood is in all likelihood present. The author classifies the recorded cases under the headings, cases found dead in bed, cases presumably of cardiac origin, those presumably of respiratory origin, and those presumably of nervous origin. It is a question, he thinks, whether many of the cases of "overlying" of infants would not be found to be deaths from status lymphaticus if investigated. Cases presumably of cardiac origin will comprise those cases in which the sudden death is not preceded by respiratory disturbances. Most cases are preceded by such disturbances, namely, by the symptoms of "thymic asthma," which there is no doubt has been confounded by some observers with laryngismus stridulus; though most students agree that there is no connection between the conditions, and Lange states that the asthmatic paroxysm differs from the stridulus in the regular sighing respiration present throughout in the former. Blumer's cases, however, showed this not to be true, and that the asthmatic picture is not uniform. Some cases die with signs of suffocation without asthmatic seizures. Laub's cerebral form consists of coma, or perhaps epileptiform convulsions, sometimes glottis cramp or cerebral vomiting, usually albuminuria (but no casts), with death in a few (at most eighteen) hours.

The last few years attention has been called to death under anæsthesia in association with status lymphaticus. Almost all observers agree that in these cases death is due to cardiac failure, most of the histories showing clearly that the respiration persisted after the heart ceased. The earlier writers considered chloroform specially dangerous in these cases, but recent experiences have shown deaths under ether and the A. C. E. mixture. These deaths have occurred at all ages and no distinction as regards sex seems possible. Finally it would seem as though two classes of patients with status lymphaticus are especially liable to sudden death, those with goiter (simple or exophthalmic), and those with adenoid vegetations.

The microscopical changes observed by Blumer

were uniform, and consisted in general of hyperplasia of the lymphoid elements of the thymus, at times associated with proliferation of the endothelial cells along the trabeculæ; and general hyperplasia associated with focal changes in the lymph nodes, Malpighian corpuscles of the spleen, tonsils, and intestinal lymphatic apparatus. The lesions very closely resemble those seen in various infections, and differ only in degree.

Bacteriological investigations resulted only in showing that some factor other than bacterial infection must be held responsible for the lesions in most cases of the status lymphaticus.

Discussing the causes of sudden death, two main lines of theory have been advanced to account for the occurrence, mechanical and toxic. The mechanical theories assume that pressure on the trachea is the cause of death, and its supporters point to the very narrow space (2 cm.) in children between the manubrium and the vertebral column, and the fact that throwing back the head greatly increases the pressure on the trachea. The opponents show that it requires a pressure of 180 grams *ad minimum* to produce such compression, while the enlarged thymus weighs only about 50 grams. Others suggest that pressure on the large vessels is the immediate cause of death. And still others name the pneumogastrics and phrenics as the compressed structures. Blumer, however, expresses himself in favor of the view of Escherich, who considered that the cause of death might be a toxæmia. Blumer says: "We would therefore advance the hypothesis that the condition which is present in the status lymphaticus is one of lymphotoxæmia. It is not necessary to assume, we think, that the toxæmia is constantly present; in fact, the clinical pictures are more readily explained by the assumption that it is intermittent. We would suggest that individuals who are subjects of the status lymphaticus are born with an instability of the mechanism regulating the 'horror autotoxicus,' at any rate so far as the lymphatic apparatus is concerned, so that they are subject to intermittent attacks of lymphotoxæmia which may lead to reflex nervous phenomena of various kinds, or may cause death from cardiac paralysis. During the attacks of lymphotoxæmia such individuals are especially susceptible to the action of bacterial or chemical poisons, and also to physical and psychical shocks, which at these times may cause their death under circumstances which would be trivial to a normal individual."

The author concludes that the condition known as the status lymphaticus is a definite pathological entity. It may be associated with sudden death, prabably as a result of lymphotoxæmia; alone in some cases, or as the result of the action of toxic, physical, or psychic injuries, which are rendered much more powerful than usual by the predisposing action of the lymphotoxins. In some cases the sudden death is certainly due to asphyxia from pressure of the enlarged thymus on the trachea. The subjects of the status lymphaticus can be recognized clinically in some cases. The paper concludes with the detailed histories and the bacteriological and the pathological findings in nine cases.

## THE INSANE CONVICT.

In his address before the National Prison Congress, Dr. H. E. Allison, Superintendent of the Matteawan State Hospital, says that there is room for improvement in the treatment of our prisoners, but that the improvement can only come about through an intelligent study of the convict himself. Our attention should not be directed merely to his crime. The questions to be determined before any proper disposition can be made of the convict, or his reformation attempted, relate to his personal characteristics—his personality. The whole substratum which underlies our probation and parole laws concerns the individuality of the convict in each and every case.

We must understand his peculiar nature before we can act intelligently. We must know where he stands, physically, mentally, and morally. Unless we have such knowledge we cannot certify as to his fitness for conditional release. We can confine him in prison, but we cannot benefit him. Prisons should not be mere places of detention. They should lessen the prevalence of crime, if possible. For the habitual and incorrigible offender they should offer provision for prolonged, perhaps for perpetual, detention.

The officials in every prison should, therefore, know intimately the character and mental responsibility of every inmate. Our prisons and reformatories would do much better if the insane and idiotic were placed in other suitable institutions. Though our laws provide that such persons have no responsibility for crime, nevertheless, many such persons are sent to prison, most of whom have marked criminal tendencies, and become recidivists of the most pronounced type.

It should be the duty of the prison physician to recognize such cases and to secure their transfer to other institutions where they can be cared for permanently, or until their release can be safely allowed. Cases of this kind have been known to pass repeatedly through the courts without any question of their mental condition being raised, or any obstacle being interposed to their frequent passage in and out of the prison doors. Some are sentenced with few preliminaries, the accused's plea of guilty being accepted, and nothing being ascertained in regard to his antecedents. In other cases, the insanity of the prisoner has been decided by a jury not to exist.

In face of the great attention which is now being given to the question of the accurate identification of the criminal, it is surprising that so little attention is paid to the insane convict, who should not be released merely because his term expires, as he is almost certain to commit crime again. The general insane hospital is not a suitable place for the insane convict, but it is a better place than the prison, and his relegation to the insane hospital may lead to the erection of a special hospital for him, as has happened in New York. As the term of the insane convict draws to an end, if his insanity continues, the hospital superintendent should be empowered to communicate the facts to a court of record, and, after suitable examination, the indefinite retention of the person should be authorized on the ground of his insanity.

### Is Scarlet Fever a Protozoan Disease?

On December 15 Dr. Frank B. Mallory of Harvard University announced to the Boston Society of Medical Sciences that he had demonstrated a protozoan in the cutaneous lesions of four cases of scarlet fever which had died in the eruptive stage. So far as the data are at our command, Dr. Mallory describes the stages of development of this parasite as similar to those of the malarial organism. It is, however, about one-third larger, and in the rosette stage contains twice as many segments. Its development in the human body is asexual. Whether a sexual development also occurs, as with the malarial organism, has not as yet been determined. Dr. Mallory does not claim that facts have been adduced which prove the bodies described by him are in reality protozoa, or that if such is the case they are the causative agents of scarlet fever. He states, however, that in his personal opinion this is so.

It has been apparent for some time that endeavors to isolate the causative microorganism of scarlet fever from the blood of patients suffering with this disease were likely to prove indefinitely futile. Streptococci are the only microorganisms which have been isolated from such blood with a sufficient regularity to warrant serious consideration in this connection. Streptococci have also been obtained from the cutaneous and throat lesions of this disease, and likewise from the various serous effusions which are at times present as complications. Notwithstanding these facts, the foremost investigators of the world are to-day divided as regards the etiological relation of the streptococcus to scarlet fever. Considering our advanced methods of research, our present knowledge of the biology of microorganisms, and the large amount of work which has been done in the bacteriology of scarlet fever, it is but reasonable to assume that if the streptococcus were the causative agent the fact would have been established before now.

In this state of affairs, Dr. Mallory's attempt to open up a new field is especially commendable. The thought that scarlet fever might be a protozoan disease cannot be said to be entirely new. So far as we are aware, however, Dr. Mallory's demonstrations are the first which have appeared to confirm such an opinion. At the present writing it is impossible to say how far his demonstrations will carry conviction to the minds of others. Whether or not his opinion be true, it is certain that coming from such an authority they possess weight and cannot fail to stimulate research in this particular direction.

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### The Distribution of Insanity.

Dr. W. A. White of the Government Hospital for the Insane at Washington, D. C., gives a very interesting account of the "Geographical Distribution of Insanity in the United States." He takes the ground that "the proportion of insane is highest where we find the greatest congestion of population, and therefore where the stresses incident to active competition is most severe." This view is one generally accepted by alienists the world over, and is evidently a fundamental causative influence of mental alienation. While hereditary predisposition to insanity must be recognized as a leading factor in determining results, he believes that a quiet life is a sufficient guarantee against mental breakdown. On the other hand, excessive perturbation due to business anxiety, excessive study, grief, domestic trouble, loss of property, love, or political excitement, are well recognized exciting causes of the disease.

There is also an acquired predisposition due to alcohol and a certain disease, and alcohol and disease act with most effect in crowded populations, where the struggle for income is bitterest. With the Indian, it is noted, insanity is of rare occurrence. This is not because he is not "afflicted by the diseases and vices of civilization," but because he lives an outdoor life, and being "careless, slovenly and improvident, he does not worry" and is free from "mental stress."

Regarding the negro, Dr. White says, "he remains sane despite his unhygienic surroundings so long as he remains in the country, his "natural home," but fails when, thrown upon his own physical and mental resources, he enters the strife for existence in Northern cities. "As soon," says Dr. White, "as the negro goes North and enters into active competition with the white, who is mentally his superior, he succumbs to the unequal struggle. So in Georgia, where we find the greatest number of negroes, there was 1 insane negro to 1,764 of the colored population in 1880, while in New York the ratio was 1 to 333, or almost exactly the same ratio as for the white population."

In the industrial States of the East insanity is very common. In Massachusetts, for example, there is 1 insane person for every 348 of population, while in Virginia the proportion is 1 in 512 of population, in Arkansas 1 in 939, and in Texas 1 in 950. In the United States, omitting the Southern States, there is 1 insane person to each 542 of population, but in the Southern States the proportion is 1 to 1,277. "In Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, and Virginia," says the writer, "we find the ratio of colored insane 1 to 1,277, while for the whites in the same territory it is 1 to 456. In other parts of the United States the ratio of colored insane, as is shown by the Tenth Census, was 1 to 542, while for the whites it was 1 to 520. The ratio of colored insane in the United States, minus the Southern States, is, then, almost exactly the same as the ratio for the white insane."

These facts, although in the main well accepted ones, are of extreme interest in proving the ill-effects of mental strain in connection with the growing and exacting requirements of advancing civilization. It is the fret and worry of the work rather than the work itself that causes the breakdown.

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### The Prompt Collection of Fees.

Dr. M. A. Tate of Cincinnati gives, in the *Lancet* and *Clinic*, some very sensible advice to physicians regarding the prompt collection of fees which must necessarily appeal to the many practitioners who at this time of the year are looking over their doubtful accounts. Says Dr Tate:

"One of the first things I made up my mind to attend to, after I entered the practice of medicine, was to try to collect my bills. This I have been fairly successful in doing, and I follow out this plan. My bills are sent out the first of the month following services rendered. I invariably do this for the following reasons:

"First, if there is any misunderstanding as to the amount, it is fresh in our memories and we can straighten it out with satisfaction and dignity to all concerned.

"Second, I know where my patient lives.

"Third, patients pay quicker, because they have not had time to lose all the gratitude that was born in them while they were sick.

"If I know a patient is a dead beat, then I respon to the call upon one condition, and that is the mone

in advance, or I tell them it is their privilege to seek any of my neighbors."

And why should not this advice be followed by the thousands of hard-worked doctors who get cheated at every turn. A fee in the hand is always worth two in the book.

### Light Therapy in Eye Diseases.

Light as a therapeutic agent seems destined to widespread use. One of the most recent moves in this direction looks toward its employment in the treatment of various eye diseases. H. Strebel (*Klinische-therapeutische Wochenschrift*, November 8, 1903) has shown that the ultraviolet rays are transmitted much more readily by the tunics of the eye than by the skin and mucous membranes. This was demonstrated by experimentation with the eyes of certain animals. The ultraviolet light was thrown upon a screen and the different tunics interposed in the path of the rays. The intensity of the shadow thus produced upon the screen showed the degree of transmission which the tunics possessed. Also live rabbits were taken and their eyes exposed to the action of the rays. Thus it was shown that typical reactions are produced in the cornea, iris, and conjunctival mucous membrane. The employment of the rays in the treatment of various forms of conjunctivitis, keratitis, and iritis is thus suggested. Although the rays may be made to reach the retina, it is questionable whether they can be utilized in the treatment of the affections of this membrane, as detachment of the same might result from their application. Thus far the work has been entirely experimental in character, no therapeutic tests having been made.

## News of the Week.

**An Antituberculous Bacillus.**—At the regular meeting of the New Haven Medical Association December 16, Dr. Stephen J. Maher read a paper on "Some Investigations of Bacterial Treatment of Tuberculosis." Six years ago he found that the last microorganism to remain alive in some samples of milk from a tuberculous cow was a sporogenic, liquefying, facultative-anaërobic bacillus. Later he learned that this bacillus could be injected into animals without harming them, and was closely akin to, if not identical with, Bacillus Mycoides III (Conn.). He reported in his paper that he had injected pure live cultures of this bacillus into nearly one hundred patients suffering from pulmonary tuberculosis. In closing, he emphasized the following points: (1) This bacillus can with safety be injected alive and in pure culture into the human system. (2) After its injection it remains alive in the human system often for weeks, and does no other harm than occasionally to cause slight suppuration. (3) After its injection it causes a variable febrile reaction which is never serious. (4) After its injection it has been found in the urine, blood, and sputa. (5) After its injection into the groins of persons suffering from tuberculosis there is often a subjective sense of local reaction at the site of the tuberculous lesion. (6) After its injection into the connective tissue about a tuberculous fistula in ano a marked improvement, even to the closing of the fistula, was followed. (7) A cure of tuberculous otitis media in several instances followed a local injection of cultures. (8) After its application on gauze or cotton packing to sinuses leading from carious bone supposedly tuberculous, such sinuses have healed with surprising promptness. (9) Its hypodermic injection into patients suffering from tuberculosis of the lungs, has been followed in many cases by relief of such symptoms as cough, fever, night-sweating, wasting, anorexia, diarrhœa, and hemorrhage. (10) Its instillation into the open tuberculous pleural cavity has caused the drying-up of a purulent discharge that was resistant to ordinary methods of treatment. (11) Its hypodermic injection into consumptive patients has in several demonstrable cases been followed by the apparent cure of the disease. (12) As a valuable scavenger of the tuberculous human system, this bacillus claims the interest of the medical profession for the further reasons that it grows in acid or alkaline media, that its product is alkaline, that it grows in the presence or absence of air, that it feeds only on dead matter, that it grows more quickly and has more vitality than the ordinary pus-producing germs, and that its introduction into the human tissues is followed by a marked diminution of the number of ordinary pus-producing germs present in the body. (13) Some, as yet, incomplete, investigations would seem to show that this bacillus is not without beneficial effect in other pathological conditions than tuberculosis. In conclusion, Dr. Maher said that while he realized that many of his statements needed confirmation by other bacteriologists, and that it was probable that some of them would fail of such confirmation, still he had felt that it was time to invite his brother physicians to look at the vision that had been before his eyes for so long.

**Ohio Valley Medical Association.**—At the annual meeting of this society, held at Evansville, Ind., November 12 and 13, 1903, under the presidency of Dr. Benjamin L. W. Floyd, the following officers were elected: *President*, Dr. A. M. Hayden of Evansville, Ind.; *Vice-Presidents*, Drs. J. W. Stone of Henderson, Ky., C. T. Hendershot of Cannelton, Ind., and August Sohachner of Louisville, Ky.; *Secretary and Treasurer*, Dr. A. J. Leiber of Henderson, Ky. The next meeting will be at Evansville on November 9 and 10, 1904.

**The Seventh International Congress of Otology** will be held at Bordeaux on August 1-4, 1904. Those intending to take part in the work of the congress are requested to send the subscription of 25 francs to the treasurer, Dr. Lannois, rue Emile-Zola, 14, Lyons, France, before May 1; and anyone purposing to read a paper at one of the sessions is requested to send the title with a brief abstract to the secretary-general, Dr. Lermoyez, rue la Boétie, 20 bis, Paris, on or before the same date. The official languages of the congress will be English, French, German, and Italian. The following subjects have been selected for formal discussion: (1) "Choice of a simple and practical acoumetric formula," opened by Politzer, Gradenigo, and Delsaux. (2) "Diagnosis and treatment of suppuration in the labyrinth," opened by Brieger, v. Stein, and Dundas Grant. (3) "Technique of operation and after-treatment of otogenous brain abscess," opened by Knapp, Schmiegelow, and Botey. There will be a museum of instruments and of anatomical and pathological specimens relating to diseases of the ear, nasal fossæ, and nasopharynx. At this congress also will be announced the award of the Lenval prize for progress in the relief of deafness.

**Cholera Epidemic in Turkey.**—An epidemic of cholera is reported to be raging at Kerbela, south of Bagdad. From December 9 to December 12, 176 deaths were recorded.

**Dr. W. W. Tarvin** of Covington, Ky., has been elected President of the Campbell and Kenton Counties Medical Association. He has been for nine years Coroner of Kenton County, and has also

served as United States Examining Surgeon, and as physician to the city jail.

**American Trained Nurses.**—Professor Renvers of Berlin has requested, through an American physician, a catalogue of the Training School for Nurses of the Cincinnati Hospital. The professor has heard so much of the excellence of the American trained nurse that he wishes to look into the system of training.

**Cincinnati Hospital Competition.**—The commissioners, Dr. C. R. Holmes and architects Drach and Hake, have stated that prizes will be offered for the best plans for a new City Hospital in Cincinnati. The prizes will be of sufficient value to induce the best architects in the country to compete. Fourteen acres of ground have been purchased and the commissioners favor the cottage or pavilion plan.

**Prof. Robert Koch** attained his sixtieth birthday on December 11. He was born in Clausthal in the Harz Mountains in 1843. His medical education was obtained in Göttingen, and he began practice in Langenhagen near Hanover, removing later to Rakwitz in Posen, and then to Wollstein, where he was sent as "Kreisphysicus." It was here that he began the studies in microscopic plant life, the marvellous results of which have earned for him the title of "Father of bacteriology." An interesting review of his life work, by Loeffler, is contained in the *Deutsche medicinische Wochenschrift* of December 10, and we join the writer in the wish that Koch may reach the years of the "Father of micrography." Anthony van Leeuwenhoek, who was prosecuting his investigations when well past his ninetieth birthday.

**Casualties on the Railroads of the Country.**—In the seventeenth annual report of the Interstate Commerce Commission, recently transmitted to Congress, it is stated that in the year ending June 30, 1903, the number of passengers killed in train accidents was 164, and of injured, 4,424; of employees killed, 895; injured, 6,440. Casualties from other causes, added to these, make totals of 321 passengers and 3,233 employees killed and 6,973 passengers and 39,004 employees injured. These numbers are larger by a considerable percentage than the corresponding numbers of the previous year.

**Vaccination of Railway Employees.**—The management of the Pennsylvania Railroad Company has issued an order requiring all trainmen and other persons in its employ to be vaccinated, and the work is now almost completed on many of the divisions of the road.

**The Condition of the German Emperor.**—At the opening of the Reichstag on December 14, Baron v. Ballestrem, the President, stated that Emperor William had apparently fully regained his old-time vigor. His voice was again clear and full, and only when one listened carefully could a slight huskiness be detected.

**Electric-light Baths** will become a fad of the day if what the London correspondent of the Cincinnati *Enquirer* cables to that journal is true. He says that the fact that King Edward gets through so much work and yet retains unimpaired his elasticity and vigor has been a source of wonder for a long time, but that an explanation of the mystery is contained in the announcement that His Majesty has been taking electric-light baths. A complete apparatus with fifty-two electric lamps has been installed at Windsor Castle and also at Buckingham Palace.

**Dr. George Ingle McLeod** of Ardmore, a suburb of Philadelphia, has had to have both feet amputated, in consequence of crushing injuries inflicted by the wheels of a moving train beneath which he slipped in attempting to embark.

**The Typhoid-fever Epidemic at Butler.**—Dr. George A. Soper, who was engaged by the *Engineering News* to investigate the typhoid epidemic at Butler, Pa., and its causes, has reported to that publication that the epidemic has by no means attained its culmination, about 50 per cent. of the cases not having reached the critical stage. The epidemic he attributes to the suspension of the mechanical filtration of the city water supply. In three weeks there were 1,000 cases, and up to December 14 1,247 cases and 51 deaths had been reported.

**The Late Drs. Davison H. Smith, J. F. Chauveau, and David Franklin.**—At a meeting of the Medical Association of the Greater City of New York, held December 14, 1903, the following report was received and adopted:

"It is with profound regret that your committee record the sudden and untimely death of Dr. Davison Heernance Smith, a member of this association and the son of its esteemed president. The subject of this sketch was born in New York in June, 1875. After a suitable preparatory course of study he entered the academic department of Columbia University, receiving in due course the degree of B. A. From the medical department of the same university he was graduated in 1902, and soon afterward he was admitted to the house staff of the New York Post-Graduate Hospital. It was in this institution that his death occurred from surgical shock, the result of a painful operation, bravely met, that was undertaken for the relief of mastoiditis. Possessing a genial and generous disposition, he endeared himself to a large circle of friends, and, though only on the threshold of his professional career, he gave promise of early success in a manifest zeal, earnestness of purpose, and faithful regard for duty. On behalf of this association your committee extend to the bereaved family of the deceased assurances of the inexpressible depth of its sorrow and sympathy in their affliction, and furthermore recommend that appropriate notice of his death be entered in the minutes of the association and that a copy be transmitted to his family.

(Signed) J. Blake White,
P. Brynberg Porter,
Wm. Seaman Bainbridge."

At the same meeting a report of the committee on the death of Dr. Jean F. Chauveau was presented, which was in part as follows: "A few months ago he celebrated the fiftieth anniversary of his entrance to the profession, an occasion which prompted the affectionate congratulations of a large number of friends who had learned to value the kindness and gentleness, as well as the wisdom, with which he always met the requirements of friendship and professional loyalty.

(Signed) A. B. Judson,
A. B. Ball,
F. E. Sondern."

Also a report of the committee on the death of Dr. David Franklin, the concluding portion of which was as follows: "Of him it may be truly said, medicine was his religion and his politics, his happiness and his misery. He was of unimpeachable honor and integrity. He had the gentleness of a woman and the nerve of a man of steel. He was keenly observant and of wonderful patience and endurance. He was beloved by his friends and adored by his patients." It was voted that the association "express by a record on its minutes its deep sense of loss in the death of Dr. Franklin, and that a copy of these resolutions be sent to his family, together with

an expression of the association's profound sympathy.

SAMUEL M. BRICKNER,
EDWARD FRIDENBERG."

**St. Luke's Hospital, Chicago.**—This institution will profit by the charity ball given on December 15. The hospital was founded in 1864 by Rev. Clinton Locke, who, until about ten years ago, was rector of Grace Episcopal Church. It has been supported since by his parishioners and friends. Dr. Locke first rented a three-story frame house in State street, between Twelfth and Thirteenth streets, which soon proved inadequate, when he obtained from E. H. Haddock a large three and one-half story frame house in Indiana avenue, between Fourteenth and Fifteenth streets. This structure still stands fifty feet south of the present brick house, that contains 150 beds. The ball netted $20,000, which will go toward building an annex to the hospital.

**Civil-service Examinations.**—The State Civil Service Commission announces general examinations to be held January 9, 1904, including the following positions: Apothecary in State hospitals and institutions; laboratory assistant in State Antitoxin Laboratory, Albany; physician, fourth and fifth grades of both regular and homœopathic schools. Applications for these examinations must be made on or before January 4. Full particulars of the examinations and blank applications may be obtained by addressing the Chief Examiner of the Commission at Albany.

**Southern Medical College Association.**—This Association met at Atlanta, Ga., December 14, the day preceding the meeting of the Southern Surgical and Gynecological Association. The following colleges were represented: Medical College of Virginia, Dr. C. Tompkins, President of the Association; Medical Department of University of Nashville, J. D. Jacobs, Vice-President; Medical Department of Vanderbilt University, G. C. Savage, Secretary and Treasurer of the Association; Medical Department of University of the South, J. S. Cain, Chairman of the Executive Committee; Birmingham Medical College, J. C. LeGrande, a member of the Executive Committee; Medical Department, Fort Worth University, Bacon Saunders; Medical Department, University of Tennesses, Dr. R. O. Tucker; Medical Department, Baylor University, J. M. Rosser; Tennessee Medical College, Knoxville, Chas. P. McNabb; Medical Department, University of Mississippi, J. B. Bullitt. The president in his address recommended that still further advancement be made in the way of preliminary requirements, and there was an amendment offered to the constitution with that in view, this amendment requiring a grammar school education plus two years in the high school. An amendment to the constitution was adopted requiring that forty-one months shall intervene between matriculation for the first course and the date of graduation, and requiring eleven months, shall intervene between the matriculation for any one course, and the matriculation for the next succeeding course. The Memphis Hospital College applied for readmission into the association, but the application was laid over for one year, according to the constitution. The meeting was a very satisfactory one, showing that actual advancement was taking place, and the consensus of opinion was that ultimately there will be nothing in the way of amalgamating the Southern College Association with the Association of American Medical Colleges. The officers for the ensuing year are: *President*, Dr. C. Tompkins; *Vice-President*, Dr. Bacon Saunders; *Secretary-Treasurer*, Dr. G. C. Savage; *Chairman of the Executive Committee*, Dr. J. S. Cain; *Members of the Executive Committee*, Drs. L. C. LaGrande and James Rosser. The next meeting of the association will be held on the day procceding the meeting of the Southern Surgical and Gynecological Association, at whatever place may be determined by the latter.

**Contagious Diseases in Illinois.**—Canton, Ill., reports one hundred cases of typhoid fever, with ten deaths. Scarlet fever and diphtheria are epidemic at Geneva, and the public schools have been closed. Since October 25 there have been seventeen cases of diphtheria in Pekin.

**Reappointment of Dr. Reynolds.**—Mayor Harrison of Chicago reappointed Dr. Arthur R. Reynolds, Commissioner of Health, on December 14, and the City Council has confirmed the appointment.

**Pathological Society of Philadelphia.**—At a stated meeting, held December 17, Dr. J. Norman Henry exhibited a specimen of rupture of the heart. The wall of the left ventricle was greatly thinned near the apex and dilated into an aneurysmal formation, which was partially accupied by clotted blood. Rupture had taken place into the pericardium. Dr. Henry exhibited also an infected echinococcus cyst of the liver. During life empyema was suspected, but on operation no pus cavity could be found. Dr. Joseph Sailer and Dr. Richards presented a preliminary communication on "Acid-fast Bacilli Other than Tubercle-bacilli in the Sputum," reporting the case of a man presenting symptoms suggestive of a gangrene of the lung, and in whose sputum were found cocci arranged in pairs and in chains that, on staining with aniline colors, were not decolorized by mineral acids. Dr. Robert N. Willson, Jr., reported the case of a medical student presenting physical signs of pulmonary tuberculosis, with repeated hæmoptysis, in whose sputum, only after repeated examination, were found slender bacilli that when stained with fuchsin did not yield up their color to mineral acids. Dr. Wm. G. Spiller read a paper entitled "Intense General Muscular Atrophy Due to Inflammation of the Brain." The patient had been a feeble-minded girl, sixteen years old, presenting extreme general muscular atrophy, and whose father, also feeble-minded, had been an alcoholic and possibly also syphilitic. After death a condition of general encephalomyelitis was found in the child. Dr. Leo Loeb read a paper entitled "Some Recent Contributions to the Subject of the Causation of Cancer." Dr. Henry W. Cattell made a demonstration of cryoscopy and pointed out the purposes for which it may be employed. Dr. T. H. Weisenburg presented a communication entitled "Changes in the Central Motor System in Uræmia." He related two cases of hemipegia of uræmic origin, in one of which death occurred fourteen days, and in the other four days, after the onset of the symptoms. In neither was any lesion demonstrable macroscopically, but on histological examination there were found atrophy and dense yellowish pigmentation of cells in the cerebral cortex, and the spinal cord associated in the first case with primary degeneration of motor tracts in medulla, spinal cord, and up to the level of the internal capsule. Dr. Farr exhibited a liver, the seat of an abscess, obtained from the body of a patient who presented also an empyema of the right pleura, the urine during life containing albumin, tube-casts and sugar, and death having been suspected to be due to diabetic coma. Dr. Joseph Sailer exhibited a heart with a distinct membranous formation attached to the anterior leaflet of the mitral valve, without appreciable murmur during life; also lungs

presenting extensive metastatic deposits secondary to sarcoma of a previously removed mammary gland, and also anthracotic lungs from a miner.

**College of Physicians of Philadelphia, Section on General Medicine.**—At a stated meeting, held December 14, Dr. Norman Henry reported two cases of urcinariasis (old-world parasite). Dr. Joseph Sailer exhibited a colored man, with marked dyspnœa and great difficulty in inspiration, almost total immobility of the chest in respiration, which was principally abdominal in type. There had been no notable loss in weight, but the heart had undergone some enlargement, and examination with a bougie pointed to obstruction of the œsophagus. The diagnosis was obscure. It was thought aneurysm could be excluded, and the most likely condition seemed to be a mediastinal neoplasm compressing œsophagus and bronchi and partly displacing the heart. Dr. Sailer also read a paper on "Asthma of Gastric Origin," reporting the case of a civil engineer, who suffered from dyspnœa and noisy breathing, with râles and other evidences of asthma, in the sequence of or association with digestive derangement and indiscretions in diet. Attention to these apparent etiologic factors, and especially to the use of the stomach tube with lavage, was followed by a repression of the symptoms. The latter symptoms, it was thought, in cases of this and allied kind, might at times be reflex and at other times toxic. Dr. D. L. Edsall read a paper on the "The Clinical Behavior of the Lymph-glands in Typhoid Fever," in which he related a small series of cases of typhoid fever presenting such enlargement of lymphatic glands in various parts of the body. Dr. James Tyson read a paper entitled "Appendicitis: the Case Which Completed My Conversion." The case was that of a young man in whom the diagnosis of appendicitis was made and operation was deferred, in part owing to the apparent mildness of the attack and in part to the fact that the patient was at some distance from the hospital, where it was preferred the operation should be performed. After the abdomen was opened an abscess was found in the right iliac fossa, and it ruptured on the slightest touch. The conclusion was, therefore, reached that, inasmuch as it is impossible to determine what will be the outcome in any given case not treated surgically, the only safe course to pursue is to operate as soon, after the diagnosis is made, as operation can be properly undertaken. Drs. J. Dutton Steele and A. P. Francine presented a communication entitled "Two Years' Experience in Gastroptosis." The communication was supplementary to previous papers on similar subjects, and dealt with cases that had remained under observations for almost the entire period named. The cases were of two kinds, namely those in which the displacement of the stomach was the principal condition, and those in which it was merely incidental. The resulting symptoms varied widely in character and intensity, but they were in general helped by the wearing of a mechanical support, even when this failed to correct the displacement. In cases that resist other measures of treatment appropriate surgical intervention would seem justifiable.

**Obituary Note.**—Dr. FRANCIS W. HIGGINS of Cortland, N. Y., died very suddenly on December 18, at the age of forty-six years. He was a graduate of the New York University Medical School in 1881. At the time of his death, he was president of the Third District Branch of the New York State Medical Association and one of the vice-presidents of the State Medical Association.

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

GENERAL MEDICAL COUNCIL—BART'S ARSENIC COMMISSION—SLEEPING SICKNESS—PERFORATING GASTRIC ULCER—HEART FAILURE—BACTERIOLOGY OF MILK—SIGNS OF LIFE—SHAMBLES OF SCIENCE—SIR J. B. MAPLE.

LONDON, December 4, 1903.

THE General Medical Council continued its sittings over Monday, November 30. The disciplinary and routine work was performed. That which more interests the profession is the disagreement between the Council and the two royal colleges which has "dragged its slow length along" for years, and even now is unsettled. Sir V. Horsley brought in his motion to represent the case to His Majesty's Privy Council, but he was not able to carry it. There was, as usual, a long and weary debate with numerous side issues and a determination of the college representatives to prevent so serious a move. These gentlemen stated that the colleges were still considering the matter, but they could not fix a date for a definite result. They suggested that perhaps next session they might have one. Eventually the Council resolved, by a majority of one, to wait until the May session. So far the colleges have the best of it. The indications are that they are preparing to give way, and all this obstruction and delay is only to "save face."

The future of St. Bartholomew's Hospital has continued to occupy public attention all the week.—Sir H. Burdett and others discussing it in the *Times* and most of the newspapers offering their speculations on the subject. The opposition to the Mansion House scheme seems to be growing. Yesterday Sir H. T. Burdett read a paper at the Hospital's Association in which he urged several objections to the scheme. He said the architect who planned the hospital deserves our admiration for his unique arrangement of the four ward blocks which occupy the sides of a hollow square, but each of the four separated and self-contained, so that there is a free circulation of air round each block as well as through the hollow square. This is remarkable, as in 1730 it was usual to join all such buildings together. The name of the architect has not been preserved. The sum of £350,000, which the Mansion scheme proposes to spend, the lecturer declared, would be wasted, "and lead to the ultimate destruction" of old Bart's. He would go in for a scheme requiring about double that amount.

The final report of the Royal Commission on Arsenical Poisoning was obtainable yesterday. It gives the total number of persons affected in the poisonous beer in 1900 as certainly 6,000, probably much greater. The deaths, 70. The commissioners adhere to the view that no quantity of arsenic, however small, should be admissible, into articles of food. They think serious defects exist in the machinery for safeguarding the public against the introduction of poisonous, deleterious, or valueless substances into food. The work of local authorities in this matter they would have coördinated by the local Government Board, which should have the aid of an expert, who should be connected with the Government Laboratory. They think official standards must be applied, and, pending their establishment, it will be proper to inflict fines whenever the $\frac{1}{10}$ grain of arsenic is detected in a gallon of liquid, or a pound of solid, sold for consumption.

Dr. Nabarro's stay in Uganda has been extended by the Colonial Office to enable him to extend his studies. In a letter to a friend in London he says there is no reason why whites might not be attacked with sleeping sickness. The parasite, it seems, may live in the blood for a long time before it reaches the brain, when sleeping sickness ensues. It is not every tsetse fly which harbors a parasite, and while people are clothed so that they are less likely to be bitten, and they do not allow the fly to settle on them and bite them as natives do. Moreover, whites do not go much into the fly areas.

At the last meeting of the Medico-Chirurgical Society the paper was by Mr. Crisp English, and was based on fifty consecutive laparotomies performed at St. George's Hospital for perforated gastric or duodenal ulcer (acute cases only)—forty-two gastric with twenty-two recoveries; eight duodenal with two recoveries. Premonitory symptoms were noted in 29 per cent., mostly chronic and severe cases. Vomiting in 75 per cent. Liver dulness normal in eleven, absent in twelve, diminished in twenty cases. The most common seat of perforation was the lesser curvature, and next to that near the pylorus. Complications occurred in thirteen of the successful and eight of the fatal cases—among them parotitis, pleurisy, thrombosis, hæmatemesis.

In seven cases presenting the signs of perforation laparotomy showed it has not taken place; in three of these nothing abnormal was found, in one only blood-

stained œdema of the gastric omentum, in another appendicitis, in one other evidence of a small ruptured ovarian cyst. In thirteen of twenty-one cases which came to necropsy other ulcers were found, mostly just opposite the perforation. The after-condition of seventeen of the successful cases had been ascertained—of these twelve had no return of symptoms, four had had slight dyspepsia and one complained of symptoms thought to be due to peritoneal adhesions.

Mr. Turner said seven of the cases referred to were under his care with five recoveries. The two fatal ones seemed hopeless on admission. In two of the recoveries there was thrombosis of the leg veins, a not uncommon thing in appendicitis. He used drainage in all and thought it beneficial.

Mr. Haward thought drainage advisable when a considerable period had passed before operation. If there was much escape from the stomach or a long time had elapsed, irrigation should be employed, and this was always on the safe side. He thought the pleurisy was produced by septic matter passing through the lymphatics.

Dr. John Broadbent mentioned two cases of traumatic rupture of the duodenum—one in a child, who fell across a chair, the other in a man on whom a ladder fell. Both died after a "quiescent period," which he thought more common after duodenal than gastric perforations.

Dr. French had seen gastric ulcer in locomotor ataxy and referred to the differential diagnosis from the crisis of tabes and from thrombosis of the vena cava, He had known a man suffer severe pain for two years after the operation.

Mr. Keetley since 1899 had operated on nine cases with six recoveries. These six had been operated on within thirty hours, the fatal ones after three or four days.

Mr. Newton Pitt preferred chopping out the abdominal cavity to irrigation, unless the extravasation was considerable in amount.

Dr. V. Pearson said diminution of liver dulness was frequent enough without perforation. He had found it in about one-third of all cases admitted for hæmatemesis. Perhaps it was dependent on a dilated colon, though that was hardly a satisfactory explanation.

Mr. Paterson was opposed to both irrigation and mopping. Both produced shock. He used simple drainage with gauze. He controverted the reasons given by Mr. English against gastroenterostomy.

Mr. Clinton Dent held that the less irrigation or interference the better. Gastroenterostomy was unnecessary and did not fulfil the objects it was proposed for. Even if it was not done he thought patients should be fed early after the ulcer had been closed.

A discussion on the Treatment of Heart Failure was held on the 23d ult. at the Medical Society. It was opened by Sir Douglas Powell, who limited his remarks to acute cases and instanced (*a*) sudden death in aortic regurgitant disease in which death arose from syncopal failure of the cerebral circulation from failure of the heart in the diastolic period. (*b*) An anginoid variety of this when death was threatened in an attack of vasomotor angina. Here the peripheral vessels were contracted, not dilated, and the blood retained in the arterial capillaries and nerve centers, so that the failure might be delayed long enough to admit remedies (nitrites, strychnine, morphine). (*c*) Another variety occurs in mitral stenosis, when the patient recovering from urgent symptoms is fed up to the point of plethora. Here a prompt bleeding might prevent disaster, but its necessity would have been avoided by spare diet and laxatives. In pneumonia, similiar though more complex conditions might occur—weakened heart, impaired lung function, capillary stasis.

The approaching overdistention of the right heart could be watched in its increased dimensions and loud second sound, with limited output recognised in the small quick pulse which failed in the inspiratory period. Venous stagnation was also shown in liver fulness and albuminous urine. It was most important not to overfeed such patients. In pneumonia, strychnine, and oxygen, Sir D. Powell's experience convinced him that strychnine was a direct cardiac stimulant, though some pharmacologists held that it only acted by contracting the arterioles. Oxygen was a cardiac stimulant carried in the blood direct to the heart. Digitalis was chiefly of use when the rhythm was disordered. Caffeine may supplement strychnine, or sometimes replace it. In Addison's disease, hemorrhage and collapse after abdominal injury or operations, the blood-pressure was so low that there was a tendency to transfer blood from the arteries to the veins. To raise the tension and prevent this transfer ergot, suprarenal extract and saline infections were useful, the heart being still supported by strychnine. Digitalis was then contraindicated. Opium was of use in cardiac shock or pain, in painful apart from syncopal, angina, in irregular, tumultuous or inhibited action of the heart, such as in the initial shock of pleurisy or pericarditis. In the cardiac agitation, restless dyspnœa and air hunger, which often preceded the appearance of dropsy, the only remedy seemed subcutaneous injection of morphine.

In the discussion, if such it may be called, which followed, the speakers for the most part agreed with Sir Douglas, and added scarcely anything to his statements.

Sir Broadbent alluded to degeneration of the cardiac muscle, but Sir Douglas had expressly confined his remarks to acute failure. Sir William also spoke of the use of venesection in pneumonia and sudden death in mitral stenosis brought on by a distended stomach. Sir L. Brunton on this point advised fluids to be taken apart from the solids of the diet. He said his experiments proved that strychnine caused recovery of the frog's heart after its arrest, showing it to be a direct cardiac stimulant.

Dr. M. Bruce supported the use of venesection as above, and remarked that the majority of deaths occuring in the night were caused by an undigested meal. In heart failure, from chronic valvular disease, or in kidney disease he gave digitalis freely—℥ x to xv every four hours, regulating it by the amount of urine passed.

Mr. Barker and Mr. Mayo Robson spoke of shock in abdominal operations and its prevention by warmth, saline injections, adrenalin, strychnine, etc., also by refraining from too much handling of the viscera.

The "Bacteriology of Milk" is the title of a twenty-five shilling volume just out, in royal 8vo, by Mr Swithinbank and Dr. Geo. Newman, both experienced bacteriologists. It is illustrated with chromo-lithos, photographs, and engravings..

Another important work out this week is Dr. Augustus Waller's "Signs of Life—a Series of Lectures on Physiology," at the University of London. Both these works are published by Mr. John Murray.

The publisher of the "Shambles of Science," which obtained notoriety through the vivisection libel case, has withdrawn it from circulation and offered an apology to Dr. Bayliss, which he has accepted.

Sir J. Blundell Maple, who died last week, was well known in connection with various subjects. His chief title to fame is as a generous philanthropist, for he undertook the entire cost of rebuilding University College Hospital, which will amount to about £150,000.

## Progress of Medical Science.

*The Boston Medical and Surgical Journal, Dec. 10, 1903.*

**A Case of Gumma of the Fallopian Tube.**—George S. Whiteside reports this case: The patient was a woman aged thirty-seven years. She had had eleven pregnancies and two miscarriages. She had a clear history of syphilis dating back five years. Both miscarriages had taken place within that time. About a year after she was first seen by the writer she was delivered of a healthy child. In this pregnancy she had been put on iodide of potassium three times a day. More than a year after the delivery of this child, she presented herself again for treatment. She had been receiving no antisyphilitic treatment during the past year. She had been suffering pain for two months past in the right iliac fossa. The pain was worse at night. There was some pain in the back, headache, and malaise. The catamenia were too frequent and too profuse. Examination under ether revealed on the right side a tumor the size of a large lemon, apparently the right Fallopian tube. She was ordered hot douches, rest, and the other usual remedies without success. She would allow no surgical treatment. She was put on a rigorous antisyphilitic mercurial and iodide treatment. The tumor constantly grew smaller. In ten weeks it had entirely disappeared. During this time her symptoms had gradually improved, and at the end of thirteen weeks she considered herself well. After two years there has been no recurrence. The writer thinks that it is probable that this tumor was a gumma of the Fallopian tube.

**The Indol of the Fæces as a Measure of Putrefactive Processes in the Intestines.**—A. E. Austin describes the method employed for determination of the indol, phenol, etc., in the stools. The day's fæces were first weighed and a portion weighed out for the determination of the water, which portion was afterward destroyed for determination of the lime. Another portion was weighed out for the nitrogen estimation, and the remainder mixed with water until it formed a thin mixture, and then one-third was distilled off. This distillate was then made alkaline with sodium carbonate to hold the fatty acids, and a second distillate was made. This distillate was then made strongly alkaline to hold the phenol in check and distilled with steam as long as any indol was found to

go over. In order to remove those portions which clung to the distilling tube, ether was added to the last solution, and its vapor dissolved out all the indol and carried it to the flask lying before the condenser. This watery solution of indol (and skatol) was repeatedly shaken with ether, the ether distilled until some began to fall out of solution, and then allowed to evaporate spontaneously in a weighed beaker, dried in a vacuum over sulphuric acid and weighed. The writer then cites several cases which were regarded clinically as examples of so-called chronic catarrhal colitis, or ileocolitis, of which mucous colitis or ileocolitis seems, from descriptions of others, to be a similar term. In these cases he estimated the chemical composition of the fæces. The amount of indol found was vastly greater than that found by Baumstark, who regarded 17 mgms. as an average normal quantity in the day's stool. The amounts of indol found in some of the author's cases were, respectively, .022 gms., .260 gms., .160 gms., and .244 gms. There can be no question as to the purity of these products. The writer suggests that his much larger amounts may be due to the fact that the skatol was reckoned with the indol, in his cases.

*Journal of the American Medical Association, Dec.* 19, 1903.

**The Capacity of a Human Muscle for Work.**—J. G. Holmes reviews previous discussions of this question and then gives a full, illustrated account of his own experiments. His conclusions are as follows: (1) A muscle working under normal physiological conditions is neither "loaded" nor "after loaded" (the former refers to the condition of experiments with the weight ergograph and the latter with the spring ergograph). (2) A muscle will not contract isotonically nor isometrically under normal physiologic conditions. (3) When a Mosso or a spring ergograph is used, a large part of the energy expended by a muscle during a period of work is lost. This loss occurs in easing back the weight or the spring to its position of rest or to the zero point. (4) A recognition of the conditions under which a muscle works and the end to be attained is necessary when an interpretation of ergographic results is to be made. (5) A normal muscular contraction ("normotonic") consists in contraction, relaxation without load, rest. (6) A new form of weight ergograph has been devised which allows the human muscle to work at a greater advantage than that given by any previous form of ergograph, because it permits "normotonic" contractions. (7) A human muscle is capable of doing a far greater amount of work by the use of the new ergograph than has been previously shown in ergographic work. (8) A muscle can work over periods of long duration without fatigue when the conditions are favorable. (9) These experiments confirm the conclusion stated by Maggiora that there is a definite weight with which one can perform the greatest possible work. (10) The physiologic limit of a muscle for continuous work is modified by the rate, load, and interval, or by rest and work.

*Medical News, December* 10, 1903.

**Peripheral Neuritis. A Clinico-therapeutic Résumé.**—William Broaddus Pritchard emphasizes certain facts in his therapeutic summary: Functional rest is most important in all cases of neuritis, often to the extent of mechanical enforcement; forced nutrition is also valuable, especially with fats, both constitutionally and locally, cream, butter, and lanolin by inunction being always indicated. The writer has great confidence in electricity and massage, neither of which, however, should be used empirically, both of which require, in individual cases, the utmost nicety of personal adjustment. He calls attention to the importance of maintaining an equable surface temperature in all forms of sensory neuritis, which is best attained by the use of lamb's wool fleece. In each case the neurotic habit tendencies and predispositions, which vary widely, should be carefully observed and met with corrective nerve discipline. It is likely that the method will vary with each case. All cases of neuritis, except perhaps the traumatic and mechanical, are associated with, and often dependent upon, states of altered metabolism and perverted nutrition, to which recognition is logically correlated the necessity of tonic alterative and nutritional measures.

**The Surgical Treatment of Dysmenorrhœa.**—Wm. E. Parke declares that the symptoms of true obstructive dysmenorrhœa is pain, which has the cramp-like character of labor pains. It may follow an operation, or there may be a new growth. The operative treatment of this condition consists in the removal of the cause. In case of a new growth it should be removed if feasible. Dilatation sometimes benefits the cases in which the uteri are small and anti-flexed. The surgical treatment of membranous dysmenorrhœa consists in a wide dilatation, curettage, and application of pure carbolic acid to the endometrium. This treatment gives relief from the severe pain for a time and occasionally cures the disease. The simple operation of dilatation and curettage finds its greatest field for usefulness in the cases of spasmodic dysmenorrhœa. Congestive dysmenorrhœa, pure and simple, does not require surgical treatment for its cure. But when it is secondary to certain pathological changes in the uterus or its appendages some operative measure offers the only substantial relief. For example, a retroflexed uterus should be not only dilated and curetted, but the organ should be restored to the normal position by an appropriate operation. A uterus whose appendages are known to be diseased should never be dilated and curetted unless at the same time an appropriate operation is done upon the appendages.

**The Dangers of Inflating the Stomach with Carbonic Acid Gas; Its Diagnostic Value. Report of Three Cases with Autopsies.**—Moses Behrend reports several interesting cases in which death followed inflation of the stomach with $CO_2$ gas. Autopsies were performed in each case. The first case was a patient sixty-eight years old. She suffered from anorexia, eructations of gas, variable bowels, headache, vertigo, palpitation, dyspnœa, pain across the epigastric region, and vomiting immediately after eating. A seidlitz powder was administered, which distressed the patient greatly. About half an hour afterward she vomited a quart of blood and at irregular intervals, during the course of twelve hours, large quantities of blood were ejected. Twenty hours after taking the powder she died. Autopsy revealed the rupture of a blood vessel at the base of an ulcer from which fatal hemorrhage had ensued. The second patient was a man aged seventy-three years. His chief complaint was vomiting after eating. The $CO_2$ test was tried in this case, and a large quantity of froth and a little blood were vomited or rather regurgitated immediately. After the $CO_2$ was taken, the stomach was not distended. The patient was extremely prostrated immediately after its use and never rallied. He died on the following day. At autopsy there was discovered carcinoma of the œsophagus and stomach. In the third case, that of a man aged fifty-two years, the chief complaint was pain just below and to the left of the sternocostal angle. Distress followed the administration of the $CO_2$ test and he was in a more or less semi-conscious condition till the time of his death. Autopsy showed that the œsophagus was dilated throughout its entire length. From these observations it is evident that the use of $CO_2$ gas in inflating the stomach is a serious matter. The lives of all of the above patients were undoubtedly shortened by this treatment.

*New York Medical Journal, December* 19, 1903.

**Things Every Tuberculous Patient Should Know.**—The paper of M. L. Stevens is made up of a set of rules to be placed in the hands of consumptives, and cover all necessary points. Under the head of "Open air," he notes that night air is not harmful, but less beneficial than day air because lacking sunlight. Under "cough and expectoration" he says that the belief that sputum expectorated on to the ground in sunny places is harmless because of the disinfecting power of the sun's rays is both erroneous and pernicious. You have no assurance that infective material from it may not be carried away almost immediately by flies, or by the shoes and skirts of unwitting persons.

**The Natural Habitat of the Tubercle Bacillus.**—J. W. Kime believes that all tuberculosis is originally of bovine origin, and that in the cow is found the natural habitat of the disease. It is now found, it is true, in many other animals, but it is also certain that when the germs are taken directly from the cow to any of these other animals, they sicken and die with much greater certainty and celerity than when drawn from any other source. Hence the author concludes that the cow furnishes the type of soil and tissue best adapted to the production of virile tubercle bacilli, and that the more immediate the transference of tuberculosis from the cow to man, the more deadly it becomes and the more readily it may be transferred back to the cow again; while cultures many generations removed from the cow lose much in virulency, are comparatively innocent in their effects, and are with great difficulty carried back to the source from which they took their origin. Hence, it is highly improbable that the rule is reciprocal in its action, and that if not transferable to the cow from man it may not be transmitted from cow to man.

*American Medicine, December* 19, 1903.

**The Diagnosis of Trichiniasis.**—William Fitch Cheney states that the data upon which the diagnosis of trichiniasis depends are these: Muscular pain, usually severe and wide-spread, due to a general myositis; continued or remittent fever, resembling that of typhoid; a persistant leucocytosis, averaging from 10,000 to 20,000; an increase in the eosinophiles, varying from 10 per cent. to 50

per cent.; the presence of trickinæ in the muscle tissue; and to these should be added œdema about the face and ankles, on which as a diagnostic feature much stress is laid by Osler and others; least valuable of all a history of having eaten pork. As to the value of eosinophilia in the diagnosis of trichiniasis two questions present themselves: Is it constantly present, and does it occur only in this disease? In the light of all the knowledge so far obtained, eosinophilia is not constantly present in this disease, but is so in the great majority of cases. As to the second question, eosinophilia does occur in a number of other conditions besides trichiniasis, but these all vary so widely from the clinical picture of trichiniasis that practically no difficulty is offered in the differential diagnosis. The finding of trichinæ in the muscle tissue is a positive proof of the presence of trichiniasis.

**Indications for Operations on the Gall-bladder and Bile ducts.**—Randolph Winslow says that the conditions which demand operations on the gall-bladder and bile-ducts are: Cholelithiasis or gallstones, cholecystitis and cholangitis, adhesions to surrounding parts, rupture of the gall-bladder, and malignant neoplasms, either affecting the bile passages, or pressing on them from without. There are some other pathologic conditions met occasionally. Of these conditions that of gallstones is by far the most common. In all forms of gall-bladder and bile-duct disease the cardinal symptoms are pain, tenderness in the upper part of the abdomen, muscular regidity, jaundice, fever and often a tumor. Many painful conditions of the abdomen are due to undetected gallstones. In most cases of disease limited to the gall-bladder there will be no jaundice, but when there is cholecystitis with accompanying cholangitis there may be jaundice. The signs of gall-bladder disease are not so much due to the actual presence of the stone, as to the inflammation which so often accompanies them, and which is due to infection, usually entering at the papilla and traveling up the ducts to the viscus. Cases in which the gall-bladder is inflamed and distended, but quite free from concretions, demand operative treatment, such as incision and drainage, and perhaps removal of the diseased gall-bladder equally as much as those in which calculi are present. The complications of cholecystitis are also both important and serious. In the case of a gall-bladder so distended and unduly mobile that a kink occurs at its neck, with an exaggeration of the colic and other symptoms, operation offers the remedy. When cholecystitis is complicated by gangrene, due to the intensity of the infection and the overdistention of the gall-bladder, either operation will speedily relieve the condition, or death will terminate it, from sepsis or rupture with peritonitis. In the case of rupture of a cyst in the contents of which pathogenic organisms exist, a prompt laparotomy with removal of the exuded bile, pus, or calculi and a careful cleansing of the peritoneum offer the only hope of a successful issue. The results of operative treatment are not very encouraging in cases of malignant disease of the liver, gall-bladder and bile ducts. In the conditions mentioned in this paper the difficulty and danger of operation increase in proportion to the length of time the affection has been in existence. When good results are not apparent after a fair trial of internal treatment, operative measures should be resorted to without further delay.

*The Lancet, December* 5, 1903.

**Fever, Foliaceous Desquamation, Morbilliform Eruption and Albuminuria from Copaiba.**—The patient of J. C. MacWalter was a man of twenty-two years who had been taking twenty minims of copaiba during an acute gonorrhœa. Although the rash which he exhibited was not unlike a copious copaiba eruption, the temperature of 102°, which had only abated to 101° by the next day after he had ceased to take the medicine and remained in bed, the general feeling of malaise, the throat conditions, and the fact that after three days a desquamation so considerable set in that foliaceous flakes of epithelium were shed off and regular casts of his fingers could be removed, led the author to fear he had been mistaken in attributing the eruption to the drug. This seemed to be the more likely as albumin was present in the urine in the earlier stage, though it quickly passed off. The patient made a good recovery, however, and was all right in four or five days though the desquamation continued a while longer.

**On Albuminuria as an Accompaniment of Diabetes.**—F. W. Pavy concludes his article in this issue, narrating several additional cases and commenting thereon. The general consideration of the clinical histories shows that the albuminuria which occurs in connection with diabetes may exist for a long time without leading to the production of any symptomatic indication of its presence. The condition, therefore, is not to be looked upon as affording ground for apprehension in the same manner as when occurring under other circumstances. It is evident that albumin and casts have a very different signification according to the condition with which they are associated. Experience shows that even apart from diabetes they are with striking frequency come across in persons of advanced age presenting nothing to suggest the existence of renal mischief. They may, it is true, be the inceptive of something that may assume later on a more developed form, but, on the other hand, time may pass away and signs fail to appear of any further development.

**Continuous Local Infection.**—Several modes of this form of infection are mentioned by R. J. Godlee and pertinent case histories are given. The list includes appendicitis and pyorrhœa alveolaris. From the latter may come septic fever, rashes, and profound septicæmia, purpuric hemorrhages and bleedings from the gums, toxic neuritis, septic gastritis, stomatitis, pharyngitis, and tonsillitis, ulcerative endocarditis, pernicious anæmia, chronic dyspepsia, and bronchiectasis. Still another manifestation of continuous infection is the development of lardaceous disease in the subjects of chronic suppuration. This latter may originate in the mouth from the cause above named, viz., pyorrhœa. Noteworthy features about lardaceous disease are: (1) that while some individuals may remain free from it for many years who suffer from a chronic issue of pus, others develop the disease and fall victims to it in a comparatively short space of time; (2) that though it is very often associated with clubbing of the extremities the two conditions may occur singly or one may precede the other by a long interval; and (3) that if the cause of the disease is removed an almost complete recovery may take place even when the viscera have been profoundly affected. In the category of local infections we may also include pulmonary osteoarthropathy, the septic osteoarthritis of young women often accompanying leucorrhœa, tuberculous glands, and acute infective osteomyelitis. In all the foregoing the cause of the patient's ill-being may easily be overlooked and treatment be without avail because the purulent focus is not found.

*British Medical Journal, December* 5, 1903.

**A Lecture on Means for the Prolongation of Life.**—Hermann Weber, in considering the principal factor of inherited longevity ascribes to the circulatory system the greatest share of credit. However, this cannot be separated from the respiratory system and from the vasomotor part of the nervous system. Death from old age is caused by a kind of atrophy of the tissues and organs connected with the changes in the blood-vessels, and the atrophy of the hæmatogenic glands. The most efficacious means to prevent early decay and to keep the circulatory system in a healthy condition are found in the different forms of exercise. Walking is the most natural form of exercise. More blood is passed into the blood-vessels, which are obliged to contract more frequently and carry it with greater energy to the different organs and tissues so that all the body is nourished. The action of the heart and the breathing are accelerated. The number and depth of inspirations are increased, more oxygen is taken up, and more carbonic acid is given out. The amount of walking necessary to maintain health varies widely in different persons and under different circumstances, from half an hour to two or three hours a day. So-called bad weather should offer no interruption. It is of great use for those who are still in fair vigor to take regularly, once a week, a day of more prolonged exercise of from four to six hours. Those in town, if possible, should spend this day in the country. More beneficial than the once-a-week extra exercise is the plan of taking once or twice a year a walking or climbing tour of three to four weeks or longer in the mountainous districts. This regular exercise should be supplemented in many cases by respiratory exercises. The habit should be formed of taking several times a day besides, deep inspirations and expirations, especially while walking. The writer then mentions tension exercise, which consist in the static contraction of all the muscles of the body while standing, from one to two minutes several times a day. The air in the house should be kept as pure as that out of doors. Great moderation should be observed in the amount of food, especially of the most nourishing articles (particularly flesh food). No food should be swallowed until it has been perfectly masticated and mixed with saliva. Alcohol is not necessary to healthy persons, and most people would be better without it. Cocoa and chocolate are much more articles of food than tea and coffee, and have much sustaining power in fatiguing climbs and other exertions. Every organ of the body as far as possible should be kept in constant working order. Excessive smoking is injurious to the majority of people. The amount and quality of food are of great importance to persons with sluggish bowels. Massage of the abdominal organs is often satisfactory. Voluntary and systematic contraction of the muscles of the abdominal wall is very useful in constipation. A glass of hot or cold water, or of some aërated water an hour or two before breakfast is often beneficial. The writer gives various

other directions. Going to bed early and rising early, and restricting the hours of sleep to six or seven hours; daily baths or ablutions, according to individual conditions, cold or warm, or warm followed by cold; regular work and mental occupation; cultivation of placidity, cheerfulness and hopefulness of mind; employment of the great power of the mind in controlling passions and nervous fear; strengthening the will in carrying out whatever is useful and in checking the craving for stimulants, anodynes, and other injurious agencies.

**On a Dysentery Antitoxin.**—Charles Todd concludes that: (1) By growing the dysentery bacillus in a somewhat highly alkaline broth a soluble toxin is obtained. (2) Certain animals, notably the horse and rabbit, are highly susceptible to this toxin. (3) The toxin is fairly stable, and though destroyed by an exposure to a temperature of 80° C. for an hour, is not destroyed by exposure to a temperature of 70° C. for the same period. (4) When injected into suitable animals—for example, the horse—the toxin gives rise to a powerful antitoxin. (5) The combination of the toxin and antitoxin in vitro does not take place immediately, but requires a certain time, and the rate of combination varies with the temperature.

**Hyperpyrexia in Measles.**—E. Barnes reports a recent epidemic of measles in which he treated about fifty cases. Four of these died, all from hyperpyrexia. They all had lung complications. The temperature in each of three cases reached about 106° F. In the fourth case it ran up to 111° F. This temperature was confirmed by three thermometers. The treatment adopted was the application of cold to the body, tepid baths with ice added, and ice to the head. No effect was seen on the temperature.

*Deutsche medicinische Wochenschrift, December* 3, 1903.

**Two Cases of Primary Isolated Lichen Ruber Planus of the Mouth.**—Sack describes two cases in which the appearance of flat, white, progressively increasing patches on the tongue gave rise to the suspicion of syphilis. Under observation, however, the condition was correctly diagnosed as lichen ruber planus. There was no involvement of the skin and the lesion gave rise to no symptoms. In case the usual attendant evidences of syphilis, such as glandular enlargement, eruption, etc., are absent the diagnosis is aided by the facts that the patches of lichen are sharply circumscribed, with distinct borders, and the adjoining mucous membrance is healthy, while opposite conditions prevail in syphilis. The lichen patch is hard, resisting, and never loses its porcelain-like mosaic appearance, which indicates its origin from separate papillæ. The treatment is less satisfactory than when the disease is situated on the skin, and particularly the usually effective arsenic loses its value when the lesion is confined to the mucous membranes.

**Protection against Röntgen Rays, and Their Dosage.**—Levy Dorn says that this question is constantly acquiring greater significance, and that undoubtedly legal restriction will soon be imposed on users of the Röntgen rays to prevent injury to those examined and treated. No satisfactory means of actual measurement has yet been devised, but every radiographer can make observations which will enable him to form an estimate of the power of his apparatus under the various modifications of current frequency of interruption, distance of the tube, etc. The author's rule is that the safe maximum exposure is twenty times that used for radiographing the adult pelvis. For this the plate is usually sixty centimeters distant from the tube, but the skin of the patient only thirty centimeters, so that the skin receives four times the intensity of illumination that the plate does. If the exposure necessary is two minutes, the maximal exposures will be $\frac{2}{4}^0$ of the time—that is, ten minutes. A similar calculation is to be carried out if the data should be different, bearing in mind that the intensity of the *x*-rays, like that of light, is inversely as the square of the distance. Owing to the cumulative effect of the rays, during a space of fourteen days the aggregate of the exposures should not exceed one and one-half times the maximum. It must also be remembered that inflammatory affections of the skins render it more susceptible to the rays even after the inflammation has subsided, and that young persons, mucous membranes, the face and back of the hands react very easily. Precautions for the operator himself are important but difficult to carry out. The hand should never be used as test object, a wrapped-up bone answering every purpose, and plates of lead, gauntlets of tin foil and metal screens should all be used to protect the person from exposure.

*Berliner klinische Wochenschrift, November* 30, 1903.

**Acute Sigmoiditis.**—Edlefsen gives this name to an acute localized peritonitis involving the sigmoid and frequently extending upward to the lower part of the descending colon. It is the result of prolonged fecal stagnation and is most frequently observed in puerperal women in whom the conditions are particularly favorable for its production. In general the picture much resembles a typhlitis transferred to the left side of the abdomen. The affection has the clinical features of an acute inflammatory disease and is always accompanied by pain, local tenderness and fever.

**Antituberculous Serum.**—Marmorek was led to conclude that tuberculin on injection into healthy and diseased animals did not act in the manner usually believed, but that the tuberculin merely forms a reagent or stimulus which causes the tubercle bacilli within the body to form the true toxin of the disease. This has not previously been detected because it is formed only under certain conditions present in the living body but which the conventional culture media do not imitate. By growing the bacilli on a medium containing a leucotoxic serum, obtained by injecting into calves leucocytes of guinea-pigs, certain cultural differences were observed, and particularly the scanty and late formation of tuberculin. On the other hand, a new and different toxic substance was formed. The relatively high resistance of the liver to tuberculous invasion suggested the use of liver tissue as an addition to the culture medium in order to stimulate the bacteria to toxin formation by adverse conditions. In this way a substance was produced whose identity as the toxin of the disease could be proven by the fact that it was capable of immunizing guinea-pigs to the tubercle bacillus. By injecting it into horses a serum was produced which, after encouraging results upon animals had been obtained, was tried on tuberculous patients. Most of these were cases of long standing and exhibited mainly various forms of surgical tuberculosis, but markedly beneficial results were seen. This was also true of some pulmonary cases treated, but the method has not been in use long enough to permit very extensive clinical reports.

**The Technique of Rectoscopy.**—H. Strauss describes a form of pneumatic proctoscope presenting several minor features of difference from those already in use, and discusses various points concerning the application of these instruments, which he has found to contribute greatly to the results attainable. The form of attachment of the electric bulb is more convenient than in other models and so arranged that soiling with intestinal contents is less likely. The outside of tube is graduated in centimeters so that its depth of introduction can be seen at a glance. The night before the examination, and again the next day about three hours before the time, the rectum is flushed with a liter of salt solution. The bladder is emptied and the patient placed in the knee chest position. A preliminary cocainization of the anus is frequently valuable. The chief point made by the author is that after having introduced the instrument to the depth of eleven centimeters its direction must be changed from that corresponding to the curve of the sacrum to that of a line tending to pass somewhat anterior to the promontory. Before reaching this point it may or may not be necessary to resort to inflation of the bowel by means of the hand bulb attached, but from now on it is advisable to distend the gut artificially in order to make the opening of the sigmoid flexure easier to discover. This must be sought for carefully by moving the point of the instrument about in all directions, as it is but rarely in the direct line of vision as the instrument is introduced. The author's longest instrument measures thirty-five centimeters but he rarely introduces it beyond thirty to thirty-three centimetres, at which point the normal angulation of the gut prevents further penetration.

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**The Plague in India: A Study of the Results of the Haffkine Prophylactic.**—B. Rosalie Slaughter states that there is one indirect danger which has been realized in connection with immunity—that is, the protected, feeling that they are safe, have gone freely among those stricken with the plague, and have then attended to their various occupations, and in this way have spread infection. The writer sums up the benefits of the prophylactic as follows: (1) It renders a person immune for three months. (2) It acts within twenty-four hours. (3) When inoculation is given in incubation stage of disease—that is, before signs of plague appear—it has, in many cases, the power to abort the disease. (4) Inoculation has no effect on other diseases, except, possibly, eczema, which appears to be benefited by it. (5) Inoculation confers a high degree of immunity, and greatly reduces the number of plague attacks. (6) When, in spite of inoculation, a person is attacked, his chances of recovery are greatly increased.—*Bulletin of the Johns Hopkins Hospital.*

# Book Reviews.

THE AFTER-TREATMENT OF OPERATIONS. A Manual for Practitioners and House Surgeons. By P. LOCKHART MUMMERY, F.R.C.S.Eng., B.A., M.B., B.C.Cantab., Demonstrator of Operative Surgery, St. George's Hospital; Late Senior House Surgeon, St. George's Hospital. New York: William Wood & Co., 1903.

THIS very pleasing little book of two hundred pages will be welcome to all. Good manuals are rare and few of the class of this publication are in existence. This book should be as welcome in America as in England, for it is based on observations made, and treatments outlined, in both countries. The introduction treats of the important problem of posture after operation. Much attention has been devoted to this detail by prominent American authors, and students as well as house surgeons may read these pages with profit. The author modestly states that the manual is for the use of these two classes, but it will be found valuable to all operating surgeons. One of the most useful features of the book is the full differential diagnosis given between postoperative rashes and those of an infectious character. As is eminently proper, much space is given to the post-operative care of patients who have undergone thoracic operations of all kinds. Full abstracts are given from Dr. H. Campbell's book on respiratory exercise, which are directed toward the obliteration of post-empyemic cavities. Appropriate attention is given to the preparation of foods, especial care being devoted to the preparation of grape sugar—a form of "raisin tea" being commended. Beef tea, as usually prepared, is satisfactorily condemned. In fine, the manual is well worth reading.

THE MEDICAL NEWS VISITING LIST, 1904. Philadelphia and New York: Lea Brothers & Co., 1903.

THIS new edition of 1904 is, like its predecessors, compact, but containing in its small compass a great deal of valuable information. Directions are given for keeping a visiting list. Various notes are given as to the signs of dentition, the calculation of the day of confinement, tables of the ordinary weights and measures, the metric system, and its equivalents in the ordinary weights and measures, thermometric scales, methods of examination of the urine, poisons and antidotes, a table of doses, and therapeutic reminders. The book allows for the entries of thirty patients a week. Besides the regular daily visiting list, there are sections for general memoranda, obstetric engagements, vaccinations, and cash account. The binding might be improved upon, as the material of which the covers are made is a poor substitute for leather. However, this is no doubt of sufficient durability for the required purpose.

THE PHYSICIAN'S VISITING LIST FOR 1904. Fifty-third Year of Its Publication. Philadelphia: P. Blakiston's Son & Co., 1903.

THIS list presents, in convenient form, spaces for noting the various events of daily routine; such as calls to be made, obstetric and vaccination engagements, addresses of patients and nurses, etc., and a system of symbols to be used to shorten the manual labor of notation, tables of doses, thermometric equivalents, etc., are appended.

GYNECOLOGICAL NURSING. By NETTA STEWART, Sister in the Extra-Mural Gynecological Wards of the Royal Infirmary, Edinburgh. New York: Wm. Wood & Co., 1903.

THE writer has brought together in this convenient handbook the essentials of gynecological nursing. Among the subjects discussed are the examination of patients, the vaginal douche, tampon, and plug, the use of the catheter, the washing out of the bladder, the examination of the bladder and rectum, and various gynecological operations with preparations for the same.

PAUL GUTTMANN'S LEHRBUCH DER KLINISCHEN UNTERSUCHUNGSMETHODE FÜR DIE BRUST- UND UNTERLEIBSORGANE. Herausgegeben von Dr. FELIX KLEMPERER, Privatdocent an der Universität in Berlin. Neunte verbesserte und vermehrte Auflage. Berlin: August Hirschwald, 1904.

THE popularity of this book which made it a favorite for over twenty years until the author's death in 1892 caused it to fall behind in the race, will, undoubtedly, be restored to its former mark now that its revision has been undertaken by such competent hands. Through Klemperer's labors it has become once more representative of the teaching of the hour, while the systematic arrangement and clarity of style of its earlier days still remain to attract another generation of readers. The sections on general examination and on the examination of the chest are the strongest in the book and form an admirable guide for the student of physical diagnosis. But some of the other chapters, notably those on the blood and urine, seem to suffer greatly through the absence of illustrations, which are almost a necessity in the discussion of these topics. In spite of this defect, however, the book has an inherent vigor and charm that will no doubt restore it to its former preëminence.

COMPENDIUM DER OPERATIONS- UND VERBANDSTECHNIK. Von Dr. EDUARD SONNENBURG und Dr. RICHARD MÜHSAM. Zweiter Teil. Specielle Operationstechnik. Mit 194 abbildungen im Text. Berlin: August Hirschwald, 1903.

THIS, the second volume of the author's handbook of operative surgery, is devoted to regional surgery. The range of topics treated covers most of the important subjects, but owing to the small size of the book their discussion is necessarily somewhat sketchy and incomplete. Everything stated is, however, thoroughly modern in principle and detail, while many minor variations which appear from time to time make its perusal interesting to American readers. The most noteworthy deviation from our methods is noted in the section on appendicitis, where we find that the appendix is removed both in acute and chronic cases, through an incision parallel with Poupart's ligament and not differing greatly in position from the usual Bossini incision. The illustrations throughout are fairly good, and the little volume may be recommended as presenting an agreeably written synopsis of the German surgery of to-day.

A MANUAL OF BACTERIOLOGY. By HERBERT N. WILLIAMS, M.D., Professor of Pathology and Bacteriology, Medical Department, University of Buffalo. With ninety-nine illustrations. Third edition, revised and enlarged. Philadelphia: P. Blakiston's Sons & Co. 1903.

THAT this manual should have reached a third edition in an unusually short space of time is not surprising, for it possesses a degree of practicality not commonly found in books of its class. Realizing that for the purposes of the student there are other subjects which demand and deserve a greater amount of time than bacteriology, the author has made his method of discussing the subject bear as much as possible on the broader departments of general medicine and surgery, and the direct application of bacteriologial methods to their development and study. Accordingly, we find that the chapters on the bacteria of the normal body, of the soil, air, water and foods, on bacteria in disease, toxins and immunity, disinfectants and antiseptics, and the preparation of surgical supplies, are all extremely serviceable. Many new illustrations have been added to this edition, as well as an introductory review of the history of bacteriology.

A TEXTBOOK OF PATHOLOGY. By ALFRED STENGEL, M.D., Professor of Clinical Medicine in the University of Pennsylvania, Physician to the Philadelphia Hospital; Physician to the Pennsylvania Hospital, Philadelphia, etc. Fourth edition. Thoroughly revised. Philadelphia, New York, and London: W. B. Saunders & Company, 1903.

THE first edition of this work appeared in the autumn of 1898 and the third in 1900. In the three years which have passed since then, there have been many changes in medical theories, some facts have been established, and some supposed facts have been shown to be hypotheses. Among the subjects in which the most extensive revision has been made are typhoid fever, tuberculosis, dysentery, yellow fever, hæmatology, and immunity. A chapter on the technique of pathological methods has been added in this edition. In addition to the illustrations in the text, some of them in colors, there are seven well-executed chromolithographic plates. Dr. Stengel is a good writer, thoroughly master of his subject, and his work is one which the student of pathology may safely accept as a trustworthy guide.

THE MEDICAL EPITOME SERIES. ANATOMY. A Manual for Students and Practitioners. By HENRY E. HALE, A.M., M.D., Assistant Demonstrater of Anatomy, College of Physicians and Surgeons, Columbia University in the City of New York, Clinical Assistant in Pediatrics, Vanderbilt Clinic, New York. Series edited by V. C. PEDERSON, A.M., M.D., Instructor in Surgery and Anæsthetist and Instructor in Anæsthesia at the New York Polyclinic Medical School and Hospital; Deputy Genitourinary Surgeon to the Outpatient Department of the New York Hospital; Physician in charge, St Chrysostom's Dispensary; Anæsthetist to the Roosevelt Hospital (First Surgical Division). Illustrated with seventy-one engravings. Philadelphia and New York: Lea Brothers & Co., 1903.

THE present volume adds one more to this valuable series. The book, though a small one of 370 pages, is comprehensive in all essentials. The authors have succeeded in their aim to make their work a combination of brevity, clearness and comprehensiveness. There are six parts, embracing the following subjects: Osteology, Arthrology, Myology, Angeiology, Neurology, and Splanchnology. There are seventy-one engravings interspersed through-

out the text. At the end of each chapter comes a group of questions, making the book suitable for a quizzing compend. An excellent index completes the work.

PHYSICIANS' POCKET ACCOUNT BOOK. By J. J. TAYLOR, M.D. Philadelphia: The Medical Council, 1903.

THIS little book is arranged with great simplicity, and its use will economize both space and time. It is the only single-book system on the market. Each account is made originally in ledger form, so that no posting into a ledger is necessary. The arrangement of the book enables the physician to prove that his account is correct.

PRACTICAL NURSING. By ISLA STEWART, Matron of St. Bartholomew's Hospital, London, and HERBERT E. CUFF, M.D., F.R.C.S., Medical Superintendent, North-eastern Fever Hospital, Tottenham, London. In two Volumes. Vol. II. Edinburgh and London: William Blackwood & Sons, 1903.

ALTHOUGH this is a book of only 200 pages, it is so compactly arranged that, together with the first volume, it offers an excellent résumé of the subject of nursing. Among the chapters in this second volume are those on Enteric Fever, Smallpox, Scarlet Fever; Diseases of the Respiratory, Nervous, Circulatory and Digestive Systems; Burns, Fractures, and Gynecological Nursing.

CLINICAL TALKS ON MINOR SURGERY. By JAMES G. MUMFORD, M.D., Assistant Visiting Surgeon to the Massachusetts General Hospital, and Instructor in Surgery. Harvard University Medical School. Boston: The Old Corner Bookstore, 1903.

THE writer deals here with subjects which find little place in textbooks. Among the chapters treated are those on Incised Wounds, Simple Fractures, Compound Fractures, Granulating Wounds and Varicose Ulcers, Felon, Whitlow, Paronychia, Palman Abscess, Bunions, Ingrowing Nails, Corns and Warts, and, lastly, Massage. It is a useful little volume.

LA GASTRO-ENTEROSTOMIA. Metodi Operativi Indicahioni-Risultati. Studio Critico-Clinico-Sperimentali. Ed una Statistica Originale Italiana della Gastro-Enterostomia. Pel Dott. ARISTIDE MATTOLI, Chirurgo Primaro, Direttore dell' Ospedale Civile di Tolentino. Roma: Società Editrice Dante Alighieri, 1903.

THIS volume of three hundred and thirty pages devoted to the subject of gastroenterostomy, covers every aspect of the subject most completely and offers a satisfactory résumé of what has been accomplished in this field of surgery. The historical notes have been worked up with unusual thoroughness, and throughout the book the wealth of references to the literature, including American writings, bears testimony to the care that has been devoted to its preparation. The main headings comprise a chapter on preliminary considerations such as the history and anatomy; the technique of the anastomosis and the sites that may be chosen for it; the methods of suture and substitutes therefor; the vicious circle and operative methods designed to avoid it, including an ingenious method of obliterating the different loops devised by the author; the indications for the operation and its results; and finally, a complete statistical conspectus of all Italian gastroenterostomies. The operation has been done in Italy ten hundred and twenty-eight times, with a total mortality of 20.23 per cent. Somewhat more than half the cases were operated for non-malignant causes and of these the mortality was 10.50 per cent. The author devotes much space to the Murphy button and allied means of facilitating the anastomosis, but ends by concluding in favor of the suture. He does not take the same enthusiastic stand in regard to gastro-enterostomy for gastric ulcer that many writers, notably some of the English surgeons, do; but considers the operation indicated in advanced cases with prolonged hæmatemesis that have resisted medical treatment. In duodenal ulcer or stenosis, however, he considers the operation indicated as soon as the diagnosis is made.

Altogether the book is most pleasing and should be in the hands of all those interested in this branch of operative work.

MODERN SURGERY, General and Operative. By JOHN CHALMERS DACOSTA, M.D., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia; Surgeon to the Philadelphia Hospital and to St. Joseph's Hospital, Philadelphia. Fourth Edition, rewritten and enlarged. Philadelphia, New York and London: W. B. Saunders & Company, 1903.

IT is three years since the third edition of Dr. DaCosta's well-known and appreciated surgical treatise was published, and the author has improved the opportunity which a new issue offered to incorporate in his work an account of all the advances in surgery which have been made in that interval. The book is of inconveniently large size, nearly eleven hundred octavo pages, and might, for the benefit of the reader, be divided into two volumes. The index is long, but there are some omissions which ought not to exist in a work intended for reference as well as connected study.

A MANUAL OF THE PRACTICE OF MEDICINE. By A. A. STEVENS, M.D. Sixth Edition. Philadelphia, New York and London: W. B. Saunders & Co., 1903.

THAT this work already has many warm friends is shown by the need for six editions in eleven years. The present one has been revised and, in many places, particularly in the section on Diseases of the Digestive System, has been entirely rewritten. Although the size, shape, and binding of this volume combine to make it in fact, as well as in name, a manual, it should not be inferred from this that it belongs to the large class of "compends" or "epitomes." It is an up-to-date handbook of the practice of medicine, conveniently arranged for ready reference, and presenting the various subjects in what the author aptly describes as an "assimilable form."

ATLAS OF THE EXTERNAL DISEASES OF THE EYE, including a brief treatise on the Pathology and Treatment. By Prof. Dr. O. HAAB of Zurich. Authorized translation from the German. Second Edition, revised. Edited by G. E. DE SCHWEINITZ, A.M., M.D., Professor of Ophthalmology in the University of Pennsylvania, etc. Philadelphia, New York and London: W. B. Saunders & Co., 1903.

DR. DE SCHWEINITZ has, for a second time, given us an excellent and exact translation of Professor Haab's exhaustive little Atlas of the Diseases of the Eye. There have been added a few chromo-lithographic plates, most of which have reference to morbid corneal or lid conditions, in their varied forms. For those not fortunate enough to see, in daily practice, cases of external diseases of the eye in their varied and manifold forms, this complete and compact atlas, with its plates, supplies as near as may be the lack of clinical study.

PHYSICS AND INORGANIC CHEMISTRY. By Dr. A. McGLANNAN. Philadelphia and New York: Lea Brothers & Co., 1903.

THIS book, like the others of the "Medical Epitome" series, gives a good deal of information in a small space, but so much compression has been necessary that the result reminds us of the dried meat left after extracting the flavoring juices. This is not, however, the fault of the author, for he has covered the ground in clear and terse language; but it is a fault inherent in works of this class, and one which becomes particularly glaring in dealing with certain subjects which do not lend themselves kindly to such treatment.

GESAMMELTE ABHANDLUNGEN ÜBER ZUCKERBILDUNG IN DER LEBER. Von Prof. Dr. J. SEEGEN. Berlin: August Hirschwald, 1904.

THIS is a collection of thirty-six dissertations on the glycogenic function of the liver and allied subjects, which have appeared in various physiological journals during the past thirty years. They are arranged in chronological order to show the various steps by which the author has been enabled to formulate what is now the generally accepted theory as to the relation of the liver to the sugars of the body, and detail the bitter opposition his views met with at the hands of the advocates of Pavy's teaching. Not the least interesting part of the book is the introduction, in which the octogenarian author reviews his struggles at the time when he was the sole upholder of principles now universally accredited, and also indicates the lines of investigation still necessary to make the complex problem wholly clear.

DIE ENTSTEHUNG DER ZUCKERKRANKHEIT UND IHRE BEZIEHUNGEN ZU DEN VERÄNDERUNGEN DER BLUTGEFÄSSDRÜSEN. Von Dr. A. LORAND. Berlin: August Hirschwald, 1903.

THE author believes that toxins emanating from the thyroid gland are concerned in the production of diabetes. If the thyroid gland alone is diseased, temporary and alimentary forms of glycosuria appear, but if there is an associated lesion of the pancreas, permanent diabetes follows. Antithyroid preparations appear to exert a beneficial effect in cases of diabetes.

A COMPEND OF DISEASES OF THE SKIN. By JAY F. SCHAMBERG, A.B., M.D., Professor of Diseases of the Skin, Philadelphia Polyclinic, etc. Third edition, revised and enlarged, with 106 illustrations. Philadelphia: P. Blakiston's Sons & Co., 1903.

IF Dr. Schamberg had not originally written a pretty good quiz compend, to which series this belongs, the book would not now be enjoying the popularity which it has attained as it comes out for the third time. It is small and condensed, and serves the purpose only for which it was intended, but serves this purpose well.

# Society Reports.

## NEW YORK PATHOLOGICAL SOCIETY.

*Stated Meeting, Held November 9, 1903.*

Dr. WILLIAM HALLOCK PARK IN THE CHAIR.

**A Case of Pernicious Anæmia Showing a Megaloblastic Crisis.**—D. S. D. JESSUP presented slides and photographs of the blood of a case of pernicious anæmia which had been under observation for six weeks. The red cells at first were one million one hundred and fifty-two thousand, and hæmoglobin 25 per cent. Ten days later the red cells had fallen to nine hundred and sixty-eight thousand and the hæmoglobin to 15 per cent., and the number of megaloblasts was much increased, so that on a differential count of the white cells, 17 per cent. were megaloblasts, giving one thousand and twenty to the cubic millimeter, on the count of six thousand white cells. A fortnight later thre was a marked increase in the red cells and amount of hæmoglobin, and a disappearance of the megaloblasts

Dr. F. C. WOOD demonstrated slides and photographs from a case of lymphatic leukæmia with a marked normoblastic crisis occurring about ten days before death. The number of normoblasts to the cubic centimeter was estimated from the smears at about one-tenth of the red cells present. As the red cell count was about four hundred and ninety thousand, he thought that the normoblasts were at least forty thousand to the cubic centimeter. In this case the normoblastic crisis was certainly not of prognostic value, as is stated in many textbooks on the subject.

Dr. WOOD also demonstrated series of smears from cases of pernicious anæmia, showing mitotic figures in the megaloblasts, and also from cases of myelogenous and lymphatic leukæmia, showing mitoses in the normoblasts. In his experience such appearances were of no special diagnostic or prognostic value, as some of these cases had survived for over a year after the appearance of the mitotic figures in the blood, and some had died in a few weeks.

**The Diagnostic Value of Cultures in Horses Suspected of Glanders.**—Dr. LETCHWORTH SMITH said that the purpose of his paper was to bring before the society the results of a number of examinations made upon the cadavers of horses thought to have glanders, which were killed after being tested with mallein, referring more particularly to the temperature element. He said the reaction to mallein included three separate points, as follows: (1) A general reaction, shown by the loss of appetite, dejected appearance, etc. (2) A local reaction the appearance of hot, tender swelling at the site of injection, lasting for several days. (3) A rise of temperature. The elevation of temperature was from 2.7° to 7.2° F. The temperatures were taken five times during the day preceding the injection, and again five times the following day. In estimating the rise of temperature during the test it seemed fair to compare the average of the temperature taken before the injection with the average taken after. The following is a summary of Chart No. 4 which he presented:

Out of forty-three cases, eight showed a rise of 2° C. or more. Of these, three showed lesions which were interpreted as glanderous, besides yielding the bacillus; two showed lesions believed to indicate glanders, but from which they were unable to isolate the organism; of the remaining three, one seemed entirely normal, one showed some areas of grayish consolidation which might have been glanderous, and one showed only a single lung nodule of doubtful character. Out of the forty-three cases, twenty-two showed a rise between 1° and 2° C. Of these, six gave both pathological and bacteriological evidences of glanders; seven showed pathological evidence only; nine gave no indications. Out of the forty-three cases, in thirteen the rise was less than 1° C Of these four yielded the bacillus, five showed suspicious lesions, and four were considered negative.

If a conservative course had been followed by the Board of Health last spring, *i.e.* considering as negative all cases which failed to show a rise of 2° C., ten horses from which the bacillus was recovered, and twelve others which were probably cases of glanders, would have remained alive and possible sources of infection in various parts of New York City. He regretted that more reliance could not be placed upon the negative findings. He said that a lack of knowledge of conditions in the horse which might simulate glanders was a possible source of error. The mallein used in this work corresponded in preparation quite closely with the suggestions made by Ravanel. His experience in this work during the past summer seemed to support the position of those who considered mallein a valuable diagnostic aid. It was open to argument as yet whether they were justified in destroying horses which showed no signs of glanders except a mallein reaction.

Dr. WILLIAM H. PARK said he had recently heard of a case occurring in Bridgeport. A horse was supposed to have glanders, and was injected with mallein with a slight reaction following. The horse was not condemned. Shortly after, the horse showed more definite symptoms, and at the same time the owner of the horse and his daughter became sick with glanders. The horse was then killed and presented the usual lesions, although they were not well defined. The local physician and veterinary claimed to have found the bacillus. The daughter had not been in contact with the horse, only driving behind it. It was probable when the horse sneezed or coughed she inhaled the bacillus.

**Unusual Case of Alcoholic Multiple Neuritis.**—Dr. HARLOW BROOKS read this paper. The patient was a woman, fifty-two years old, born in Russia, and had been in this country two and a half years. There was apparently no tuberculous, specific, neurotic, or malignant taint in the family. She was born at full term, being the twelfth child. She began to walk when two and a half years old. She had smallpox when five years old. She had frost bites on her toes when eight years old. Between the ages of eleven and fifteen attended school, when she left to assist her mother in housework and in attending to her business (tavern). She worked very hard, rarely going to bed before midnight and, at times, getting up at 2 A.M. Began to menstruate at seventeen, then it stopped for one year, reappearing when she was eighteen; since it had been regular, painless, rather profuse, lasting seven days. She married at nineteen. She began to drink whiskey at the age of nine years, and since had been accustomed to take two or three drinks a day, but never to intoxication.

When thirty-five years old she was frightened after a confinement, and soon developed twitching pains in the small of her back, referable to the spine, lasting a few minutes only. These twitching pains came and went for two years, when she was free from pain for a year; then she noticed that her ankles became painful and swollen. One year later she began to suffer from attacks of diarrhœa followed by periods of constipation, from which condition she never got complete relief. When forty years old she again got frightened after childbirth and a headache ensued which lasted one and a half years. When forty-one years old she fell and produced a miscarriage which was accompanied with considerable bleeding. At forty-two a callosity formed, making walking difficult. She now began to notice tremors in both legs, coming on two or three times a day; this condition lasted a number of years. About two and a half years ago the patient noticed, when walking on board ship, a peculiar sensation, as if something soft was underlying, like a carpet or wadding. Two years ago the patient worried a good deal over the death of a son and got hot flashes over the body, for which she took cold baths,

finally developing lumbago. She then became weaker and weaker, pains in the legs became more severe and persistent, she could not control her urinary functions, and she frequently would wet the bed.

Pains of a sticking character set in about nine months ago in the larger joints of the body. The wrists were free from pain, but the fingers got stiff and numb. She was very weak and had to remain in bed. Legs and feet weak and pains very great, especially in the legs. Pains in back were very bad and it was impossible for her to stand straight. Pains would start in the feet and involve the arms and shoulders. She could not lift hand or foot. She remained in bed six months. She then improved until May 18, 1903, when she was taken to Mt. Sinai Hospital; she then could sit up without help. She had diarrhœa and passed water very frequently. The diarrhœa was accompanied by tenesmus. She denied girdle sensations and diplopia and stated that her dexterity of hands had been impaired for eight months. There was loss of weight, and paræsthesia in hands eight months ago.

Examination showed the nutrition poor, muscles flabby, myototic irritability wave-like, panniculus adiposus and small skeleton. There was slight Romberg, slow gait, and patient had to stop and hold on to near objects; the gait was ataxic, paretic. There were no visible glandular enlargements, and no enlargements of the ends of the bones. There was no increased resistance to passive motion in arms or thighs. Position of arms and forearms was normal and articulations were normal. Reflexes were present and exaggerated. Motor power diminished in flexors of thighs. Ankle-joint was deformed from an old process; the foot was turned in valgus position. The great toe was abducted, making the metatarso-phalangeal articulation prominent. With patient in bed there was a slight foot drop. There was inability to recognize the number of fingers placed on the skin in both upper and lower extremities. Temperature sense was normal. The knee-jerk was much diminished and sometimes entirely absent. Babinski's sign slightly elicitable on left side. Decubitus occurred on October 2 and death on October 30.

At the autopsy the brain showed marked œdema of pia-arachnoid, membrane moderately congested, not thickened or adherent. Arteries at base showed marked atheroma, with fatty degeneration. Ventricles were dilated with clear serous fluid, with petechiæ in roof of left lateral ventricle. Cortical gray matter was thick and regular. Brain tissue was soft and œdematous. No gross changes appeared in the retina. Membranes of cord showed nothing abnormal. The cord was soft without any gross changes. The great sciatics apparently showed fibroid increase. The posterior tibial muscles showed replacement atrophy. The cause of death was a chronic interstitial nephritis with cerebral œdema, general arteriosclerosis of marked degree, terminating peripheral neuritis probably of alcoholic origin.

The viscera showed the lesions common to the indulgence in alcohol to excess. Changes of a surprising nature were noted in the brain, spinal cord, and posterior root, ganglia and nerve roots. There were degenerations throughout the entire motor areas. There were descending degenerations in both the crossed and pyramidal tracts. Degenerated fibers were found in the cervical levels abundantly in the anterior pyramids, in the crossed pyramidal tracts and in the descending cerebellar tracts and column of Goll. In the lumbar and sacral regions both columns of Goll and Burdach were extensively degenerated, but less marked in the crossed and direct pyramids. There were no distinct areas of sclerosis. Both anterior and posterior nerve roots were extensively degenerated. Degenerated fibers were found to be as numerous in the anterior as in the posterior nerve roots. Peripheral nerves showed extensive neuritis, more marked in the small than in the large trunks. He stated that the most interesting part was the presence of a descending degeneration characterized by a cellular degeneration and one of the axis cylinder process. In textbooks it was stated that alcohol had a selective tendency for the peripheral nerves but, from his findings and study of other cases, he believed the theory was very questionable.

Dr. MAX G. SCHLAPP said that two years ago he showed a case of alcoholic neuritis in which the degenerative changes occurred in the cortex, not confined alone to the motor areas but scattered throughout. The conditions differed clinically in that this patient had mental symptoms. There was a perineuritis with alcoholic dementia. He referred to the different methods of staining used in finding the changes, and said that, in the early cases, only the myelin substance was destroyed and the changes would not be marked. If the axis cylinder broke down the changes then could not be recognized early with the method used in staining the myelin substance. Therefore, he believed the reasons the lesion had not been detected before was because the investigator examined by other than the osmic acid method. He did not believe alcohol had a selective action on the sensory neurons, but that it did on the motor neurons. He said the important fact brought out by Dr. Brooks was that the degenerative changes were not confined to the peripheral nerves, but were scattered throughout the central nervous system.

**Demonstration of a Patent Foramen Ovale and a Case of Serositis.**—Dr. J. E. WELCH reported the following cases:

CASE 1. The patient was an Italian, about sixteen years old, who was admitted to the hospital suffering from dyspnœa and œdema of legs, which gradually spread over the body. He had pain over the precordial region, which was so great that he requested an Italian friend to give him an instrument with which he could commit suicide. The patient died and, at the autopsy, there was found a heart greatly enlarged, especially on the right side, and dilatation. Over the surface of the heart there was recently developed fibrin, especially over the right auricle and ventricle and both apices. The valves were very much thickened, especially the tricuspid and mitral. There was an enormous sized foramen ovale one and one-half inches in diameter, and a smaller opening was found just beneath it.

CASE 2. In 1846 a case was reported in which were the following findings: An obliterative pericarditis, pleurisy with adhesions obliterating both pleural cavities, an inflammation of the peritoneum causing much thickening of the capsule of liver, of spleen, and a general thickening of the whole peritoneum. There was ascites which preceeded the œdema of the legs. The theory advanced was that the condition started primarily in the heart and this inflammation spread to the pleural surface and later on extended to the abdominal cavity and caused the changes found there. He said that since that time many cases had been reported in various places. In the January number of the *American Journal of the Medical Sciences* Dr. Aloysius O. J. Kelly reported thirty-eight cases; the constant features of these being the ascites, the thickened serous membranes throughout with an obliterative pericarditis. The principle point was that the ascites appeared before the œdema in the legs. In the great majority of the cases there were no changes in the liver or spleen that could account for the ascites.

The patient was a man, thirty-five years old, and single. He gave a history of alcoholism, taking five or six drinks of whiskey a day, one or two before breakfast; he also drank enormous quantities of beer. He had gonorrhœa several times. Twelve years ago he had chancroids, which was followed by a suppurating inguinal adenitis. During last November he was seized with cramps, the pains extending over the body, becoming localized in the upper part of the abdomen, where swelling and tenderness appeared. He entered Bellevue Hospital, and the physical examination revealed some ascites with

swelling of the legs. The heart was rapid and feeble in action. There was some increase in tension in the arteries. Cyanosis was present. There was no jaundice. Directly after he entered the hospital a general rash appeared over the body and it was learned then that he had had a chancre, which had only healed a few weeks before admission. He was dismissed from the hospital December 12, 1902, and then was treated in the dispensary until March, when he had such a swelling of the abdomen, pain and dyspnœa and œdema of the legs that he was readmitted three days later. Shortly after he was tapped, and a large quantity of fluid withdrawn. He was tapped at intervals until just before death occurred. At autopsy the membranes of the brain were not examined. There was found an obliterative pericarditis. The right pleural cavity contained firm masses of adhesions and 300 cm. of fluid. The left cavity had many adhesions and contained about three litres of serum. There was also a perihepatitis, the so-called "sugar-coated liver." There was a generally diffused thickening of the peritoneum. He said a curious feature was the proliferative change with complete absorption of the great omentum, the gastrocolic omentum being completely absent, and a free communication being established between the two peritoneal cavities. There were tubercles in the lungs, in the mediastinal glands and some in the spleen. None were found on the peritoneal surface or in the liver. The liver was cirrhotic. The cause of the conditions found he stated to be alcoholism, syphilis, and tuberculosis, all occurring in the same patient.

Dr. EMANUEL LIBMAN said that in autopsies upon the last one hundred cases there were thirteen in which the foramen ovale was found more or less open; the ages of the cases varied from three months to three or four years. In none of them were there clinical symptoms referable to the foramen ovale.

Dr. HARLOW BROOKS said that the condition had not been traced to a patent foramen ovale. Such a diagnosis could not be made out in this case. It was thought to be a double mitral lesion or possibly a tricuspid one.

**A Group of Seven Cases of Paratyphoid Infection.**—Dr. GEORGE A. TUTTLE detailed the histories of seven cases occurring in a tenement-house in this city caused by drinking water taken from a large wooden tank. This tank was on the roof and was allowed to become emptied before more water was added; as a result, the last of the water drawn was often filthy, almost black, and with a very bad odor. Out of thirteen people living on this top floor seven became infected.

**Preliminary Note on Precipitins Formed by Injecting Animals with Globulin of Normal and Diphtheritic Antitoxic Horse Serum.**—Mr. J. P. ATKINSON of the Research Laboratory of the New York Board of Health presented this communication. He said that about one year ago it occurred to him that animals injected with globulin of normal horse serum and with the globulin of diphtheritic antitoxic horse serum might develop antibodies which would act as specific precipitins for normal serum globulin and antitoxic horse serum globulin respectively, thus affording a method for separating the active substance in diphtheritic antitoxic serum from the inactive substance. The globulin solutions were prepared from normal and diphtheritic antitoxic sera by precipitation with magnesium sulphate, and were purified by solution and reprecipitation until free from serum albumin and were finally freed from magnesium sulphate by dialysis in the presence of chloroform.

Two rabbits were selected for immunization, one being injected with the solution of normal globulin, the other with the solution of antitoxic globulin. After a number of injections had been given each rabbit, they were bled and the sera from the clots were tested against diphtheritic antitoxic serum with the following result: Two samples of diphtheritic antitoxin were diluted so that 1 c.c. of the dilution contained $\frac{1}{10}$ unit of antitoxin. Two portions of 5 c.c. each were taken from each dilution and to them was added serum from each rabbit, so that the globulin in each horse serum was acted on by what we may call an anti-normal globulin serum and a mixed antiserum which should react for both normal and antitoxic globulin. After precipitation had taken place the precipitates were filtered off. An amount corresponding to 1 c.c. of the original serum dilution from each filtrate was mixed with ten fatal doses of diphtheria toxin and injected subcutaneously into guinea-pigs; all the guinea-pigs died within forty-eight hours. The antitoxin dilutions were tested against diphtheria toxin to make sure that without the presence of the rabbit serum they would protect against ten fatal doses of diphtheria toxin. The toxin was also tested and found to be of the estimated strength. The action of both rabbit sera was again tested. In this test twice as much antitoxin as was necessary to protect against ten fatal doses of toxin was used instead of the exact neutralizing solution. The result was the same; both guinea-pigs injected died within forty-eight hours. It will be seen by these tests a specific antibody differentiating between normal globulin and antitoxic globulin was *not* formed, for the rabbit injected with normal globulin solution produced precipitating substances for the antitoxic globulin. One would infer from the results of these tests that normal globulin and diphtheritic antitoxic globulin are affected by a common precipitin while differing in the molecular arrangement through which neutralization of diphtheritic toxin occurs. It also added to the belief that diphtheritic antitoxin was of a proteid nature.

Experiments were made, he said, to determine whether the globulin precipitating serum would throw down the antitoxin from the toxin-antitoxin and have the toxin free. It did not do this and thus showed a strong combination that existed between the toxin and antitoxin. Whether the toxin-antitoxin combination, as well as the free antitoxin, was precipitated, or whether it was left in solution, was being now determined.

## Books Received.

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THE PHYSICIAN'S VISITING LIST, 1904. 16mo. P. Blakiston's Son & Co., Philadelphia, Pa. Price, $1.00.

THE MEDICAL RECORD VISITING LIST OR PHYSICIAN'S DIARY, 1904. New revised edition. 16mo. William Wood & Company, New York. For 30 patients, $1.25; for 60 patients, $1.50.

SYLLABUS OF LECTURES ON PHYSIOLOGY. By WILLIAM H. BIGLER, A.M., M.D. Second edition. Revised and enlarged. 12mo, 205 pages, flexible. Boericke & Tafel, Philadelphia, Pa.

DIE FUNKTIONSPRÜFUNG DES AUGES UND IHRE VERWERTUNG. Von Prof. Dr. O. SCHWARZ. 8vo, 322 pages. S. Karger, Berlin, 1904.

PATHOLOGIE UND THERAPIE DER RACHITES. Von Dr. WILHELM STOELTZNER. 4vo, 279 pages. S. Karger, Berlin, 1904.

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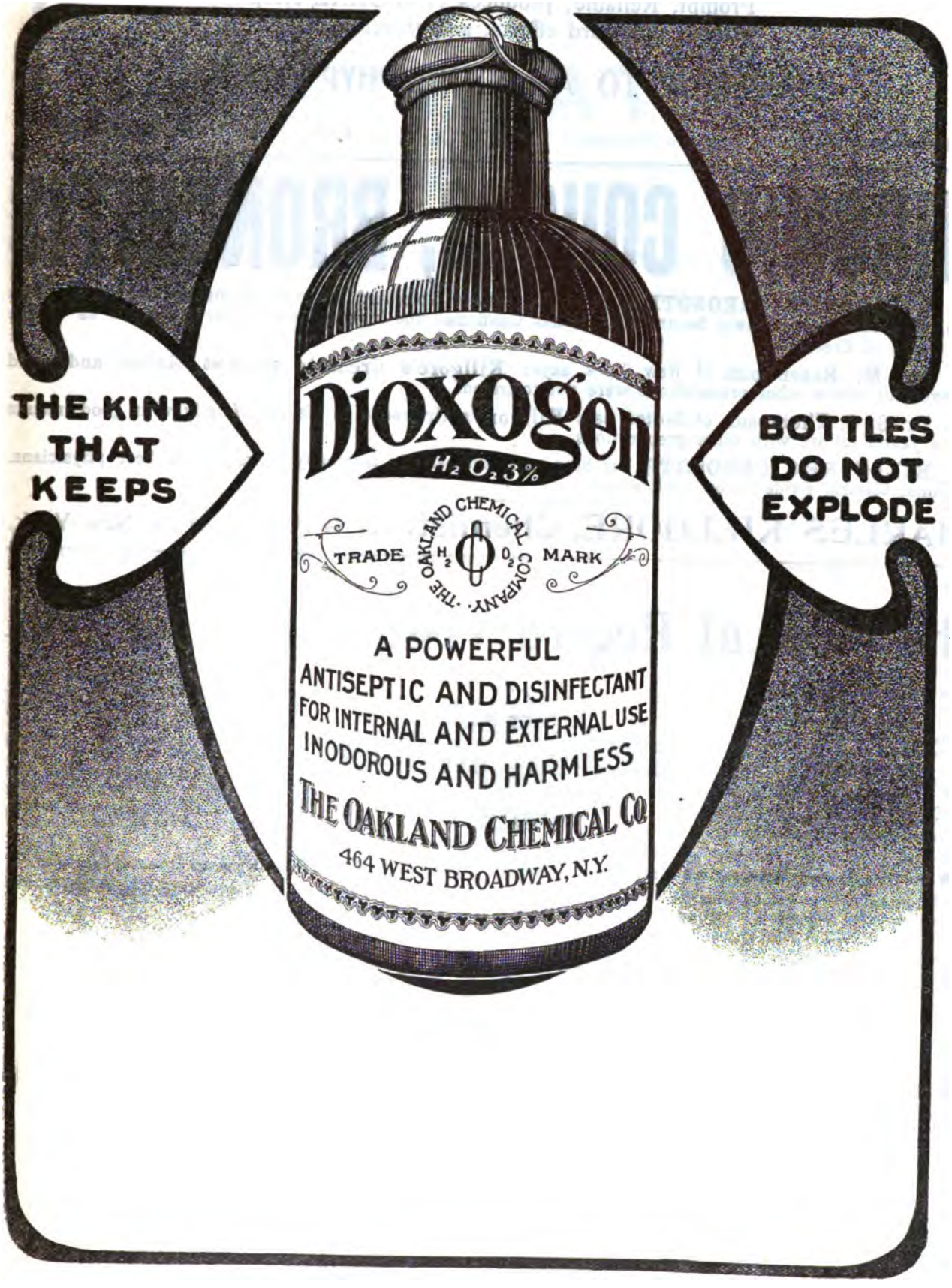
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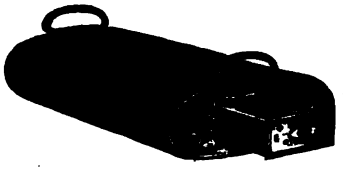

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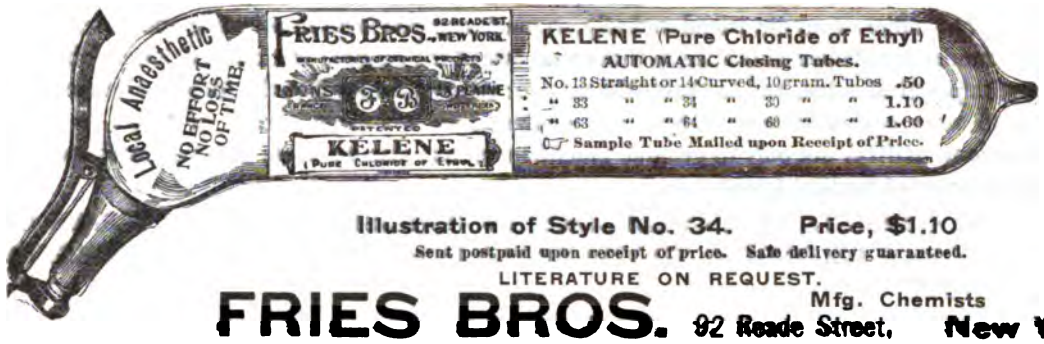
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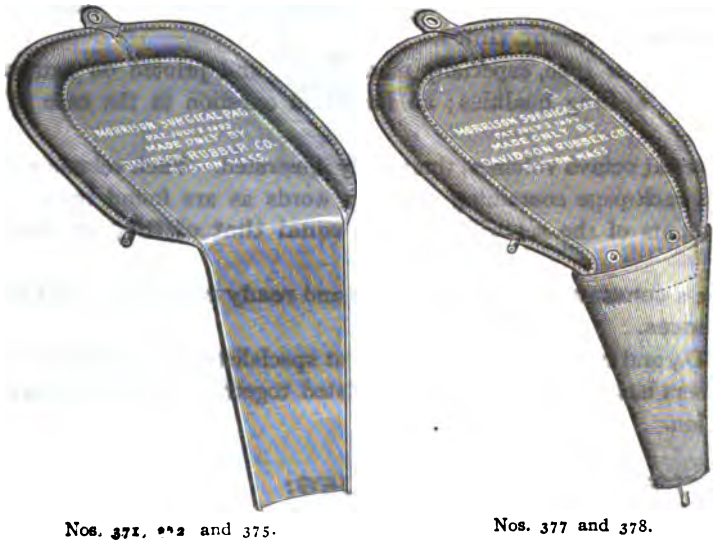

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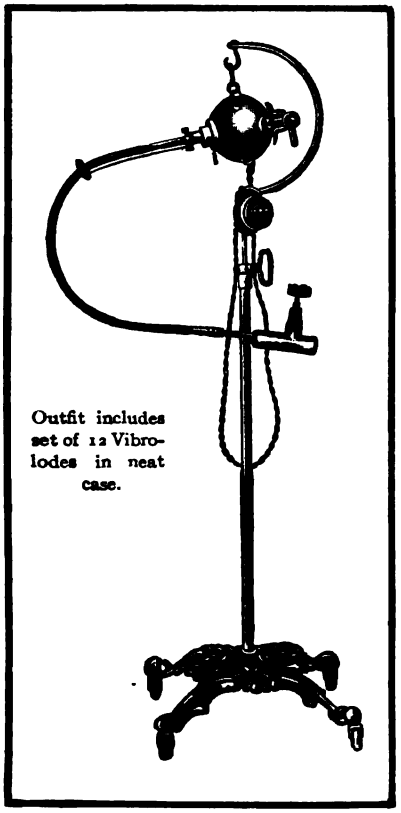

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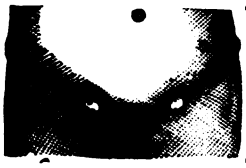

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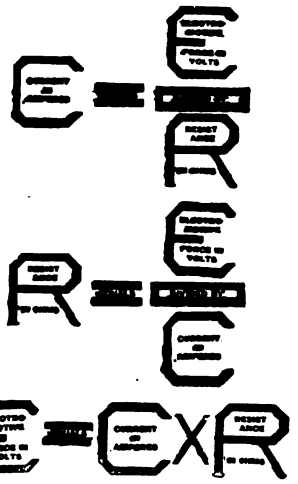


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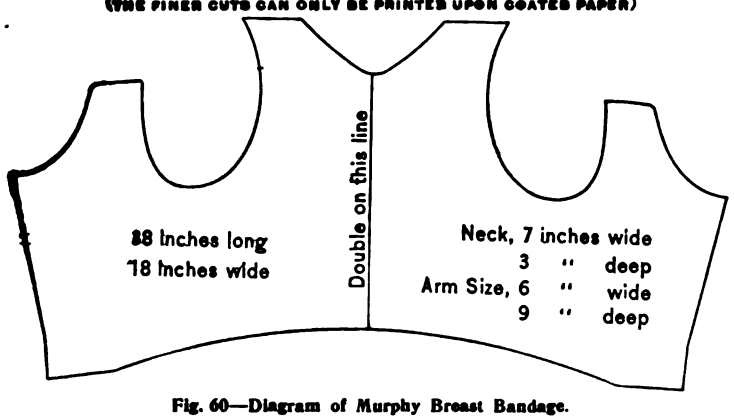
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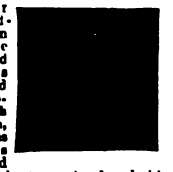

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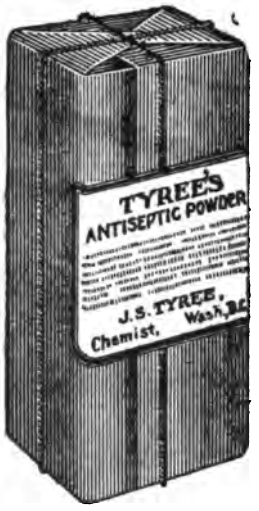


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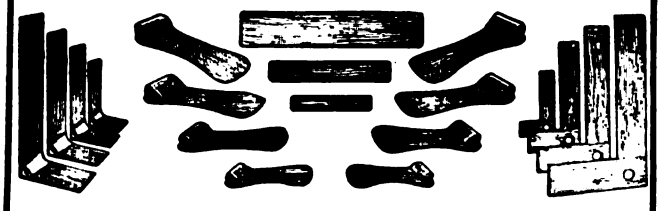

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Annual Meeting at Washington, D. C., May 11 and 12, 1908.

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Annual Meeting at Washington, D. C., May 12, 13 and 14, 1908.

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Annual Meeting at , 1908.

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### AMERICAN DERMATOLOGICAL ASSOCIATION

Annual Meeting at Washington, D. C., May 12, 13 and 14, 1908.

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### AMERICAN LARYNGOLOGICAL ASSOCIATION

Annual Meeting at Washington, D. C., May , 1908.

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### AMERICAN OPHTHALMOLOGICAL SOCIETY

Annual Meeting at Washington, D. C., May , 1908.

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### CANADIAN MEDICAL ASSOCIATION.

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### SEABOARD MEDICAL ASSOCIATION.

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### TRI-STATE MEDICAL SOCIETY.

Annual Meeting at Hannibal, Mo., April 2 and 3, 1908.

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### MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Annual Meeting at Memphis, Tenn., Oct. 7, 8 and 9, 1908.

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### MEDICAL SOCIETY OF THE MISSOURI VALLEY

Semi-Annual Meeting at Council Bluffs, Iowa, March 19, 1908.

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### SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Annual Meeting at Birmingham, Ala., Dec. 15, 16 and 17, 1908.

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### WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Annual Meeting at Denver, Colo., December 28 and 29, 1908.

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### WESTERN OPHTHALMOLOGIC & OTOLARYNGOLOGIC ASSOCIATION.

Annual Meeting at Indianapolis, Ind., April 9, 10 and 11, 1908.

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## STATE.

### MEDICAL ASSOCIATION OF THE STATE OF ALABAMA.

Annual Meeting at Talladega, Ala., April 21, 22, 23 and 24, 1908.

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### ARKANSAS MEDICAL SOCIETY.

Annual Meeting at , 1908.

J. P. RUNYAN, M. D., sec., Little Rock, Ark. C. R. SHINAULT, M. D., Prest., Helena, Ark.

### CONNECTICUT MEDICAL SOCIETY.

Annual Meeting at Hartford, Conn., May 27 and 28, 1908.

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### THE MEDICAL SOCIETY OF THE STATE OF CALIFORNIA.

Annual Meeting at Santa Barbara, Cal., April 21, 1908.

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### COLORADO STATE MEDICAL SOCIETY.

Annual Meeting at Denver, Colo., June 16, 1908.

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### MEDICAL ASSOCIATION, DISTRICT OF COLUMBIA.

Semi-Annual Meeting at Washington, D. C., October 6, 1908.

D. W. PRENTISS, M. D., Sec., Washington, D. C. A. F. A. KING, M. D., Prest., Washington, D. C.

### DELAWARE STATE MEDICAL SOCIETY.

Annual Meeting at Dover, Del., June 9, 1908.

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### FLORIDA MEDICAL ASSOCIATION.

Annual Meeting at St. Augustine, Fla., April 8, 1908.

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Annual Meeting at Columbus, Ga., April 15, 1908.

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### ILLINOIS STATE MEDICAL SOCIETY.

Annual Meeting at Chicago, Ill., April 29-30, May 1 and 2, 1908.

EDMUND W. WEIS, M. D., Sec., Ottawa, Ill. M. L. HARRIS, M. D., Prest., Chicago, Ill.

### INDIANA STATE MEDICAL SOCIETY.

Annual Meeting at Richmond, Ind., June 4 and 5, 1908.

F. C. HEATH, M. D., Sec., 427 Newton Claypool Bldg., Indianapolis, Ind. J. B. BERTELING, Prest. South Bend, Ind.

# NATIONAL AND STATE MEDICAL SOCIETIES OF AMERICA.

## IOWA STATE MEDICAL SOCIETY.

Annual Meeting,
V. L. TRUNNOR, M. D., Sec., Council Bluffs, Ia. JAS. TAGGART PRIESTLEY, M. D., Prest. Council Bluffs, Ia.

## HAWAIIAN TERRITORIAL MEDICAL SOCIETY.

Annual Meeting at Honolulu, H. T., November 7, 1908.
J. T. MCDONALD M. D., Sec., Honolulu, H. T. H. C. SLOGGETT, M. D., Prest., Honolulu, H. T.

## INDIAN TERRITORY MEDICAL ASSOCIATION.

Annual Meeting at South McAllester, I. T., June 2 and 3, 1908.
R. J. CRAHILL, M. D., Sec., McAlester, Ind. Ter. FRED S. CLINTON, M. D., Prest., Tulsa, Ind. Ter.

## IDAHO STATE MEDICAL SOCIETY.

Annual Meeting at Boise, Idaho, Oct. 8 and 9, 1908.
ED. E. MAXEY, M. D., Sec., Boise, Idaho. GEO. COLLISTER, M. D., Prest. Boise, Idaho.

## KANSAS MEDICAL SOCIETY.

Annual Meeting at Concordia, May 6, 7, and 8, 1908.
H. O'DONNELL, M. D. Sec. Ellsworth, Kan. J. W. May, M. D., Prest., Kansas City, Kan.

## KENTUCKY STATE MEDICAL SOCIETY.

Annual Meeting at Louisville, Ky., May , 1908.
STERLE BAILEY, M. D., Sec., Stanford, Ky. W. W. RICHMOND, M. D., Prest. Clinton, Ky.

## LOUISIANA STATE MEDICAL SOCIETY.

Annual Meeting at New Orleans, April 28, 29 and 30, 1908.
ANDREW G. FRIEDRICHS, M. D., Sec., 641 St. Charles Street, New Orleans, La. ISADORE DYER, M. D., Prest. 124 Baronne St., New Orleans, La.

## MAINE MEDICAL ASSOCIATION.

Annual Meeting at Portland, Me., June 3, 4, and 5, 1908.
CHAS. D. SMITH, M. D., Sec., 126 Free St., Portland, Me. HIRAM HUNT, M. D., Prest., Greenville, Me.

## MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.

Annual Meeting at Baltimore, Md., April 28, 29 and 30, 1908.
J. WILLIAMS LORD, M. D., Sec., 1011 N. Charles St., Baltimore, Md. WM. T. HOWARD, M. D., Prest., 804 Madison Ave., Baltimore, Md.

## THE MASSACHUSETTS MEDICAL SOCIETY.

Annual Meeting at Boston, Mass., June 9 and 10, 1908.
F. W. GOSS, M. D., Sec., Roxbury, Mass. G. E. FRANCIS, M. D., Prest., Worcester, Mass.

## THE MICHIGAN MEDICAL SOCIETY.

Annual Meeting at Detroit, Mich., May , 1908.
A. P. BIDDLE, M. D., Sec., Detroit, Mich. A. E. BULSON, M. D., Prest., Jackson, Mich.

## MINNESOTA STATE MEDICAL SOCIETY.

Annual Meeting at St. Paul, Minn, June 17, 1908.
THOMAS MCDAVITT, M. D., Sec., St. Paul, Minn. J. W. ANDREWS, M. D., Prest., Mankato, Minn.

## MISSISSIPPI STATE MEDICAL ASSOCIATION.

Annual Meeting at Greenville, Miss., April 15, 16 and 17, 1908.
C. H. TROTTER, M. D., Sec., Winona, Miss. H. L. SUTHERLAND, M. D., Prest., Rosedale, Miss.

## MISSOURI STATE MEDICAL ASSOCIATION.

Annual Meeting at Excelsior Springs, April 21, 22 and 23, 1908.
C. M. NICHOLSON, M. D., Sec., St. Louis, Mo. WOODSON MOSS, M. D., Prest., Columbia, Mo.

## MEDICAL ASSOCIATION OF MONTANA.

Annual Meeting at Helena, Mont., June 17 and 18, 1908.
B. C. BROOKE, M. D., Sec., Helena, Mont. T. J. MCKENZIE, M. D., Prest., Anaconda, Mont.

## NEW HAMPSHIRE MEDICAL SOCIETY.

Annual Meeting at Concord, N. H., May 21 and 22, 1908.
GRANVILLE P. CONN, M. D., Sec., Concord, N. H. IRVING A. WATSON, M. D., Prest., Concord, N. H.

## NEW YORK STATE MEDICAL ASSOCIATION.

Annual Meeting at New York City, Oct. 19-22, 1908.
GUY DAVENPORT LOMBARD, M. D., Sec., 6 East 32d St., New York City. F. H. WIGGIN, M. D., Prest. 55 West 36th St., New York City.

## THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Annual Meeting at Albany, N. Y., January 26-28, 1904.
F. C. CURTIS, M. D., Sec., 17 Washington Ave., Albany, N. Y. A. T. BRISTOW, M. D., Prest., Brooklyn, N. Y.

## MEDICAL SOCIETY OF NEW JERSEY.

Annual Meeting at Asbury Park, N. J., June 23, 24, and 25, 1908.
WM. J. CHANDLER, M. D., Sec., South Orange, N. J. E. L. B. GODFREY, M. D., Prest., Camden, N. J.

## NEBRASKA STATE MEDICAL SOCIETY.

Annual Meeting at Lincoln, Neb., April 28, 29 and 30, 1908.
A. D. WILKINSON, M. D., Sec., 24 Burr Block, Lincoln, Neb. A. B. ANDERSON, M. D., Prest. Pawnee City, Neb

## THE MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA.

Annual Meeting at Hot Springs, N. C., , 1908.
J. HOWELL WAY, M. D., Sec., Waynesville, N. C. A. W. KNOX, M. D., Prest. Raleigh, N. C.

## NEW MEXICO MEDICAL SOCIETY.

Annual Meeting at East Las Vegas, May 13, 1908.
J. FRANK MCCONNELL, M. D., Sec., Las Cruces, N. M. WALTER G. HOPE, M. D., Prest. Albuquerque, N. M.

## NORTH DAKOTA STATE MEDICAL SOCIETY.

Annual Meeting at Bismarck, N. Dak., May , 1908.
E. C. BRANCH, M. D., Sec., Fargo, N. Dak. GEO. A. CARPENTER, M. D., Prest., Fargo, N. Dak.

## OHIO STATE MEDICAL SOCIETY.

Annual Meeting at Dayton, O., 1908.
P. MAXWELL FOSHAY, M. D., Sec., Cleveland, Ohio. W. C. CHAPMAN, M. D., Prest. Toledo, Ohio.

## OREGON STATE MEDICAL SOCIETY.

Annual Meeting at Portland, Ore., September, 1908.
A. D. MACKENZIE, M. D., Sec., Portland, Ore. HENRY WALDO COE, M. D., Prest. Portland, Ore.

## ONTARIO MEDICAL ASSOCIATION.

Annual Meeting at Toronto, 1908.
HAROLD C. PARSONS, M. D., Sec., Toronto, Canada. J. C. MITCHELL, M. D., Prest., Toronto, Canada.

## NEW BRUNSWICK MEDICAL SOCIETY.

Annual Meeting at St. John, N. B., July , 1908.
J. H. SCAMMELL, M. D., Sec., St. John, N. B. G. A. B. ADDY, M. D., Prest., St. John, N. B.

## THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Annual Meeting at York, Pa., September 23-24, 1908.
CYRUS L. STEVENS, M. D., Sec., Athens, Pa. WILLIAM M. WELCH, M. D., Prest. 321 N. Broad St., Philadelphia, Pa.

## RHODE ISLAND MEDICAL SOCIETY.

Annual Meeting at Providence, R. I., June 4, 1908.
STEPHEN A. WELCH, M. D., Sec., Providence, R. I. GEORGE F. KEENE, M. D., Prest. Howard, R. I.

## SOUTH DAKOTA STATE MEDICAL SOCIETY.

Annual Meeting at Mitchell, S. D., May , 1908.
J. L. STEWART, M. D., Sec., Irene, S. Dak. J. O. DUGUID, M. D., Prest. Springfield, S. Dak.

## SOUTH CAROLINA MEDICAL ASSOCIATION.

Annual Meeting at Sumter, S. C., April 15 and 16, 1908.
T. P. WHALEY, M. D., Sec., 107 Wentworth St., Charleston, S. C. M. SIMONS, M. D., Prest., Charleston, S. C.

## THE MEDICAL SOCIETY OF THE STATE OF TENNESSEE.

Annual Meeting at Chattanooga, Tenn., April 12, 1904.
D. J. ROBERTS, M. D., Sec., Nashville, Tenn. L. A. MCSWAIN, M. D., Prest., Paris, Tenn.

## THE TEXAS STATE MEDICAL SOCIETY.

Annual Meeting at San Antonio, Tex., April 28, 1908.
H. A. WEST, M. D., Sec., Galveston, Tex. L. C. REO, M. D., Prest., Houston, Tex.

## UTAH STATE MEDICAL SOCIETY.

Annual Meeting at Salt Lake City, Utah, May 14, 15, 1908.
GEO. E. ROBISON, M. D., Sec., Provo, Utah. A. C. MCLEAN, M. D., Prest., Salt Lake City, Utah.

## VERMONT STATE MEDICAL SOCIETY.

Annual Meeting at Bellows Falls, Vt., October 15 and 16, 1908.
GEO. H. GORHAM, M. D., Sec., Bellows Falls, Vt. E. M. POND, M. D., Prest., Rutland, Vt.

## MEDICAL SOCIETY OF VIRGINIA.

Annual Meeting at Roanoke, Va., Sep. , 1908.
JOHN F. WINN, Sec., Richmond, Va. R. S. MARTIN, Prest., Stuart, Va.

## WASHINGTON STATE MEDICAL SOCIETY.

Annual Meeting at Spokane, Wash., , 1908.
ARTHUR H. COE, M. D., Sec., Spokane, Wash. CHARLES MCCUTCHEON, M. D., Prest., Tacoma, Wash.

## STATE MEDICAL SOCIETY OF WISCONSIN.

Annual Meeting at Milwaukee, Wis., 1908.
C. S. SHELDON, M. D., Sec., Madison, Wis. J. V. R. LYMAN, M. D., Prest., Eau Claire, Wis.

## THE WEST VIRGINIA STATE MEDICAL ASSOCIATION.

Annual Meeting at Charleston, W. Va., May , 1908.
WILLIAM W. GOLDEN, M. D., Sec., Elkins, W. Va. HIRAM B. STOUT, M. D., Prest., Parkersburg, W. Va

## WYOMING STATE MEDICAL SOCIETY.

Annual Meeting at Rock Springs, yo., 1908.
H. S. FINNEY, M. D., Sec., Rawlins, Wyo. S. B. MILLER, M. D., Prest. Laramie, Wyo.

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*Details are wanting in several instances, either because dates are not yet fixed, or because no response has been made to our request for information.*

# The Sumbul Series No. 1

**Sumbul or Musk Root is conceded by those who have tested it's virtues to be a highly valuable drug. We have made a study of it for years, know its characteristics, and how to prepare it to the best advantage.**

**No such a condition as failure, if you will use**

## Warner & Co's Sumbul Preparations

**Quality and scientific manipulation, with us, STAND PRE-EMINENT.**
**Note the following desirable combinations prepared and issued for Doctors prescribing**

**PIL. SUMBUL COMP.**
(DR. COGSELL)
EITHER S. C. OR G. C.

℞ Ext. Sumbul, 1 gr. Asafetida, 2 grs.
Ferrous Sul. dried, 1 gr.
Arsenous Acid, 1-40 gr.
In each pill.

"WARNER & CO."

**PIL. SUMBUL COMP.**
(APERIENT—DR. SHOEMAKER)
EITHER S. C. OR G. C.

℞ Ext. Sumbul, 1 gr. Ext. Cascara, ½ gr.
Asafetida, 1 gr. Aloin, ¼ gr.
Ext. Nux Vom. ½ gr. Gingerine, ¼ gr.
In each pill.

"WARNER & CO."

**COMP. TABLETS**
**SEDATIVE COMP. MODIFIED**
UNCOATED OR COATED

℞ Ext. Valerian, 1 gr. Ext. Sumbul, 1 gr.
Ext. Cannabis Ind. 1-10 gr.
Ext. Henbane, ¼ gr, Asafetida, 1 gr.
In each tablet.

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**Kindly bear in mind the essential specification "Warner & Co." and assure yourself of best results from the applied remedy.**

**WM. R. WARNER & CO.** PHILADELPHIA NEW YORK CHICAGO NEW ORLEANS

SAMPLES AND LITERATURE ON REQUEST

R. AND C.

**CHOLERA INFANTUM and kindred intestinal disorders are cured as well as prevented by the use of**

# PEPTENZYME

Peptenzyme is the only digestant that represents the digestive secretions physiologically as found in nature, and on this account a perfect digestant. All other digestive ferment products contain the active ferments of either Pepsin alone, or Pepsin and Pancreatin, isolated with chemicals, which greatly injure the digestive secretions. It not only aids but stimulates the normal digestive secretions. Remember it cures as well as gives relief.

SAMPLES AND LITERATURE ON REQUEST.

Send for anatomical chart and fee-table of our
PATHOLOGICAL, CHEMICAL and BACTERIOLOGICAL LABORATORIES

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# IODINE

## WITHOUT IODISM

***A New Departure***

***In Therapeutics***

Doctor, you have *nothing* that will reach the *respiratory diseases* or that stubborn case of *rheumatism, scrofula* in all its forms, and disorders of the *urinary tract* like

## BURNHAM'S SOLUBLE IODINE

Hundreds of physicians are testifying to the *truth* of the above assertion.

It is a pure *free* Iodine that will *not precipitate* or cause any *gastric irritation, every drop* of which is *equal* in *therapeutic value* to at least *fifteen grains* of Potassium Iodide.

Sample and literature sent on application.

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Price per 1 oz. bottle concentrated (500 doses), $1.00, postpaid.

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# X-RAY APPARATUS

Highest grade Induction Coils with mechanical or electrolytic interrupters; to be operated from storage battery, 110 volts direct current or alternating current.

Self-regulating X-Ray tubes, fluoroscopes and other accessory apparatus.

Complete outfits for fluoroscopic, radiographic and therapeutic use.

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State requirements and ask for descriptive matter.

**JAMES G. BIDDLE, 1114 Chestnut St., Philadelphia.**

# TRI-IODIDES (HENRY'S)

*LIQUOR SALI-IODIDES—Colchicin, 1-20 grain; Phytolaccin, 1-10 grain; Solanin, 1-3 grain; Soda Salicylate, 10 grains; Iodic Acid, equal to 7-32 grains Iodine; Aromatic Cordial. Dose, 1 to 2 drams in water. 8-oz. bottle, $1.00.*

A powerful alterative and resolvent, glandular and hepatic stimulant, and succedaneum to the iodides. Indicated in all conditions dependent upon perverted tissue metabolism; in lymphatic engorgements and functional visceral disturbances; in lingering rheumatic pains which are "worse at night." Bone, periosteal and visceral symptoms of late syphilis; for the removal of all inflammatory, plastic and gouty deposits.

A remedy in sciatica, megrim, neuralgias, lumbago and muscular pains; the gouty and rheumatic diathesis; acute and chronic rheumatism and gout; chronic eczema and psoriasis, and all dermatic disorders in which there is underlying blood taint.

An hepatic stimulant increasing the quantity and fluidity of the bile. Relieves hepatic and intestinal torpor; does not cause the unpleasant gastric symptoms of potassium iodide.

# THREE CHLORIDES (HENRY'S)

*LIQUOR FERRISENIC—Each dram contains: Proto-Chlor. Iron, 1-8 grain; Bi-Chlor. Mercury, 1-128 grain; Chloride Arsenic, 1-280 grain; Calisaya Cordial. Dose, 1 to 2 drams. 12-oz. bottle, $1.00.*

An oxygen-carrying ferruginous preparation, suitable for prolonged treatment of children, adults and the aged. Indicated in anemia and bodily weakness, convalescence from acute diseases and surgical operations; boys and girls at the age of puberty, and the climacteric period in women. In children with chorea, rickets, or who are backward in development, or in whom there exists an aversion to meats and fats. Prolonged administration never causes "iron headache."

As an adjuvant for potassium iodide, the undesirable manifestation known as iodism can be removed.

Stimulant to the peptic and hydrochloric glandular system of the stomach, especially serviceable in the impaired appetite, nausea, vomiting and other gastric symptoms of alcoholic subjects.

# MAIZO-LITHIUM

*LIQUOR LITHIUM MAIZENATE.—Nascent Chemic Union of Maizenic Acid—from Green Corn Silk—with Lithium, forming Maizenate-Lithium. Two grains to dram. Dose, 1 to 2 drams. 8-oz. bottle, $1.00.*

A genito-urinary sedative, an active diuretic; solvent and flush; indicated for the relief and prevention of renal colic; a sedative in the acute stages of gonorrhœa, cystitis and epididymitis; in dropsical effusions due to enfeebled heart or to renal diseases. As a solvent in the varied manifestations of gout, gouttiness and neuretic lithæmia, periodical migraineous headache, epigastric oppression, cardiac palpitation, irregular, weak or intermittent pulse; irritability, moodiness, insomnia and other nervous symptoms of uric-acidemia. Decidedly *better*, more economical, extensive in action and definite in result, *than mineral waters.*

Those cases of irritable heart, irregular or intermittent pulse so frequently met with by insurance examiners, and found to be due to excess of uric acid, are special indications for Maizo-Lithium.

**HENRY PHARMACAL CO., - Louisville, Ky.**

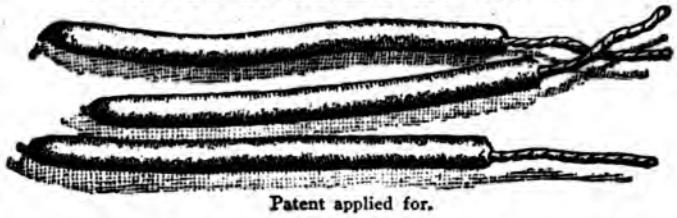
# GONORRHEA

**RELIEVED IN SIX TO TWELVE DAYS**

## Alkaloidal Treatment Practically Specific

The uncertainty, discouragement and dissatisfaction in the treatment of this very common disease is all done away with by our Special Alkaloidal treatment. This renders it not only possible but easy to treat these cases successfully and promptly.

**PERFECT DRAINAGE BY USE OF**



Patent applied for.

## The Candle (Drainage) Bougie

**Accomplishes this. It is double medicated, the outer layers being Antiseptic and Emollient, and the Wick Antiseptic and Astringent.**

(Medicated Drainage Cotton encased in Medicated **Solidified** Glyco-Magnesia with Gelatin.)

BY patient study and careful experimentation we have developed a treatment for this troublesome affection that has proven by clinical tests in the successful handling of hundreds of cases, and at the hands of various clinicians, to be as nearly specific as it is possible for a treatment to be—a treatment that at the same time cures quickly (6 to 12 days), safely (no strictures or other disagreeable sequela), and pleasantly (no pain or discomfort), and is easily used.

Most Physicians, and especially those using our remedies, have all the means at hand in regular stock, except our Drainage Bougies which make the treatment complete.

These Bougies are put up in boxes of 12, at a uniform price, to the Physician, of 60c. per box—$6.00 per dozen boxes, either kind, or assorted. It takes about three dozen No. 1 and one dozen No. 2 for an average case, the treatment of which rarely extends beyond the eighth day.

**A full box of Bougies (either No. 1 for acute or No. 2 for chronic cases) will be sent ONCE ONLY to any practicing physician, postpaid, on receipt of 25 Cents.**

### WHAT DO YOU SAY, DOCTOR,

to letting us send you a TRIAL OUTFIT, sufficient for two or three average acute cases? For example:

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| 5 Boxes No. 1 Candle Bougies | Wholesale price, | | $3.00 |
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| 1 Ounce of Ichthyol | " | " | .50 |
| 1,000 Calcium Sulphide 1-6 | " | " | .50 |
| 500 Triple Arsenates | " | " | .65 |
| 500 Waugh Laxative Granules | " | " | .30 |
| 2 Cans Saline Laxative | " | " | .70 |
| Total | " | " | $6.25 |

**This we will send you on receipt of $5.00,** and if the treatment does not prove satisfactory in your hands you may return the unused portion and we will refund your money.

DOCTOR, if you have a case that is bothering you try the treatment at our risk. If you haven't one just now, we suggest that you get ready for the one that's sure to come.

If you have any part of the above, and wish to do so, you may deduct the price following the article and remit the balance of five dollars for the balance of the goods.

Full outline of our method of treatment sent on request. As samples are useless, and the success of the treatment unquestionable, we advise the purchase of bougies in quantity as above, with "Your money back if not satisfied." Postpaid for cash with order.

**We are ready, suppose you do it now.**

☞ **Write the Most Convenient Point.** ☜

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**Recognized by the Profession as the STANDARD NERVE TONIC.**

**Experience demonstrates its efficacy and prompt results as a SEDATIVE, ANODYNE, and ANTISPASMODIC.**

**In Hysteria, Insomnia, and kindred Nerve Disorders its effect is Immediate and Fundamental.**

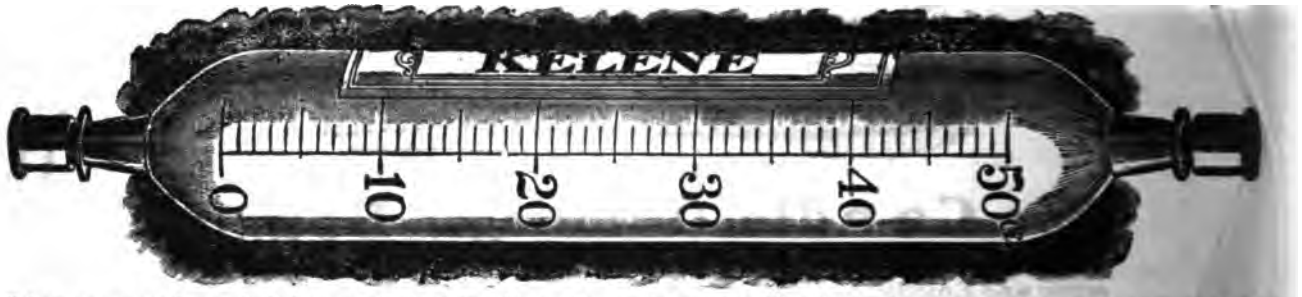
**DANIEL'S CONCT. TINCT. PASSIFLORA INCARNATA is indispensable to the Active Practitioner.**

**A sample will be sent to any physician who is willing to pay express charges.**

**Laboratory,**
**Jno. B. DANIEL, Atlanta, Ga.**

FOR GENERAL ANÆSTHESIA—

## "GRADUATED KELENE" TUBES.




Kelene, as a general anæsthetic, has recently been tested in over 1,000 cases with the following results: **ANÆSTHESIA IS RAPIDLY PRODUCED**, one to two minutes being the average time; there is no period of excitement, neither cardiac troubles nor asphyxia phenomena occur; the awakening is rapid; patients pass from the anæsthetic condition into normal wakefulness almost instantly; **Nausea and Vomiting are entirely absent**; anæsthetized patients will respond to questions unconsciously. **No accident has occurred** in 1,200 recorded cases.

Read Dr. Martin W. Ware's article in the *Journal of the American Medical Association*, November 8, 1902, issue, on page 1160, concerning his experience in over 1,000 cases. Copies sent upon request.

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# MELLIN'S INFANTS' FOOD

Mellin's Food and good fresh milk make a combination that is like mother's milk.
Babies thrive on Mellin's Food.

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# GLYCO-THYMOLINE

INDICATED
IN TREATMENT OF

## Summer Complaints

ASEPTIC
ALKALINE
ALTERATIVE

Dr._____ Reports following case:

GASTRO-ENTERITIS, where there was constant vomiting. Child, twelve months old; gave one-half teaspoonful Glyco-Thymoline in hot water every hour until five doses were taken, also used Enema of Glyco-Thymoline, one tablespoonful in four ounces of water. This treatment gave prompt relief, and I believe saved the child's life.

Dr._____ Reports following case:

DYSENTERY: Patient, 16 months old, took to vomiting and running off at bowels six days before I was summoned. When I reached there, found the patient passing foul and bloody discharges, immediately put patient on Glyco-Thymoline and Liquid Bismuth, equal parts, teaspoonful every two hours; just after the second dose was given I could see a marked change. Patient improved fast, and in about three days had completely recovered.

Other similar cases treated with Glyco-Thymoline gave me equally good results.

SAMPLES ON APPLICATION

KRESS & OWEN COMPANY, 210 Fulton Street, New York

Lysol

# The Ideal Antiseptic

Especially adapted to gynaecological work because, in all solutions required for asepsis, it is

**Absolutely Safe and Non-Irritant.**

***We append a few recent expressions of opinion regarding LYSOL in gynaecology:***

**Stanley P. Warren,** *American Journal of Obstetrics*, January, 1902: "I sterilize my hands and arms, washing them first in hot water and green soap, and then in lysol solution one per cent. My reasons for adopting lysol as a germicide in obstetrics are its efficiency, its safety, its lubricity, and its cheapness. The literature of the Maine State Board of Health says: 'It is undoubtedly more efficient than carbolic acid; disinfection of the hands is assured by using a one-per-cent. solution without the previous use of soap; a one-fourth-per-cent. renders instruments sterile and does not attack the instruments. It is eight times less poisonous than carbolic acid and much less so than sublimate.'"

**Winslow Anderson,** *Professor of Gynæcology and Abdominal Surgery, College of Physicians and Surgeons, San Francisco*, describes part of his procedure in preparing the site of operation in the following words: "Twenty-four hours before a cœliotomy, the patient is given her second general antiseptic bath, the abdomen is scrubbed with green soap and hot water, and the parts shaved, then scrubbed with one per cent. lysol and hot water."

In an article on the "Diagnosis, Prevention and Treatment of Puerperal Infection," (*Journal of American Medical Association*, April 19th, 1902) **Dr. C. B. Reed** cites one of those typical instances where lysol is practically the only agent that can be employed resultfully and with safety. He says: "In case of abortion, where sepsis is already present, the uterus should be curetted at once and the cavity thoroughly washed out with a hot one-per-cent. lysol solution. Bichloride is to be avoided."

Among other prominent gynaecologists who have recently expressed a preference for lysol may be mentioned **Dr. Frederick Holme Wiggin,** Visiting Gynæcologist to the City Hospital, New York (*Medicine*, December, 1901, and *The Therapeutic Gazette*, April 15, 1902); **Dr. J. B. Killibrew** (*Medical News*, January 25, 1902); and **Dr. James Moran,** Instructor in Gynæcology in the New York School of Clinical Medicine (*N. Y. Medical Journal*, May 31, 1902).

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# HAAS

## Glycerophosphate

### OF LIME AND SODA

(NEUROTONE-HAAS.)

ORIGINATING THE IDEA OF COMBINING THE TWO SALTS, THE RESULTS SHOWING GREATER EFFICIENCY THAN THE USE OF LIME SALT ALONE, AS USED BY THE FRENCH MANUFACTURERS.

NEUROTONE-HAAS WAS THE FIRST PREPARATION OF THE GLYCEROPHOSPHATES MADE IN AMERICA. ITS SUCCESS DURING THE PAST SEVEN YEARS HAS DEMONSTRATED ITS SUPERIORITY OVER THE MANY IMITATIONS IT HAS CALLED INTO EXISTENCE.

NEUROTONE CAPSULES CONTAIN FIVE GRAINS OF THE COMBINED SALTS, WITH ONE-SIXTY-FOURTH GRAIN STRYCHNIA NITRATE. A CONVENIENT FORM IN WHICH TO USE THIS COMBINATION.

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HAAS PHARMACY

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**Makes the Office Complete**

**Thoroughly Aseptic**

Non-breakable joints, solid as a rock, light in construction.

Finished in three coats of Baked White Enamel.

**Neat in Appearance**

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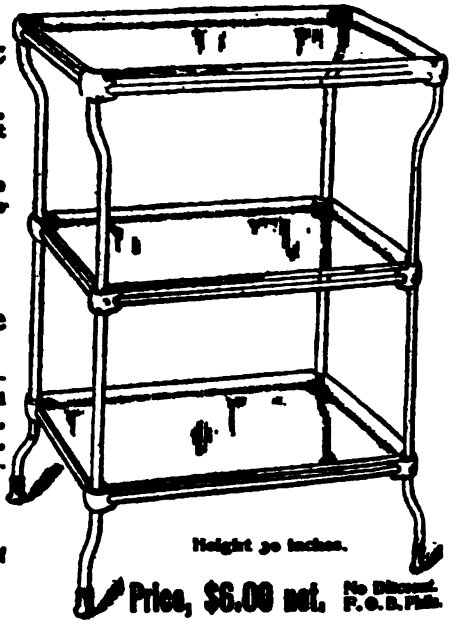

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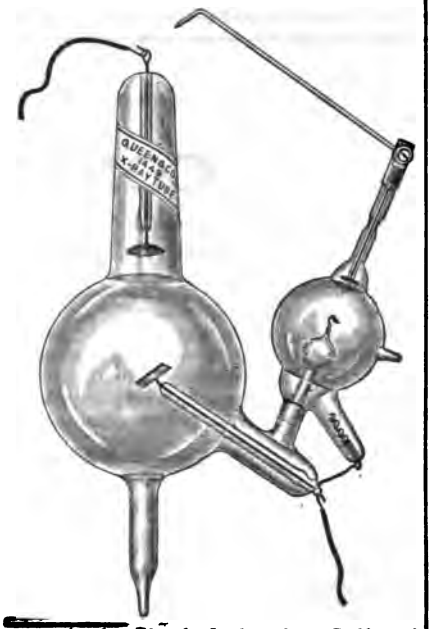
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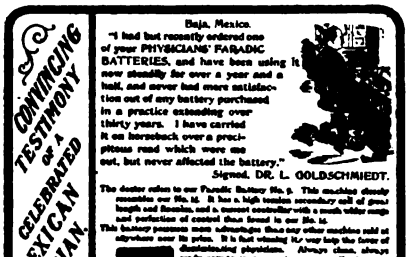
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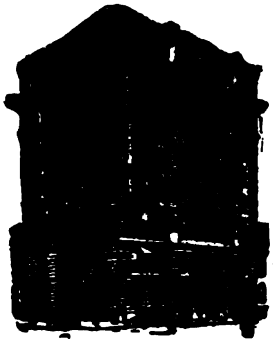

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